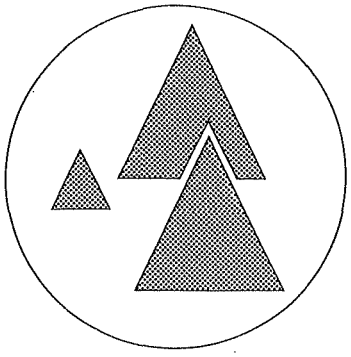
Earth's Survival

A Conservation and Development Programme for the UK



REPORT Nº 2
EDUCATION FOR COMMITMENT: BUILDING SUPPORT IN SOCIETY FOR CONSERVATION AND DEVELOPMENT



WORLD CONSERVATION STRATEGY
Living Resource Conservation
for Sustainable Development

9 19/7

SECRETARIAT
c/o Nature Conservancy Council
19 20 Belgrave Square
London SW1X 8PY

Earth's Survival

A Conservation and Development Programme for the UK

Please reply to:

This report is one of a series that has been commissioned by a consortium of Government agencies and non-governmental bodies as part of a joint effort to show how the principles of the World Conservation Strategy can be applied to the UK.

The sponsoring bodies (listed below) have established a broadly-based Programme Organising Commmittee with independent status to guide the development of the programme, the membership of which is listed overleaf.

As Chairman of the Programme Organising Committee I am sending you a copy of this report in the hope that you will be able to provide an informed commentary on its content and recommendations before the autumn, in the ... stage of the preparation of a conservation and development programme for the UK. I look forward to receiving your observations as soon as possible, and in any event not later than 1 October 1982.

Dr F B O'Connor
Chairman, Programme Organising Committee

Sponsoring bodies: **Countryside Commission, Countryside Commission for Scotland, Council for Environmental Conservation, Nature Conservancy Council, Royal Society of Arts, World Wildlife Fund.**

PROGRAMME ORGANISING COMMITTEE

Dr F B O'Connor	-	Chairman
Mr R E Boote	-	International Consultant
Dr J Morton Boyd	-	Scottish interests
Dr V Cable	-	Trade Adviser
Mr T Cantell	-	Royal Society of Arts
Mr N Crawford	-	Northern Irish interests
Mr R Dafter	-	Energy Adviser
Mr E Dawson	-	CoEnCo
Mr J Foster	-	Countryside Commission for Scotland
Mr B Lymbery	-	Welsh interests
Mr G Medley	-	World Wildlife Fund
Lord Melchett	-	Wildlife Link Committee of CoEnCo
Mr E M Nicholson	-	Chairman Standing Committee
Mr A Phillips	-	Countryside Commission
Dr D Ratcliffe	-	Nature Conservancy Council
Mr J Davidson	-	IUCN Commission on Environmental Planning
Mr M S Schreiber	-	Chairman Review Group 1
Professor T O'Riordan	-	Rapporteur Review Group 1
Professor D Nichols	-	Chairman Review Group 2
Dr D F Shaw	-	Rapporteur Review Group 2
Miss A Lees	-	Chairman Review Group 3
[illegible]	-	Rapporteur Review Group 3
Mrs A MacEwen	-	Rapporteur Review Group 3
Mr S Johnson	-	Chairman Review Group 4
Mr J Elkington	-	Rapporteur Review Group 4
Mr J Porter	-	Chairman Review Group 5
Mr R Sandbrook	-	Rapporteur Review Group 5
Lady David	-	Chairman Review Group 6
Mr J Baines	-	Rapporteur Review Group 6
Professor R J Berry	-	Rapporteur Review Group 7
Mrs E A O'Sullivan	-	Secretary
Mr J Robertson	-	Secretariat
Miss E Duncan	-	Secretariat

Chr. Maas Geesteranus

EDUCATION FOR COMMITMENT:
BUILDING SUPPORT IN SOCIETY FOR CONSERVATION AND DEVELOPMENT

A Report by JOHN D. BAINES

Copyright Programme Organising Committee
ISBN 0 9508141 0 5

PREFACE

The World Conservation Strategy was launched in this country, and 33 others, in March 1980. Its message was clear and unequivocal: there is a global problem of diminishing natural resources and a rapidly growing population. Resource supply and demand are no longer in balance: now is the time for action to get the balance right - soon it will be too late.

What must be done is to build the principles of sustainable resource use into all activities. Development and resource conservation are both essential if the world is to support its peoples. The task is to ensure that development and resource conservation proceed hand-in-hand, not as opposing forces but as complementary ones.

Action is required on a large scale, cutting across political and administrative boundaries and particular sectoral interests alike. Yet each country and each sphere of activity will have its own particular problems and its own characteristic cultural and economic approach to their solution. This is why the World Conservation Strategy calls on all nations to prepare their own strategies for sustainable resource use.

Neither the UK, nor any other nation, can solve its resource problems in isolation and it would be presumptuous to suggest that this country alone can achieve something so significant as "Earth's Survival". However this country's activities can be examined both internally and in international relationships to see how the UK can contribute to solving the global resource problems. This will provide not only directions for action to deal with the UK's own problems, but also an example which others may follow.

The Report "WCS - the UK Dimension"* set out the approach to applying the WCS principles in the UK. Seven reports are now being issued covering rural and marine resources, the urban and industrial sectors, international activities, education and ethical considerations. All have, as a central theme, the twin needs of ensuring that resource use does not impair basic ecological processes, and that renewable resources increasingly become the basis of this country's productive activities in all sectors. However, these needs cannot be met overnight. In the short term the options for the future must be kept open and in the longer term - over the next two to three decades - this country must look to a new basis for many industries and activities.

Each report has been commissioned from an expert who has had the benefit of working with a Review Group of advisers representing the relevant and sometimes conflicting interests in his field. The report is, however, the sole considered opinion of the expert who was asked to recommend practical measures for action, uncompromised by powerful sectarian interests, to overcome the identified problems.

It is hoped that the reports will stimulate discussion particularly amongst professionals and expert groups. Comments on the analysis and recommendations will be greatly welcomed as a contribution to the next stage of the work beginning in the autumn this year, when the recommendations of the seven reports, enlightened by the comments on them, will be drawn together to compile a comprehensive Action Programme covering all relevant activities in the UK. This will be launched in 1983.

Programme Organising Committee June 8 1982

Chairman: Dr. F.B. O'Connor
Secretary: Mrs. E. A. O'Sullivan
c/o Nature Conservancy Council
19/20 Belgrave Square, London SW1X 8PY.

*Available on request from the Secretary

REVIEW GROUP MEMBERS

Lady David	-	Chairman
J.D. Baines	-	Rapporteur
E. Dawson	-	CoEnCo and member of Programme Organising Committee
Professor P.J. Newbould	-	New University of Ulster
A. Tucker	-	Journalist
Professor J. Smyth	-	Paisley College of Technology
K. Wheeler	-	Leicester Polytechnic (retired) and Leicester Urban Studies Centre
A. Fyson	-	Centre for Environmental Interpretation
H. Elliott	-	National Farmers Union
K. Marks	-	Member of Parliament
R. Williams	-	Schools Council Field Officer
J. Cousins	-	John Brown and Co Ltd
P. Townsend	-	Peak National Park Study Centre
R. Jeffries	-	Workers Educational Association
C. Conroy	-	Friends of the Earth
C. Sinker	-	Field Studies Council
J. Craven	-	BBC
J. Wray	-	Inner London Education Authority

REVIEW GROUP CHAIRMAN'S INTRODUCTION

I imagine I was asked to chair the environmental education group as I had served as an education spokesman in the House of Lords and had played a small part in helping Lord Melchett when he was leading for the Opposition during the Wildlife and Countryside Act's long passage through the House. I was very pleased to extend my own education in this field by listening to the experts from many different disciplines who were good enough to serve on the Education Review Group and share their wide experience and ideas. I should like to thank them all. Even though we never had a full attendance at any of our 4 meetings, members have been visited by John Baines, our rapporteur, and he has had the opportunity to talk with them and make use of their varied gifts and knowledge in a number of fields. We needed advice not only from those in the world of formal education, who knew what was being taught and how, and where the best practice could be found, but also from those with ideas on how to influence and bring about changes in attitudes and make the entire population, young, middle age, and old, aware of the environment in which they lived, and of the harm they could do to it and to future plant, animal, and even human life, if they were ignorant or careless.

We wanted it to be clear what environmental education was, and were anxious to be able not only to advise on its content but also to make recommendations on how to get the message across. Why, for instance, did some campaigns like Save the Whale - or grey seals - have an impact on the public and others, like Keep Britain Tidy, have only a minimal success? Those working in journalism, radio, TV were very important to us in suggesting ways of projecting ideas and the best means of expression. The World Conservation Strategy will get nowhere unless the message is sent out in a language that is easy to read and clear for all to understand.I don't think we've solved all the problems but I hope that some of our recommendations, aimed at a wide range of targets, will be acceptable and may acheive success, some in the short, and some in the longer term.

LADY DAVID
CHAIRMAN

CONTENTS

		Page
Chapter 1	Introduction	1
Chapter 2	The Nature of Environmental Education	3
Chapter 3	The Need for Environmental Education	6
Chapter 4	The Impact of Environmental Education in the UK	8
Chapter 5	Education courses designed to achieve conservation objectives	10
Chapter 6	Scotland	15
Chapter 7	Northern Ireland	17
Chapter 8	Summary and Conclusions	18
Chapter 9	An Education Framework for the Conservation and Development programme for the UK - Recommendations	21
Appendix A	Acknowledgements	42
Appendix B	A Review of Environmental Education	43
Appendix C	The Development of an Environmental Education Philosophy	54
References		58
Abbreviations		59

This paper is intended to stimulate discussion and action. The views expressed are those of the author and not necessarily the Education Review Group as a whole. While every effort has been made to verify statistics and the factual content, the author does not accept responsibility for their accuracy.

At the time of going to press, the Government announced that it is to replace the Schools Council by 2 smaller and separate bodies - the Examinations Council and the School Curriculum Development Council. There has not been time for the author to take account in the report of the implications of this development for schools.

Also the future of the Education Unit of the Town and Country Planning Association is uncertain. This unit has done much to promote and guide the progress of the urban emphasis in environmental education.

CHAPTER 1

INTRODUCTION

1. "A world strategy for the conservation of Earth's living resources is needed now because human activities are progressively reducing the planet's life-supporting capacity. The combined destructive impacts of a poor majority struggling to stay alive and an affluent minority consuming most of the world's resources are undermining the very means by which all people can survive and flourish" (World Conservation Strategy).

2. The achievement of the conservation objectives described in the World Conservation Strategy (WCS) is important for everyone whether they live in developed or developing countries. While the most pressing conservation issues differ from country to country, the need for all citizens to live in harmony with the natural world is no less urgent. The Strategy recognises that if conservation objectives are to be achieved, entire societies must transform their behaviour towards the biosphere. This requires the adoption of a "new ethic", one that embraces plants and animals as well as people. It is the task of education to foster or reinforce attitudes and behaviour compatible with this new ethic.

3. The Strategy identifies those obstacles that education is most suited to help overcome and recommends an education strategy to complement the other activities that are considered essential if the conservation objectives are to be achieved. Fundamental requirements include:-

a) Building support for conservation: ultimately the environment is being degraded because people do not recognise that it is in their best interests not to do so.

b) Increasing public participation in conservation/development decisions.

c) Expanding substantially environmental education activities at all levels of the formal and non-formal education sectors. These programmes should raise the general level of understanding of the way environmental systems operate as well as focus on the most urgent environmental issues of individual countries. They should show the importance of linking conservation and development objectives.

d) Developing environmental education programmes for specific target groups. The most important ones are:-

   i) legislators and administrators,

   ii) development practitioners, industry and commerce, and trade unions,

   iii) professional bodies and special interest groups,

   iv) communities most affected by conservation projects,

   v) school children and students.

4. It is important to note that the WCS recommends environmental education rather than conservation or living resource education as a means of achieving its objectives. Environmental education is concerned with the total environment in which man operates from wilderness to metropolis. This is a particularly important distinction in UK, with 80% of people living and working in an urban environment where their daily lives may have little direct contact with the wider "natural" or living environment. However, their activities very much affect the health of the living environment, both at home and abroad, and it is a purpose of environmental education to make them aware of this. Also, caring attitudes towards the urban environment are likely to be reflected in attitudes towards other environments.

5. This report aims to show how environmental education can contribute to the achievement of the objectives of the WCS in a UK context. Its recommendations, if accepted and implemented, will help build support for conservation and create an "atmosphere of environmentalism" in which decisions about development are made. They will give people practise in decision making on conservation and development issues, and will enable people to participate in the management of their environment in a responsible way. Finally, people will be better able to discuss individual issues knowledgeably and consider the relevant social, economic and political and ecological factors that affect human use of the environment. Although the report will make reference to environmental education for specialists, its main concern is to show ways of building public support for conservation and translating this support into practical commitment.

References

IUCN, 1980, World Conservation Strategy, Gland, IUCN

CHAPTER 2

THE NATURE OF ENVIRONMENTAL EDUCATION

1. The International Union for the Conservation of Nature and Natural Resources (IUCN) and The United Nations Environment Programme (UNEP) have made a major contribution to the evolution of an internationally accepted conceptual, methodological and information framework for environmental education. Within this framework a great variety of programmes has developed relating to particular needs.

2. A widely accepted definition of environmental education was adopted by IUCN at a conference in Nevada in 1970. It states "Environmental Education is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among people, their culture and their biophysical surroundings. Environmental Education also entails practice in decision making and self-formation of a code of behaviour about issues concerning environmental quality". This was presented more neatly in a report by HM Inspectors of Schools for the Scottish Education Department, 1974. "The ultimate aims of environmental education are the creation of responsible attitudes and the development of an environmental ethic".

3. The definitions outline the major features of environmental education; it is concerned with the development of caring values and attitudes towards the environment; it promotes understanding of the environment and environmental issues; it relates to the natural and man-made environments, living and non-living resources; it entails participation in decision making processes; and it advocates the acceptance of life styles compatible with environmental conservation.

4. Living resource issues, the main concern of the WCS, clearly fall within the remit of environmental education. It seeks to promote those concepts and values that will assist humans to achieve development and conservation objectives, i.e. the maintenance of an environment which is productive and pleasant to live in for present and future generations. It also recognises that the acquired skills, knowledge and attitudes need to be translated into practical activities that will ensure wise management of the living resources. Hence, environmental education's ultimate objective is to develop among humans the will and ability to act as responsible stewards of the environment, be it natural, man-modified or man-made. Environmental educational programmes should have the following aims:-

a) create <u>sensitivity to</u> and <u>awareness of</u> the total environment,

b) help develop a basic <u>understanding</u> of the total environment and the inter-relationships between humans and the environment so that they may more easily appreciate <u>why</u> conservation is fundamental to human survival and well being,

c) help develop the <u>skills</u> to investigate the environment and to identify and solve actual and potential environmental problems,

d) promote the acquisition of strong feelings of concern for the environment,

e) help people identify alternative approaches and make informed decisions about the environment based on all the relevant factors - ecological, political, economic, social and aesthetic,

f) motivate people to participate actively in environmental improvement and protection and provide people with opportunities to be actively involved in working towards the resolution of environmental problems,

g) help people appreciate and enjoy their environment.

5. Such aims cannot be achieved through any one academic discipline or any one area of education. Neither will they be achieved by relying upon the introduction of a new academic discipline. Rather, environmental education seeks to weave its objectives into all educational processes, so that care for the environment becomes as much a part of human life as caring for oneself.

6. The environmental approach to education requires the integration of three basic features:-

a) Education in the environment. The environment provides a resource for the acquisition of relevant knowledge and skills, the development of feelings of concern for and appreciation of the environment and the opportunity to participate in practical activities in the environment.

b) Education about the environment. Knowledge about environmental systems is essential for informed debate about how humans should use the environment. It includes learning about the various social, economic and political factors that influence decisions about its use.

c) Education for the environment. This seeks to develop those values and attitudes that lead to the adoption of a personal code of conduct that ensures decisions and actions support conservation objectives.

7. Environmental education requires the study of real environmental issues. However, the issues highlighted in the WCS are often beyond the immediate experience of people in the UK. Hence the study of issues should be part of a structured and progressive educational programme, appropriate to the particular age group. They should attempt to widen horizons progressively and increase sensitivity, understanding and depth of knowledge of the environment. For the majority of people in the UK, the immediate environmental issues will be domestic and urban ones, and they will provide the starting point even though they may seem to have little relevance to living resource issues. Implied in this recommendation for an issue-based approach, is the requirement that education programmes should give practice in solving problems and encourage participation in decision making processes. Many of the environmental problems and the methods of either preventing or solving them are highly controversial, and environmental education programmes should help people form their own opinions about the issues.

8. Complementary to the building of general support for conservation, is the inclusion of environmental education in the specialist training of those whose work directly affects living resources, including farmers, planners, industrialists, foresters and engineers. They will be referred to as environmental intervenors. Such programmes aim to help intervenors assess the impact of their professional activities on the environment, and assist them to make their activities compatible with the objectives of living resource conservation. They also need access to information and advice from environmental experts when working on specific projects. It is a further aim of environmental education to train these experts.

9. There are also professionals like politicians and business people, whose work may not be directly concerned with living resources, but whose policies and decisions may determine how others use them. They too represent an important target group for environmental education. At worst their policies and decisions should not undermine efforts to achieve linked conservation and development objectives. At best they should support and promote them.

References

CARSON, S McB (editor), 1978, Environmental Education: Principles and Practice, London, Edward Arnold

CURRICULUM DEVELOPMENT CENTRE, 1981, Environmental Education: a source book for Primary Education, Canberra, CDC

IUCN, 1970, International Working Meeting on Environmental Education and the School Curriculum, Nevada, Gland, IUCN

MARTIN, G C and WHEELER, K (editors), 1975, Insights into Environmental Education, Edinburgh, Oliver and Boyd

NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION, 1976, Environmental education: a statement of aims, Birmingham, NAEE

SCHOOLS COUNCIL, 1974, Project Environment, Harlow, Longman

SCOTTISH EDUCATION DEPARTMENT, 1974, Environmental education, a report by H M Inspectors of Schools, Edinburgh, HMSO

UNESCO, 1978, Intergovernmental conference on Environmental Education, Final report, Paris, UNESCO-UNEP

CHAPTER 3

THE NEED FOR ENVIRONMENTAL EDUCATION

1. The WCS identifies a fundamental human dilemma: human survival and well-being are dependent upon both using and protecting living resources. The achievement of a proper balance is the aim of the WCS. It must be achieved as a matter of urgency. Environmental education can contribute to the resolution of this dilemma because, by convincing people it is in their own best interests to use resources in a sustainable way, it can generate concern and then support for the implementation of a new environmental order linking conservation and development.

2. Legislation has been proposed as the most effective way of ensuring protection of the environment but as long as it fails to reflect what people consider their main priorities it cannot guarantee success. Legislation for conservation is likely to be resisted by those it seeks to control because it is felt to be either an expensive luxury or inappropriate to their circumstances. Enforcing the rules in an unreceptive atmosphere requires monitoring and control by independent authorities that are expensive and economically unproductive. For conservation legislation to be truly effective, it should be in accord with the prevailing climate of opinion. A commitment to conservation and development objectives is therefore necessary if environmental legislation is to avoid unproductive and costly confrontation between different interest groups. This commitment should be based on a sound understanding of both conservation and development processes. Broad based environmental education programmes are able to provide the knowledge and experience from which the relevant values and attitudes for developing this commitment are acquired.

3. Legislation is generallly limited to particular environmental issues and is reactive. It follows, therefore, that it is concerned with only the most pressing of environmental issues. Sometimes irreparable damage to living resources will precede the legislation. At this stage one is also faced with over-coming the inertia of an established practice. If society is environmentally literate and committed to conservation, then all development will be planned in an atmosphere of environmental concern which can ensure that conservation and development objectives are considered concurrently. In this way possible conflicts can be identified and means of overcoming them included at the planning stage. Environmental education can assist the growth of this "atmosphere" because it aims to promote an appreciation and awareness of the total environment in which the individual issues are components. This holistic approach to the study of the environment should ensure a more rational response to individual issues that become topical since they can be understood in relation to broader conservation and development objectives.

4. These contributions to the achievement of conservation and development objectives appear somewhat intangible. Attitudinal changes are slow and the success of programmes cannot be judged overnight. However there are practical activities whose benefits are more immediate.

Environmental education seeks to achieve its objectives by offering people a wide variety of educational experiences, including practical work leading to environmental improvement. Such practical work also provides a good starting point for understanding the issues of the WCS in a local context. Where communities participate in the planning and development of their local environment, the changes are more likely to be appropriate and therefore accepted. Expensive mistakes are more likely to be avoided, and vandalism reduced making maintenance costs lower. For example, an underpass in the centre of Newcastle was painted with local scenes by children from the surrounding schools. In the past three years damage from graffiti has been negligible while adjacent walls continue to be daubed regularly. While such activities may not be directly related to the aims of the WCS, the values and attitudes they promote are wholly compatible with the development of the "new environmental ethic" demanded by it. The money spent on constant repairs can then be reallocated to something more productive.

5. The adoption of a way of life that is compatible with a conservation ethic is an aim of environmental education. The beneficial impact on the environment, both at home and abroad, on the economy and unemployment could be considerable and deserves more serious study than it is receiving at the moment. For example it can generate public support for recycling activities that can reduce imports and the harmful impact on living resources of gathering new materials. The desire to save energy in buildings can increase employment opportunities in insulation work and reduce the need for capital intensive power stations that create little employment and sterilise large areas of land as well as increasing air pollution. The demands to clean up effluent from factories, reduce the amount of pesticides and fertilisers in agriculture, produce more fuel efficient appliances, etc, create new opportunities for industry to develop the techniques and manufacture the equipment that will be in demand.

6. Education is an important part of the Conservation and Development Programme for the UK because it generates the support for conservation through helping people understand environmental processes, informing them about specific issues and encouraging participation in decision making.

References

CARSON, S McB (editor), 1978, Environmental Education: Principles and Practice, London, Edward Arnold

DEPARTMENT OF EDUCATION AND SCIENCE, 1979, Curriculum 11-16: Supplementary working papers by HM Inspectorate, Environmental Education, London, DES

MARTIN, G C and WHEELER, K (editors), 1975, Insights into Environmental Education, Edinburgh, Oliver and Boyd

CHAPTER 4

THE IMPACT OF ENVIRONMENTAL EDUCATION IN THE UK

1. The WCS is a recent addition to the literature advocating a new relationship between humans and their environment. It is therefore too soon to assess objectively what impact it is having on people in Britain. However, outside the conservation movement, few know of its existence and even among those who consider themselves conservationists, few are aware of its main messages. The fact that it has received so little publicity and support suggests that people do not recognise that conservation is deeply relevant to their own interests and aspirations.

2. This is perhaps surprising considering that there is considerable public interest in certain of our living resources and environmental issues. Natural history programmes on television are extremely popular, with the BBC programme "Wildlife on One" able to attract audiences of about 9 million people. Many show their interest in more practical ways by belonging to nature societies. For example The Royal Society for the Protection of Birds has 352,000 members and 143,000 people belong to the 43 County Trusts for Nature Conservation. The interest is sufficient to support the commercial publication of a weekly magazine "The Living Countryside" which has a circulation of approximately 108,000. From time to time particular environmental issues are able to generate considerable public concern both at local and national levels, and there is evidence that this concern has been able to influence environmental decisions at a high level. The Wildlife and Countryside Act, which was passed by Parliament in 1981, generated more correspondence than any other Parliamentary Bill, although it must be admitted that the debate was largely unproductive since it led to greater polarisation of the opinions of conservationists and developers. Other issues which generate much debate are energy conservation, urban problems, pollution, landscape change, whaling and seal culling. Global environmental issues also attract interest when they are clearly articulated.

3. Some of the larger industries whose activities have an impact on the environment in the UK, have recognised the need to take account of public concern. Some, like Shell UK Limited, British Petroleum and Coca Cola, have set up education departments which produce environmental education materials for use in schools. Some attempt to influence public opinion with television advertisements and free literature describing how their company tries to minimise its impact on the environment, while others involve children and the general public in special schemes such as bottle banks.

4. There is in general no shortage of information for use in environmental education programmes, although certain topics are more completely covered than others. There are also curriculum guides and schemes which suggest the methods and subject matter for good environmental education courses in schools. However, these and other initiatives tend to be ill-coordinated, and more purposeful planning is imperative to consolidate progress. It is likely that constraints to further progress in environmental education will be found in the many institutional structures which influence education rather than in the lack of suitable schemes and information.

5. While the precise messages of the WCS may not be well known or understood, similar themes have been part of education programmes for a long time and have succeeded in making conservation a popular topic, especially among young people. However, while there may be an increased awareness of some of the problems, only a small minority are willing to contribute actively to their resolution, either through expressing their opinions, becoming involved in conservation action or changing their own lifestyles to reduce impact on the environment. Further, while many people may privately support and work for conservation, they are either unable or unwilling to show the same commitment in their working lives.

6. There is a dearth of research data by which educators can evaluate the success of environmental educational programmes. Research by Richmond and Morgan into the environmental knowledge and attitudes of 5th formers, revealed that while many showed concern at environmental degradation, their knowledge of environmental processes was poor. BBC audience research has revealed a similar lack of knowledge. However, Friends of the Earth claim that information and education programmes from many sources about nuclear energy have turned a 2:1 majority in favour of nuclear energy to a 2:1 majority against over the last 10 years. It would be valuable to know if attitudes towards living resource issues have similarly changed in the last 10 years.

7. In the following sections individual areas of the formal and non-formal education sectors will be examined in greater depth and recommendations made that will foster a more rapid growth of support for linked conservation and development.

References

BELLAMY, D and MORRIS, P (consultant editors), The Living Countryside, London, Orbis Publishing Ltd

BBC Audience Research Department

DEPARTMENT OF EDUCATION AND SCIENCE, 1981, Environmental Education: a review, London, DES

RICHMOND, J M and MORGAN, R F, 1977, a national survey of the environmental knowledge and attitudes of 5th year pupils in England, Columbus, ERIC/SMEAC

CHAPTER 5

EDUCATION COURSES DESIGNED TO ACHIEVE CONSERVATION OBJECTIVES

1. In the formal education sector, courses follow a syllabus. In many countries the syllabus is controlled by a central curriculum body and students in separate institutions will follow very similar courses. It is therefore a relatively easy matter for the curricula of institutions to be changed to reflect changing needs as perceived by the central body. In the UK, there is no such central control, and although there may be advice and guidelines from the Departments of Education, Her Majesty's Inspectors and Local Education Authorities, in effect the detailed content of courses is left to individual teachers or lecturers in consultation with their head teachers and principals. Curriculum change in the UK is very slow and it has been found not to be very responsive to new schemes developed by such bodies as the Schools Council. Examination bodies do bring some uniformity to courses for students at 16+ and, while they have encouraged some valuable changes to individual syllabuses, and have maintained examinations in environmental subjects, (often uneconomically), they have not enabled cross-curricular topics like environmental education to be accommodated to any great extent.

2. In the absence of any strong agents of curriculum change, those who seek to communicate their ideas to educators must rely on direct contact. As a result, teachers and lecturers are inundated with information which they are asked to translate into their teaching. Where ideas and information reach a teacher who is sympathetic to that particular cause, the resulting courses can be of a quality far superior to those designed by central curriculum bodies. In environmental education there are widespread examples of such excellent courses and associated activities, but they are over dependent upon the enthusiasm of individuals.

3. The development of environmental knowledge and skills, and the encouragement of caring attitudes to the environment are proper concerns of formal education. The environmental education movement can turn to rather vague supportive statements from Departments of Education and can draw attention to particular initiatives from them such as the Department of Education's "Review of Environmental Education" and "Curriculum 11-16: Environmental education", but their impact is not very great. Curriculum guidelines and actual teaching schemes for environmental education have been produced by the Schools Council, the Environmental Education Advisers Association, the National Association for Environmental Education and other organisations, but they have not gained the acceptance that their promoters wished. It is for this reason that this report has concentrated its recommendations on the structures that influence education and not on the content of courses designed to achieve conservation objectives. However, it was felt that there was a need to identify within the subject matter of environmental education, those aspects of it which are particularly relevant to the achievement of the conservation and development objectives described in the WCS. The list below is not intended to be used as a syllabus for a separate subject which may be called environmental education, environmental studies or environmental science.

It picks out content that can contribute to the aims, and which ideally would be incorporated into the existing formal and non-formal school or college curriculum. It is based on lists published in the document "Environmental Education": a statement of aims" published by the National Association for Environmental Education.

a) recognising the limits of planet earth,
b) understanding how the ecosystem is maintained by a flow of energy,
c) observing climatic variations in a locality, noting air pollution and its effects on living things,
d) understanding soil conservation measures,
e) knowing the necessity of water for life, its influence on the distribution of biological communities and how the balance can be distributed by human activity,
f) understanding basic air/sea interactions, energy exchanges, hydrological cycle and thermostatic influence,
g) knowing the major living resources in the sea, and the imprtance of coastal wetlands in life cycles,
h) knowing of, and studying various plants and animals in their natural environment,
i) recognising interdependences among soil, air, plants, animals and man, and the delicacy of the ecological balance,
j) recognising the main types of biological communities and the influence of humans upon them both directly and indirectly,
k) understanding the main factors affecting the distribution of organisms, including competition,
l) being aware of endangered species and their importance and of measures for their conservation,
m) understanding human reliance on the stable balance of natural systems,
n) relating food, clothing snd shelter needs to available resources,
o) observing trends in urbanisation and its impact on living resources,
p) applying aesthetic values in relation to other values in environmental situations,
q) enjoying recreation in natural environments,
r) knowing local legislative controls and understanding the main political and other decision making processes,
s) recognising the main types of pollution, the principles of conservation and the wise use of resources,
t) contrasting the attitudes of stewardship and exploitation of natural resources,
u) being aware of the roles of individuals, local, national and international organisations working on environmental problems,
v) considering environmental problems in connection with the quality of life,
w) encouraging constructive action in environmental matters,
x) being aware of the strategy of planned obsolescence and its implications for living resources.

5. If such a programme can be successfully implemented, it can provide the foundation upon which education programmes relating to specific issues can be built.

6. The role of the conservation movement is to identify the issues and publicise them. It is the role of the environmental education movement to encourage debate and to make sure the debate is supported with appropriate well balanced information. Education will then be able to help people form their own opinions about the issues.

7. The WCS identified at a global level the priority issues concerning living resource management. These are:-

a) the maintenance of essential ecological processes,

b) the preservation of genetic diversity,

c) the sustainable use of species and ecosystems,

Developing from these 3 issues is the need to adopt development practices that are sustainable.

8. An education programme must help people understand these three basic concepts, for without that understanding, the debate concerning living resource management can have little impact.

9. The Conservation and Development Programme for the UK translates the 3 concepts into a UK dimension, identifying those activities and pressures that threaten the achievement of conservation objectives. Educators should examine the issues and use them in their education programmes, firstly to contribute to their understanding and secondly to help people form their own opinions about aspects of living resource management. The following priority issues and dilemmas should be part of UK environmental education programmes. It is important that programmes contain practical advice on ways individuals can contribute to the achievement of the 3 conservation objectives.

10. The following paragraphs identify some of the issues that are raised in the other reports in this series, and which should be reflected in educational programmes both in the formal and non-formal areas of education.

11. Report on Rural Resources:-

a) It has been the policy of national governments since World War II to encourage and support greater self-sufficiency in food production. How far are the objectives, when they become practical activities, compatible with the 3 conservation objectives of the WCS? The dilemma can be illustrated with examples including - habitat loss through land drainage, clearance of woodland and hedgerows, etc., specialisation in seed varieties and the loss of a number of ancient varieties; impact of fertilisers and pesticides on wildlife; the moral dilemma in intensive livestock production.

b) Does pressure from recreational activities, especially in popular or sensitive areas, threaten the achievement of conservation objectives?

c) How much do we value the quality of the environment in which we live, and how much are we willing to adapt our life styles or change our expectations to make it possible to maintain an acceptable quality.?

12. Report on Marine and Coastal Resources:-

a) the importance of coastal wetlands in the maintenance of a stable maritime ecosystem and the current threats to them,

b) the impact of over fishing on fish stocks and the reasons behind the slow progress for a proper European fishing policy,

c) the use of the sea for the disposal of waste.

13. Industry Report:-

a) industrial processes have largely been sited according to short term economic or political factors. How can a satisfactory balance be achieved between short term economic needs and long term ecological ones?

b) The impact on living resources of different types of pollution, and the impact on industry of pollution control legislation.

c) Waste disposal and recycling, are they alternatives?

d) The impact of British industry's demands for raw materials on overseas environments, e.g. tropical forests, and how far should British industry accept responsibility for these environments?

14. Urban Report:-

a) urban society is heavily dependent upon finite resources, and developing them makes an impact on our renewable living resources. It is the living resources from which future needs will have to be met. How can we conserve finite resources and thus give more time to develop sustainable ways of using living resources for our needs in the future?

b) the impact of expanding urban areas on surrounding "natural" systems, including land take, vandalism, and pressure from recreational activities,

c) increasing the provision for people to have more contact with nature within cities, e.g. ecological parks, city farms, urban parks and gardens, and for community initiatives in conservation.

15. The International Report:-

a) the extent to which Britain is dependent upon the import of living resources,

b) the impact of British demands for food and raw materials on overseas environments,

c) how far should Britain try to minimise its impact by legislation on British companies operating overseas or measures to encourage greater self-sufficiency?

References

CARSON, S McB (editor), 1978, Environmental Education: Principles and Practice, London, Edward Arnold

DEPARTMENT OF EDUCATION AND SCIENCE, Welsh Office, a framework for the school curriculum, London, HMSO

DEPARTMENT OF EDUCATION AND SCIENCE, 1979, Curriculum 11-16: Supplementary working papers by HM Inspectorate, Environmental Education, London, DES

DEPARTMENT OF EDUCATION AND SCIENCE, 1981, Environmental Education: a review, London, DES

ENVIRONMENTAL EDUCATION ADVISERS' ASSOCIATION, 1981, Environmental Education in the Curriculum: the role of some major contributory subjects and areas, Manchester, EEAA

NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION, 1976, Environmental education: a statement of aims, Birmingham, NAEE

CHAPTER 6

ENVIRONMENTAL EDUCATION IN SCOTLAND

1. In Scotland most of the government departments, statutory and non-governmental bodies interested in the environment and education are relatively independent of their counterparts elsewhere in the UK. Although there is much co-operation, national differences have led to programmes with different characteristics, notably in the formal sector of education, some of which have affected the development of environmental education.

2. Secondary education is entered at age 12, and both upper primary and lower secondary curricula tend to be organised on a subject basis. Pupils taking certificate examinations, may first do so in their fourth year (for Ordinary grade) and fifth year (for higher grade). These provide the main qualifications for entry into tertiary education. In the sixth year there is also available a Certificate of Sixth Year Studies, which is designed to bridge the gap between secondary and tertiary styles of work. The GCE boards do not operate in Scotland (apart from some independent schools) and there is no Scottish CSE Board (although some Scottish Schools use the Northern CSE Board). Both GCE and CSE are replaced by the Scottish Certificate of Education (SCE) Examination Board, which does not have a mode 3 type of syllabus. There are no SCE courses designated as environmental science, nor is there at present separate provision for environmental education in the pre-certificate years S1 and 2.

3. It should also be noted that Scotland does not have a Schools Council. Some of its functions are exercised by the Consultative Committee on the Curriculum which operates through curriculum development centres, with full-time staff.

4. An early move to develop environmental education in Soctland was the establishment, by the Secretary of State for Scotland, of the Committee on Education and the Countryside, which was set up in 1968 at the same time as the Council for Environmental Education in England and Wales. Then in 1974 an HMI Report on Environmental Education was published by the Scottish Education Department and received a good reception both in Scotland and beyond, where in many respects it was ahead of the field. In Scotland, however, it coincided with a period of reorganisation of local government and the establishment of committees to study possible changes in the structure of secondary education and examinations. These circumstances probably contributed to a lesser response in schools than might have been anticipated.

5. In various ways, however, the interest which was kindled in environmental education has been kept alive. Some courses have been offered in Colleges of Education: for example a Certificate in Environmental Education course is current in Moray House College of Education, supported by the Outdoor Education Organisation. Lothian Region Youth and Community Development Officers receive training in the use of environmental education programmes.

Some schools already offer units of environmental education mainly to non-certificate pupils or as a complementary studies option for a wider ability range. Similar material is being incorporated into new inter-disciplinary courses currently under development, although not constituting a full environmental education course in themselves. In the Primary sector a recent report on "Learning and Teaching in Primary 4 and Primary 7" (1980) picked out environmental studies as a problem area, and this may lead to development.

6. In several parts of Scotland groups of people interested in environmental education have been working towards its further extension. In Tayside a group produced a guide to facilities for environmental education in the area, and a South East Scotland group publishes a useful newsletter. The Strathclyde Environmental Education Group organised a series of conferences and workshops which led to a redefinition of the aims and objectives of environmental education, a review of scope and content, and the application of these to a teaching model which is now under trial in several schools. This may also provide a basis for development in other sectors of education.

7. Following publication of the HMI Report and the demise of the Committee on Education and the Countryside, there was clearly a gap to be filled in the provision for continued development of environmental education. A Scottish Environmental Education Committee was set up in 1977, as a result of initiatives stemming from the Strathclyde Group and the Scottish Civic Trust which provides the secretariat for it, and it now has a membership representing most of the interested parties.

8. It still lacks financial resources, however, and is not yet able to offer the kind of services available in England and Wales from the CEE and the Prince of Wales Committee, although there are proposals for close co-operation with the CEE when resources can be found.

9. Useful work continues to be done from outside the formal sector. There is a strong education dimension to the multi-agency schemes for inner-city rehabilitation in Glasgow, and planning authorities have shown, and elsewhere are beginning to show, a willingness to be involved in education. The Countryside Commission for Scotland has had staff committed to promoting environmental education since 1968.

10. The Royal Zoological Society for Scotland's Education Centre runs a well-supported programme for schools in collaboration with the Royal Botanic Gardens and the Royal Scottish Museum. A valuable connection with IUCN has been maintained through the North West Europe Committee of the Commission on Education, of which one of the Scottish inspectorate has been a member for many years. There is thus, in Scotland, a continuing interest and active involvment in environmental education, if, at the present time, some lack of a co-ordinated policy. Competing interests for the development of inter-disciplinary courses, problems of organisation, and an unfortunate suspicion that this sort of work is below the ability range of certificate pupils have all to be overcome.

CHAPTER 7

ENVIRONMENTAL EDUCATION IN NORTHERN IRELAND

1. Environmental education in Northern Ireland does not differ markedly from the rest of the UK. The main conservation legislation is the Amenity Lands Act 1965 and while this does not confer educational responsibility on the Nature Reserves Committee or its executive, the Conservation Branch of the Department of the Environment they have taken on a number of educational functions including two countryside centres and several nature trails, etc. The Field Studies Council does not operate in Northern Ireland but there are several Education Board Field Centres and a list has been published.[2] The Queens University Marine Laboratory at Portaferry on Strangford Lough the New University Limnology Laboratory at Traad Point on Lough Neagh are both primarily research laboratories with a subsidiary field centre function.

2. A list of field sites available for educational use has been published.[1] Currently only one of the six Education and Library Boards has an environmental advisor (in fact two environmental advisors).

3. The Ulster Trust for Nature Conservation was set up in 1977 and has already assumed an active role. The RSPB and the National Trust are also both active in the education field. There are periodic initiatives designed to infuse more environmental education into the school curricula but they are no more or less successful than comparable initiatives in Britain.

4. The small size and centralised administration of the Province make for effective personal contacts and liaison. Examples in the educational field might include the short courses run each year on conservation for Agricultural Advisory Officers and for foresters. The latter are organised by the New University at Coleraine and centre on the conservation management of a particular habitat such as bog. The attendance by the foresters, from the Chief Forestry Officer downwards is very impressive. There has recently been a controversial proposal for a tidal power barrage across the mouth of Stranford Lough and Queens University Extra-Mural Department are currently organising a series of lectures/discussions involving some of the main proponents and opponents of the scheme.

1. COMMITTEE ON FIELD STUDY AND OUTDOOR PURSUITS CENTRES, 1972, A Handbook of Centres in N. Ireland, Belfast.

2. THOMLINSON, P M, editor, 1975, Science Library, Queens University, Belfast, Field Study Sites in N. Ireland, Q U B Teachers Centres.

CHAPTER 8

SUMMARY AND CONCLUSIONS

1. The main purpose of this report is to suggest how education in the UK can best contribute to achieving the aims of the WCS. It has been noted that the WCS specifies that environmental education programmes are needed to convince people that conservation is central to their own interests. It considers that there must first be such a conviction to motivate people into wanting to learn how to manage their environment wisely. The WCS recognises that human survival and well being depend upon both developing and conserving the resources of the planet. However, at the moment the balance is seriously upset and human exploitation of resources is reducing the capacity of the planet to support life. The Strategy seeks to restore an acceptable balance once again, but if this is to be achieved, societies will have to adopt fresh attitudes and values towards the environment, ones that embrace plants and animals as well as people. It is the task of environmental education to foster or reinforce attitudes and behaviour compatible with what is described as a "new ethic".

2. The WCS recommends environmental education programmes, rather than ones on conservation or nature education which would be narrower in their approach to the issues. Environmental education is concerned with the total environment, from wilderness to metropolis, and maintains that it is important to study the local environment and environmental issues as an introduction to the global issues that are clearly presented in the Strategy. It also supports the expansion of public participation in the decision making processes affecting human use of the environment, since there is a greater chance of public acceptance of conservation policies and practices if people are fully involved in the creation of their environment. For 80% of people in the UK, the immediate environment is an urban one and this should be adequately reflected in the education programmes being developed. Our urban way of life is sustained by reliance upon the exploitation of living and non-living resources. When supplies of the finite resources begin to run out, our urban society will have to look for their replacements to the natural environment. It is not in the interests of urban populations, therefore, to reduce further the capacity of the living resources to support them. To achieve responsible public participation, people must be knowledgeable about the issues concerned. This entails taking account of the relevant social, economic and political factors as well as the ecological ones relating to human use of the environment.

3. This report has attempted to reflect the straight forward approach of the WCS which summarises the present state of the environment and identifies priority issues. It examines how far conservation aims and objectives have been achieved, states what still needs to be done and, recognising the constraints, recommends the action needed to ensure the success of the aims and objectives. A fundamental principle upheld by the Strategy is that conservation practices are essential if humans are to achieve sustainable development.

In the "Review of Environmental Education" (Appendix B), the report describes briefly the progress to date and highlights a few of the excellent education programmes. In "The Impact of Environmental Education in the UK" (Chapter 4), the report suggests that despite the determined efforts of committed individual educators, local authorities and numerous environmental organisations, the success of the education programmes has not been sufficient to match the scale of the environmental problems. Education programmes have succeeded in generating a great interest in nature and a concern for the natural and the built environments, but it has not succeeded sufficiently to persuade people to translate this interest and concern into their behaviour patterns. They may have been more successful if greater emphasis had been given to explaining and providing the scientific basis of the need for conservation and sustainable development.

4. The aims and objectives of environmental education and the means of achieving them, have evolved over the last 15 to 20 years. A summary of the process appears in "The Development of an Environmental Education Philosophy" (Appendix C). The aims, objectives and methods of environmental education are restated in "The Nature of Environmental Education" (Chapter 2). While environmental education may not have achieved the degree of success hoped for by the environmental movement, if more vigorously pursued, it could contribute more effectively to the achievement of conservation objectives. In the past conservationists have not given adequate support to environmental education. Education has been perceived as the provision of information about the environment and environmental issues, in the belief that if only people had the facts, they too would become committed conservationists. This policy has not been successful. It is therefore a significant development that environmental education, which argues that commitment to conservation will only come about through exposure to a wide variety of environmental and educational experiences, is fully integrated with the Conservation and Development Programme for the UK.

5. The next chapter of this report, "An Education Framework for the Conservation and Development Programme for the UK", examines further some of the constraints to progress in environmental education before making recommendations. The recommendations are not intended as an action plan to be implemented in their entirety at once. Rather, organisations, Government Departments, etc. should examine them for opportunities they can take within an identifiable framework. (To ensure that inertia is overcome, the task of promoting, coordinating and monitoring progress should be allocated to an appropriate organisation with sufficient resources being made available.) The recommendations cover all areas of the formal and non-formal, youth and adult education sectors, and they are addressed to all the institutions, associations, organisations, etc. whose activities may contribute to or influence environmental knowledge, skills and attitudes, including those whose activities may actually undermine the achievement of the "new ethic". The recommendations are restricted to three priority aims:

a) build support for conservation and development,

b) provide adequate education and training for environmental intervenors and policy makers,

c) provide support for environmental educators.

The major constraint to more rapid progress in environmental education is neither a shortage of appropriate environmental information, nor professionally developed curriculum guidelines, nor information about methods of environmental education. These exist, but they are not accepted and used widely because the institutional and administrative structures which influence education do not adapt easily to new topics with unfamiliar approaches. A preliminary step in the education strategy must be to create the conditions in which environmental education can flourish. To exert the pressure needed to bring about and guide the changes, it will be essential to have a powerful central organisation.

7. Environmental education leads naturally from a study of the environment through the expression of concern at the way humans use the environment to the consideration of alternative ways of life, social and economic strategies, etc. The issues themselves are controversial and it is frequently suggested that they are not proper subject areas for education especially in schools. Education which aims at the indoctrination of particular views is not worthy of the name. It is propaganda. Education should help people form their own opinions, by giving them access to a variety of viewpoints and enabling them to assess critically information with which they are presented. It should also show how to use the mechanisms set up for ensuring that people are free to express those opinions. An education which fails to prepare and maintain its citizens' ability to participate in a democracy, is not an adequate education. Environmental educators cannot and should not ignore controversial environmental issues.

8. Merely feeling concern for human use of environmental resources will not bring about the changes sought by the World Conservation Strategy. The concern must be translated into active support for conservation. The support may be practical in the form of adapting life styles to be less demanding on the environment, participating in environmental protection committees, cleaning up eyesores or merely being sympathetic to environmental legislation. But as well as creating an atmosphere in which care for the environment can thrive, environmental education is concerned with offering adequate environmental training for those whose work affects the environment, and with the provision of special training for environmental experts able to identify actual and potential environmental problems and contribute to their satisfactory solution.

9. The report provides further support for environmental education as a means of helping humans to see themselves as stewards of the environment with a responsibility to ensure that it is both productive and pleasant to live in for future generations. Environmental education will be succeeding when care for the environment becomes as much a part of human life as caring for oneself.

CHAPTER 9

AN EDUCATION FRAMEWORK FOR THE CONSERVATION AND DEVELOPMENT PROGRAMME FOR THE UK - RECOMMENDATIONS

1. As noticed in Chapter 4 paragraph 1, most people fail to appreciate the contribution that conservation can make to the achievement of the needs and the solution of the problems which they recognise as their own; and this failure is further attested by the progressive deterioration at national and global levels of the living resource base upon which all humans depend for their survival and well-being. It is education that can help people to this realisation and commitment.

2. These aims may best be achieved within the framework of the environmental education movement whose aims are entirely compatible with those of the WCS and the Conservation and Developmnt Programme for the UK.

3. This Chapter will make proposals that support the above aims. For easy reference the proposals are summarised at the end of the chapter in separate sections, as follows:-

a) Build support for Conservation:-

i) Schools,
ii) Further and Higher Education Institutions,
iii) Continuing Education (formal sector),
iv) Youth Groups and Youth Training Schemes,
v) Continuing Education (non-formal sector).

b) Education for environmental intervenors (vocational training) and policy makers.

c) Provide support for environmental educators.

4. The recommendations do not represent an action plan to be undertaken step by step. Rather, they suggest opportunities for developments that will further the conservation objectives of the WCS, in the UK within an identifiable framework.

5. In schools, building support for conservation will not be achieved through any one academic discipline, the complex nature of environmental systems and problems makes cross-disciplinary reference automatic. Any strategy must also take account of the special contribution of the hidden curriculum. In fact, only if the whole school community generates an atmosphere conducive to the growth of awareness of and concern for its own, as well as the total environment, natural and man-made, will effective environmental education take place. Environmental education is a function of the whole curriculum.

6. Fundamental to building support for conservation is that students should undertake field work in the countryside and the town, both within the locality and beyond. There should also be opportunities for students to become actively involved in environmental projects. Teachers are encouraged to enlist the support of specialists from outside the school e.g. planners, farmers, architects and industrialists.

7. However it is important to recognise the constraints to such developments. The curriculum, internal organisations of schools and education support services are designed first to give adequate training in basic skills and secondly to acheive academic excellence in a limited number of subject areas. Topics which require a cross-disciplinary approach are therefore difficult to integrate. Especially in secondary schools, the strict demarcation of subject areas is upheld by strong professional associations, teacher training institutions and the internal organisations of schools. Spending cuts in education are reinforcing the territorial claims, rather than assisting or encouraging the elements of cross-disciplinary teaching needed in environmental education. Exam syllabuses too can reinforce the organisation of teaching in the subject divisions. Some exam syllabuses seem primarily designed to equip students for academic courses in higher education institutions and much less to educate them for life. However, it is difficult to assess a student's performance in courses such as environmental education which are designed to promote values and attitudes appropriate to conservation objectives.

8. Teachers are often reluctant to become involved with political issues which may question the established policies of institutions, codes of behaviour and current values, as well as suggest alternatives to current economic strategies. (Political education is concerned with assisting students to make informed decisions, and should not be confused with the indoctrination of particular political philosophies). Teachers generally lack confidence in using the perceptions and ideas of pupils, especially in areas not directly related to their subject training. They also feel less secure when allowing discussion or when working outside the classroom locally or at field centres.

9. Individual teachers, committed to the principles of enviromental education, often have to work in isolation and without adequate support from their colleagues, parent teacher associations, school governors and even local education authority. The present career structure in schools gives insufficient incentive for teachers to qualify in environmental education or environmental science. Departments, where they exist, are small and offer little opportunity for promotion.

10. Recommendations numbers 5 - 8 are designed to bring about: curriculum change, examination change, better teaching of environmental education, better support for teachers, better training of teachers through pre- and in-service training courses.

11. Institutions of Further and Higher Education run many more courses than schools. Some are vocational, some academic and some of general interest. Many of the courses provide opportunities for environmental education, but others are environmentally neutral. There is little to be gained from contriving links between them and environmental education. Vocational courses for those whose work has a direct influence on the environment or education should promote support for conservation and development and provide appropriate training.

12. Extra-mural departments at Universities, the Open University and Local Education Authorities provide adult education courses. Many which reflect the growing interest of the public in environmental matters are non-vocational and attract those who are interested but do not necessarily want a qualification at the end of it. Other special interest courses are mounted by voluntary organisations for members of the public. These courses can provide an opportunity for conservation issues to be explored, thus contributing to environmental education.

13. Education is life long process. All our activities contribute to the constant development of knowledge, skills and attitudes. The educational processes outside the formal sector of education are thus able to contribute to the achievement of conservation objectives. Educators must consider how best to use these opportunities. (For this report non-formal education refers to the opportunities for environmental education among young people out of school and adults not involved in organised education courses).

14. Over 2 million young people belong to youth organisations and clubs, and over half a million young people seek employment and training with Manpower Services Commission programmes. Participants expect something different from their school experiences. The WCS and its application in the UK, provides scope for new initiatives in education and training. Many organisations and their leaders have already recognised the value of integrating environmental education with their activities.

15. Non-formal education for adults is piecemeal. It happens through watching television, reading newspapers and magazines, chance conversations, travel, recreational activities, etc. Many of the educational experiences will influence attitudes towards the use of the environment. While programmes and articles highlighting the environment and current environmental issues contribute to building the support for conservation, their beneficial impact is offset to some extent by others including advertisements, which undermine the growth of an environmental ethic. Public behaviour and opinion reveals very often that there is insufficient understanding of ecological processes, the need for conservation and the political, social and economic factors affecting human use of the environment. This restricts widespread informed public debate or responsible participation. To achieve wise decisions, democracies must be supported by a strong public education programme.

16. While there is a need for general environmental education programmes to build support for conservation and development, there is also a need for programmes designed specifically for environmental intervenors and policy makers. The activities of farmers, foresters, industrialists and others who seek to satisfy human demands for precious resources, frequently do not take full account of the need to achieve a satisfactory balance between conservation and development. Education and training programmes tailored for individual groups can contribute to the attainment of this balance but unless the financial and administrative structures within which the intervenors are forced to operate, support and encourage conservation, the ability to act responsibly may not be an option. It is therefore important that policy makers too, understand the need for conservation and provide supportive structures for it.

17. Progress in environmental education will be hindered unless adequate support is available to the environmental educators. Environmental educators are those who develop or use environmental education programmes, or use the environment as a resource within their educational activities. They may include curriculum developers, teachers, lecturers, youth and adult group leaders, publishers, reporters, producers of television and radio programmes and parents. To support their environmental education activities, they need to have easy access to appropriate information, training in the environmental approach to education and be able to understand how their particular activity relates to the overall aims of environmental education. Environmental educators have not derived sufficient support for their activities in the past, at either policy or practical levels. The Conservation and Development Programme for the UK is able to provide a focus and a mechanism for this much needed support.

Recommendation No. 1 (Para 5 - 10)

Aim:

For all schools to have a written environmental education policy with specific reference to living resource issues.

Key organisations and agencies:

Departments of Education, Her Majesty's Inspectorate, Local Education Authorities, Head teachers and Directors of Studies, The School Curriculum Development Council, Trade Unions.

Constraints:

While written and personal advice on how to develop a school policy for environmental eduaction is available through a number of channels, it is not used extensively because there is frequently little demand from parents, governors, employers, and those in charge of education, for such policies.

Proposals for action:

a) All schools should have a written policy for environmental education within the total curriculum policy of the school. This should include environmental education objectives and guidelines on how the school can achieve these objectives. All teachers should be involved in the formulation and implementation of the policy. Schools would be assisted to make such policies, if there was pressure and support from Government, Local Education Authorities, Parent Teacher Associations, School Governors and Trade Unions.

b) As well as a curriculum policy, there should be a conservation policy developed and implemented by staff and to pupils together. It might include:-

   i) Energy saving schemes.
   ii) Recycling of waste paper and using recycled paper.
   iii) Improving the environment of the school and its grounds.
   iv) Developing an area of the grounds as a nature reserve or ecological park.

Recommendation No. 2 (Para 5 - 10)

Aim:

To assist the growth of environmental education programmes within the existing administrative and curriculum structures.

Key organisations and agencies:

Head teachers, Directors of Studies, teacher trainers, the School Curriculum Development Council, Local Education Authority Advisors.

Constraints:

Present administrative and curriculum structures are not conducive to the inclusion of cross-curricular topics. In the short term, such activities will have to be designed to operate within the established structures, while continuing to advocate change. Even where individual teachers are keen to include aspects of environmental education in their teaching, they rarely get the support from above which they need.

Proposals for action:

a) Each school should designate a member of staff to have responsibility for planning, co-ordination and oversight of environmental education, perhaps as part of an overall responsibility for introducing related topics such as Third World Issues, World Peace and Population across the curriculum. Without adequate co-ordination, there is a danger that certain topics and issues covered by more than one teacher will not be complementary.

b) Ways of adjusting the timetable should be explored to provide opportunities for a measure of co-operative teaching and to permit a proportion of the student's learning experience to be undertaken out of school.

c) Syllabuses of individual subjects should be examined to see how they can support environmental education and also how environmental education can support them.

d) All teachers should be encouraged and assisted to use environmental information in their teaching.

e) In the 4th and 5th year, time should be allocated in the common core for environmental, social, political and economic issues. Such teaching is at its best when it draws on the experience of the pupils in the rest of the curriculum.

f) Schools should invite appropriate professionals from outside the school to share in environmental education programmes.

Recommendation No. 3 (Para 5 - 10)

Aim:

To include an environmental dimension in the examination syllabuses of appropriate subjects.

Key organisations and agencies:

Examination Boards, The Examinations Council.

Constraints:

a) Post 3rd year courses in secondary schools are dominated by the demands of examinations. While a few pupils may benefit from the study of an environmental subject, the majority will study subjects which give little opportunity for the inclusion of an environmental dimension consistent with the aims of WCS.

b) The proposals for a new examination structure at 16+ provide an excellent opportunity for progress in environmental education. While most of the new boards intend to offer an environmental subject for examination (Rural Studies, Environmental Studies, Environmental Science) this is not sufficient to ensure that all students receive an environmental education since it is not a core subject.

Proposals for action:

a) All examination boards should set up a cross curricular environmental advisory committee to scrutinise syllabuses over a wide range of subjects, and suggest how those subjects can assist or be assisted by the inclusion of environmental education objectives. It would be useful for the boards to study the example of the vocational foundation courses offered by the City and Guilds of London Institute, all of which include a compulsory environmental component.

b) Wherever possible, syllabuses should provide opportunities for the students to undertake studies outside the classroom, in the school grounds, the local environment and in environments different from the local one.

c) Syllabuses should provide opportunities for students to study real environmental issues at local, national and global levels.

Recommendation No. 4 (Para 5 - 10)

Aim:

To assist all teachers to adopt an environmental approach in their teaching.

Key organisations and agencies:

Teachers and teacher associations, Colleges of Education and Education Departments in Universities and Polytechnics, all those providing information or training courses for teachers, including voluntary organisations, Departments of Education, Statutory bodies, Local Education Authorities.

Constraints:

Few teachers in schools have received any training in environmental education, either at pre- or in-service levels. Few pre-service training courses for teachers include advice on team teaching methods, issue based learning or prepare them for cross-curricular teaching. There are very few opportunities for teachers to train specifically for posts in environmental education because as yet such teachers do not suit the way the school is orgainised, or fit into the established career structures. While there are some opportunities for in-service training, this usually has to be undertaken in a teacher's own time and at the teacher's expense. As a result, only teachers highly motivated in this area benefit from any training. In the absence of adequate training, teachers lack confidence in adopting an environmental approach to their teaching.

Proposals for action:

a) All institutions should have a written policy for environmental education. Training courses at colleges and departments of education should provide an opportunity for students to become familiar with the nature, aims and objectives and methods of environmental education. A common course for all students may be the most appropriate way of achieving this.

b) Opportunities for in-service training by the local Education Authority should be increased. While financial restrictions may limit the number of teachers given time off to attend long courses, short courses can be arranged at little cost or inconvenience to the Authority.

c) Authorities should recognise for promotion purposes the value of training which encourages the introduction of certain topics across the curriculum. (This has already been achieved on the pastoral side).

d) Where voluntary environmental organisations provide courses for teachers, conservation should be included.

N.B Environmental organisations providing courses for teachers include The Field Studies Council, The Scottish Field Studies Association, The Prince of Wales Committee, The Royal Society for the Prevention of Cruelty to Animals and the Royal Society for the Protection of Birds.

Recommendation No. 5 (Para 11)

Aim:

For Further and Higher Education institutions to show by example that they support conservation objectives.

Key organisations and agencies:

Vice-chancellors of Universities, governing bodies, principals and directors of Polytechnics.

Constraints:

In Further and Higher Education institutions there are both vocational and academic courses. The former will be covered in a later section. Many academic courses provide opportunities for environmental education, but others are environmentally neutral, and there is little to be gained from contriving links between them and environmental education.

Proposals for action:

a) The institution should be seen to be acting in an environmentally responsible way, and as a minimum none of its activities should undermine the building of support for conservation.

b) All governing bodies should examine the WCS and the reports of the Conservation and Development Programme for the UK to work out ways they can best support the achievement of conservation objectives. With professional advice, conservation policies and activities can be implemented and the policies communicated to staff and students. For example:-

i) Guidelines for the maintenance of the institution's estate. Guidelines for the management of waste-paper, food containers, etc.
ii) Guidelines on the use of living resources within the institution.
iii) Energy conservation.
iv) Conservation and environment groups and societies should be encouraged within the institutions.

Recommendation No. 6 (Para 12)

Aim:

To ensure there are environmentally related courses easily accessible for all those who wish to join them and that such courses contribute to building support for conservation.

Key organisations and agencies:

Local Education Authorities, Workers Education Association, Environmental organisations, (YHA, Field Studies Council, Scottish Field Studies Association, RSPB, RSPCA, etc) Open University, extra-mural departments of Universities, extra mural departments in Higher Education Institutions, National Institute of Adutl Education.

Constraints:

Although organisations mount education programmes, there is little co-operation between them when they draw up programmes or publicise the courses. Members of the public are often unaware of the number and variety of courses that are available. The amount of money allocated to adult education is only 0.5% of the total education budget. This compares poorly with the 6%, for example in Sweden.

Proposals for action:

Education and environmental organisations should co-operate at a national and regional level with course providers to promote education programmes that contain courses relating to living resources and their conservation. A list of all the courses should be widely publicised in the relevant journals, public libraries, in the local press, on local radio etc.

Recommendation No. 7 (Para 13 - 14)

Aim:

To make conservation objectives an integral part of the objectives of youth group activities, and youth employment training programmes.

Key organisations and agencies:

Youth organisations, Youth leaders, Manpower Services Commission (MSC) Employment programmes, Further Education Colleges.

Constraints:

Few leaders and trainers receive any information about how environmental education can contribute to their overall objectives. Examples of good practice exist but information about them is not adequately communicated to other groups. Most of the national headquarters are not aware of the opportunities for environmental education. To achieve the conservation objectives as outlined in the Conservation and Development Programme for the UK requires a fundamental change to the approach to employment training.

Proposals for action:

a) The Youth Unit of the Council for Environmental Conservation should be strengthened so that it may more effectively support environmental education in the non-formal youth education sector through its co-ordinating activities. Its activities should supplement those of the Council for Environmental Education.

b) There should be greater publicity for and use of examples of good practice that other leaders and trainers may wish to follow or learn from.

c) The WCS and the Conservation and Development Programme for the UK should provide an important component when devising policy, activities or courses. The headquarters of organisations should prepare a policy statement on environmental education and also prepare guidelines for its integration into local schemes.

d) There should be opportunities for training in skills appropriate to achieving the conjoint objectives of conservation and earning a living, e.g. installing solar panels for plumbers, insulation of buildings for builders, etc.

e) In the foreseeable future it is unlikely that the economy will support full employment of the type we have known. New training opportunities should recognise this and provide training that will enable people to live purposeful and satisfying lives without necessarily being wholly operative within the formal economic sector. Working towards conservation objectives can create new opportunities, for example encouraging increased self-sufficiency through small scale, labour intensive horticltural and agricultural activities.

f) Colleges of Further Education which will have to cope with the training aspect of current MSC proposals should explore how environmental education can be integrated into their programmes.

Recommendation No. 8 (Para 15)

Aim:

To asist the dissemination of information about the environment, environmental issues, the objectives of conservation and development and personal involvement to the general public.

Key organisations and agencies:

Environmental organisations, local authorities, industrial and commercial organisations, government departments, the media, environmental interpretation centres.

Constraints:

Suitable information is not always available for educators to use. When it is, it may not always be readily accessible, and is therefore not used to best effect in public education activities. Public attitudes often reflect a shallow understanding of environmental issues and mis-information.

Proposals for action:

a) Information prepared for the public needs much greater publicity. Environmental organisations could cut publicity costs by coming together and promoting their information and publications jointly. In particular there should be publicity for information which explains what the individual can do to support sustainable development.

b) A national environmental information centre should be set up so that writers, journalists, programme producers and others involved in public education activities can have rapid access to reliable environmental information, the names of environmental experts, and the location of successful projects.

c) A commercial environmental education unit should be set up to organise the supply of programmes about conservation and conservation issues to television and radio companies. It should also encourage the companies to weave conservation into general programme output.

d) In an attempt to secure an effective and responsible public participation on important environmental matters, e.g. the use of energy and nuclear power, wildlife and the countryside, transport decisions, they should be preceded by major educational programmes involving radio, television and the press.

e) The promotion of an environmental ethic is fundamental to any education programme. The government should launch a massive and continued campaign to promote and implement environmental concern.

f) Environmental interpretation services (which may range for example from visitor centres to display boards and publication programmes) should be provided at all sites which attract people to explore or enjoy any aspect of the environment. Such informal public education provision should also be developed as an indispensable part of major programmes of environmental change, particularly those instigated by public environmental planning bodies.

Recommendation No. 9 (Para 13 - 15)

Aim:

To improve the range and quality of public participation in environmental decision making.

Key organisations and agencies:

Local Authorities, Government, representatives of ethnic minorities, special interest groups, Statutory Bodies.

Constraints:

In spite of a statutory requirement for public participation in local planning, progress has been disappointing.

Proposals for action:

a) There should be support by the local authority, local industries and commercial organisations, voluntary organisations and the Manpower Services Commission for education centres to act as focal points for public participation in the environmental management of the locality. This will involve the provision of information, facilities for the exchange of ideas and opportunities for participation.

b) Responsible participation requires educational support and communication between different interest groups. To assist this, lines of communication between schools and colleges, community groups, the local authority and voluntary bodies should be developed. This could be the task of an Environmental Education Liaison Officer, most probably employed by the local authority. Continuing on from this development, joint working parties should be set up in each local authority area consisting of educators, planners, architects, local councillors and members of the local community, to collaborate on promoting an inter-sectoral environmental education policy for the locality.

c) The Commission for Racial Equality should encourage the production of environmental education information in mother-tongue languages.

Recommendation No. 10 (Para 16)

Aim:

To introduce or strengthen the environmental component in professional and vocational training courses.

Key organisations and agencies:

Institutions of Further and Higher Education, Business Management Schools, Colleges and Departments of Agriculture, Civil Service Colleges, Trade Unions, Military Colleges.

Constraints:

Conservation is a component of many training courses, but it may not be set in the wider context of the aims of the WCS. Also the achievement of conservation objectives may not be perceived as an important component of the course.

Proposals for action:

Those who plan professional and vocational courses should recognise their responsibility to provide an appropriate environmental perspective where possible. Courses should build support for conservation and warn students about possible harmful impacts of their activities on the living resource base, and show ways to overcome or diminish them. They should also introduce the concept of sustainable use of resources. To be taken seriously by the students, environmental aspects must be accorded the highest status by the training body.

Recommendation No. 11 (Para 16)

Aim:

To provide appropriate and acceptable advice on conservation to professionals at work.

Key organisations and agencies:

Professional associations, trade unions, Government Departments, Statutory Bodies, environmental organisations, industrial and commercial organisations.

Constraints:

Advice about conservation is available from Statutory Bodies, voluntary organisations and Government. Because it does not come from within the professional's own association or interest area, it may be inappropriate or seen as inappropriate.

Proposals for action:

a) Conservation advisory units shold be an integral part of the professional advisory services, with a brief to assist professions achieve development and conservation objectives. They should draw on the advice available from the main conservation organisations whose capacity to provide advice should be extended.

b) Where financial and administrative structures do not encourage professionals to achieve conservation objectives, their professional associations should actively campaign for change.

c) Codes of practice should be available to guide the activities of those making use of living resources, from highest management level to labourers.

d) Individual industries whose activities have a major or potentially major harmful impact on the environment, should develop internal advisory services. Environmental interests should be represented at the highest level of decision making.

Recommendation No. 12 (Para 16)

Aim:

To assist policy makers to introduce policies that reflect the urgent need to protect living resources.

Key organisations and agencies:

Government and Government Departments, Local Authorities, Statutory Environmental Bodies, industry, trade unions, professional associations.

Constraints:

The financial and administrative structures set up to implement policies decided by local and national politicians frequently act as a disincentive to conservation.

Proposals for action:

a) All policy statements and the legislation required to implement them, should be scrutinised by conservation advisers. Their advice should have a very high priority when decisions are eventually made.

b) The findings of the WCS and in particular its educational implications should be considered by the Parliamentary Select Committee for Education and Science with a view to addressing Parliament on how to include the environmental education dimensions in its deliberations.

Recommendation No. 13 (Para 17)

Aim:

To ensure as far as possible the implementation of the education strategy.

Key organisations and agencies:

Government, IUCN UK Committee, consortium of environmental organisations, Council for Environmental Education.

Constraints:

No single organisation has the resources to oversee the implementation of the strategy.

Proposals for action:

Responsibility for promoting, co-ordinating and maintaining the education strategy should be allocated to an appropriate organisation and adequate resources made available. It should also monitor educational changes and advise on their implications for environmental education.

Recommendation No. 14 (Chapter 6)

Aim:

To set up in Scotland a viable national environmental education centre to provide a focal point for the environmental education movement.

Key organisations and agencies:

Scottish Environmental Education Committee (SEEC), Scottish Civic Trust, Scottish Education Department, Countryside Commission for Scotland, National Trust for Scotland, Nature Conservancy Council.

Constraints:

While SEEC has the representative structure and brief to provide such a centre, it does not have the resources.

Proposal for action:

As a major priority, resources should be made available for SEEC to develop into a viable national centre (SEEC would need only modest resources if it benefitted from the systems and structures already developed by the Council for Environmental Education based in England).The national centre should co-ordinate environmental education activities in Scotland, and widen its horizons to include the non-formal as well as the formal education sector.

Recommendation No. 15 (Para 17)

Aim:

To provide an academic power base for the environmental education movement.

Key organisations and agencies:

University or Polytechnic departments of education.

Constraints:

Environmental education lacks a power base within the educational establishment from which teachers, lecturers, educational administrators, local education authority advisers and Her Majesty's Inspectorate can derive support for their efforts.

Proposals for action:

A centre should be established in a University or Polytechnic department of education to:-

a) promote the study of the history, philosophy and methodology of environmental education and its implementation in formal and non-formal education programmes.

b) It should carry out research and advanced training and assist the progress of a inter-disciplinary approach to environmental education.

c) It would ideally be located in a University or Polytechnic where a number of key departments support practically the aims of environmental education. (The importance of such a base can be demonstrated by the way in which geographical education progressed rapidly once a University chair was established).

d) It would also provide the academic complement for the information and co-ordinating services of the Council for Environmental Education.

Recommendation No. 16 (Para 17)

Aim:

To improve the information services available to educators.

Key organisations and agencies:

Council for Environmental Education, Conservation Trust, Curriculum Development Council and those organisations producing or exhibiting education materials.

Constraints:

Environmental information and specially produced teaching materials are available from many sources - Government Departments, voluntary organisations,

industrial and commercial organisations, educational bodies and publishers - but it is difficult and time consuming for individuals to identify all the sources and all the materials. They need to know about the range of information available if their courses are to be comprehensive and well-balanced.

Proposals for action:

(The Council for Environmental Education has developed a system for classifying information and retrieving it simply. It is used mainly to compile resource sheets on environmental topics and issues). The information services of the Council should be expanded to provide a focal point for all educators seeking environmental information or details about environmental education materials. As it is unlikely that one information centre will have the expertise or capacity to cope with all the available information, specialist information centres will be needed. They should adopt a common system that will allow all the centres to be part of a national environmental education information network.

Recommendation No. 17 (Para 17)

Aim:

To extend facilities for educators to evaluate environmental educational materials, exchange ideas, find out about the local environment and be aware of opportunities for participation.

Key organisations and agencies:

Teachers' Centres, Libraries, Field and Urban Studies Centres, and their managing authorities, The Conservation Trust.

Constraints:

Centres are threatened by cuts to the education budgets of local authorities. It is difficult, therefore to attract funds for new activities. However, opportunities should be available where several centres in an area are replaced by one as a contribution to the cuts in budget.

Proposals for action:

It is valuable for educators to be able to see materials that they may wish to use as part of their education programmes. Collections of materials should be available at local centres and accessible at convenient times for inspection. Centres should also provide information about local organisations, events and opportunities to involve students in practical activities. They should encourage meetings or workshops at which educators can exchange information and ideas relating to environmental education. There should be at least one centre in each Local Education Authority area with a special responsibility for environmental education.

Recommendation No. 18 (Para 17)

Aim:

To provide educators with information and ideas to help them prepare or improve educational programmes about the WCS and its relevance in the UK.

Key organisations and agencies:

The School Curriculum Development Council, publishers, environmental organisations, curriculum developers including Local Education Authority advisers.

Constraints:

There are many educational resources that contain information which can be used in environmental education programmes. However it is difficult for teachers and others to have access to the materials so that they can extract what they need and prepare coherent education programmes. Further, examples of good practice are not sufficiently publicised, and there has been little guidance on how to implement environmental education programmes in schools, colleges or other centres.

Proposals for action:

For school teachers and college lecturers, information packages relating to the themes of the WCS and the issues identified in the Conservation and Development Programme for the UK should be prepared. They should be appropriate for inserting in existing subject syllabuses so that they are not rejected as "foreign bodies". These packages should be prepared jointly by appropriate organisations with assistance from teachers. Their availability should be widely publicised, and workshops organised where teachers can work together to suggest how the packs may be best used. If this was coordinated by a national body, valuable guidelines for introducing environmental education across the curriculum could be produced.

SUMMARY OF THE RECOMMENDATIONS

Build support for conservation

Schools

1. All schools should have an environmental education policy, and this should include how the school intends to deal with the pressing living resource issues. The activities and the whole atmosphere of the school should be seen to support this policy. (Para 5-10)

2. Each school should designate a senior member of staff to have responsibility for the planning, co-ordination and oversight of environmental education as a function of the whole curriculum. (Para 5-10)

3. All examination boards and the Examinations Council should set up a cross-curricular environmental advisory committee to scrutinise syllabuses over a wide range of subjects. (Para 5-10)

4. All teachers should have the opportunity to receive training in the adoption of an environmental approach to their teaching. (Para 5-10)

Further and higher education

5. Institutions should act in an environmentally responsible way and should show by example that they support conservation objectives. (Para 11)

Continuing education (formal sector)

6. There should be short and long non-vocational courses for adults on conservation matters. They should be well publicised and easily accessible, either through the media or local schools, libraries, etc. (Para 12)

Youth groups and youth training schemes

7. Adequate advice and support should be available to leaders and trainers so that they can include conservation objectives in their education and training programmes. In particular courses should promote environmentally related skills. (Para 13-14)

Continuing education (non-formal sector)

8. All organisations especially those interested in the environment and education, should link with the media in an unprecedented publicity and education (not propaganda) campaign about conservation. It should aim to stimulate discussion and action on a scale adequate to help resolve the problems. (Para 15)

9. Government and Local Authorities should help to open lines of communication between schools, the community, the local authority, voluntary organisations and local business and industrial concerns, to promote fuller participation in local environmental management. (Para 13-15)

Education for environmental intervenors and policy makers

10. All vocational courses should contain a common core module designed to build support for conservation. This should be supplemented with specific material relevant to the target group to assist them to support conservation objectives in their daily work. These aspects of courses must be accorded a high status. (Para 16)

11. Advice on how to acheive conservation objectives should be available to intervenors through their own professional advisory services, as well as Government departments, local authorities and the statutory environmental bodies. (Para 16)

12. All policy statements from Government, Local Authorities, industry, etc should be scrutinised by conservation advisors to ensure they are compatible with conservation objectives. (Para 16)

Provide support for environmental educators

13. Allocate responsibility for promoting the education strategy to an appropriate organisation and adequate resources made available. It should also monitor educational changes. (Para 17)

14. (Scotland) Resources should be made available urgently for the Scottish Environmental Education Committee to become a viable national centre for environmental education. (Chapter 7)

15. Set up an academic power base for environmental education from which teachers, lecturers, educational administrators, advisers and Her Majesty's Inspectors can derive support. (Para 17)

16. Adopt for educational purposes a common system for classifying information about the environment, environmental issues and learning materials in order to facilitate the expansion of a national environmental education information network. (Para 17)

17. Provide regional centres for environmental education at which educators can examine educational materials, find out about relevant events and opportunities and attend training courses. (Para 17)

18. Produce information packages relating to themes from the World Conservation Strategy and the Conservation and Development Programme for the UK which can be easily and relevantly inserted into existing subject curricula. (Para 17)

Recommendations by target audience

1. Government departments, Local Authorities and Statutory Bodies
   1,4,5,6,7,9,12,15,17.

2. Voluntary organisations, non-government organisations
   4,6,7,8,13,15,16,17,18.

3. Professional associations
   4,7,8,9,10,11,12.

4. The media
   8,9.

5. Schools, Examination boards, teacher trainers
   1,2,3,4,7,9,17.

6. Further and Higher Education establishments
   4,5,6,8,9,10,13,15,17,18.

7. Industry, commerce, trade unions
   7,8,9,10,11,12.

References

CARSON, S McB (editor), 1978, Environmental Education: Principles and Practice, London, Edward Arnold

DEPARTMENT OF EDUCATION AND SCIENCE, 1979, Curriculum 11-16: supplementary working papers by HM Inspectorate, Environmental Education, London, DES

DEPARTMENT OF EDUCATION AND SCIENCE, 1981, Environmental education: sources of information 1981, London, DES

ENVIRONMENTAL BOARD DEPARTMENT OF THE ENVIRONMENT, 1979, Environmental education in urban areas, London, HMSO

MARTIN, G C and WHEELER, K (editors), 1975, Insights into Environmental Education, Edinburgh, Oliver and Boyd

NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION, 1976, Environmental education: a statement of aims, Birmingham, NAEE

SMEAC, 1978, From Ought to Action: a report of the National Leadership Conference on environmental education, Washington DC, SMEAC

UNESCO, 1978, Intergovernmental conference on Environmental Education, Final Report, Par,s UNESCO-UNEP

APPENDIX A

ACKNOWLEDGMENTS

As well as the Review Group members, many individuals and groups have contributed their ideas to this paper.

Many are aware of their contribution, becasue the paper represents an accumulation of ideas, information and experiences relating to the environment acquired over many years. Thanks are due to them all. The following do however deserve special acknowledgment.

R. Booth, HMI

Dr. C. Gayford, Reading University Department of Education

S. Sterling, Council for Environmental Education

R. Mabey, Author

Members of the CEE Development and Planning Group

Members of the CEE Schools Advisory Group for Environmental Education

Members of the Scottish Environmental Education Committee

Authors of other reports in this series

APPENDIX B

A REVIEW OF ENVIRONMENTAL EDUCATION

Introduction

The purpose of this brief review of environmental education is only to provide a background from which to develop a strategy. It will describe general trends in a number of target areas in the formal and non-formal education sectors, illustrating them on occasion with examples. There is no shortage of examples of the best practice in all the sectors and many have had to be ommitted. However, because of the lack of data, it has proved impossible to gauage the extent to which they have been introduced within each sector, and how effective they have been.

It would be comforting to conclude that if the examples of good practice were the rule rather than the exception, then the aims and objectives of environmental education would be achieved. Such a conclusion would be presumptuous, since there has been little evaluation of environmental education programmes. In reality it might prove impossible to isolate the effects of environmental education on an individual's values and attitudes from all the other influences.

While some kind of review is essential to assist and guide the development of an environmental education strategy, because of the limitations it would be unwise to over-emphasize its importance. Hence the review has not attempted to be comprehensive. Also, it is important to remember that some of the excellent programmes referred to, may only benefit a handful of people.

The Department of Education and Science has produced a review of environmental education, which complements this appendix.

The Impact of Environmental Education

The term environmental education is only 15 years old. It was coined, very informally, to reflect a dimension of concern for the environment that was growing within the established environmental studies courses, and to recognise the contribution that eduction could make in the solution of environmental problems. It was born at a time when the greatest concern was for the rural environments, but today the concept relates to the quality of all environments. It is concerned with issues, the successful resolution of actual and potential conflicts between man's activities and the environment, and public participation in environmental management.

In its short history, environmental education has made tremendous impact. It aims to change attitudes and behaviour patterns through education, a process that has been proved to be slow. Yet inspite of few resources being available, the tremendous counter-acting forces of vested interests and its early lukewarm reception by some environmentalists, progress has been comparable with the anti-smoking movements and the drive to wear seat belts in cars, both of which have received much more financial support.

Such rapid progress would normally attract congratulations, but as the environmental problems that surround us have grown at a more rapid pace, it can appear that environmental education has been ineffectual. To create the will to solve environmental problems requires educational programmes. This review gives a glimpse of what has already been achieved.

Increased exposures of the public to information about the environment and environmental issues has created a more aware and knowledgeable electorate which increasingly demands its views to be taken into account at local and national levels. Pressure groups are flourishing. While environmental issues have always been political, the increased pressure from public opinion is forcing politicians to take greater account of the public's views when developing policy.

However, complacency is ill-placed. There is still a parochial attitude towards environmental issues and environmental education should strive to increase an awareness of global issues and a desire to contribute to their solution. Although it is now acceptable to be an environmentalist, the movement has not successfully erased the image that it is anti-development and naive. On the other hand it has not overcome its own prejudice that all developers are irresponsible and cavalier in their use of the environment. Such polarisation of views is not beneficial to anyone, and in the years to come we must endeavour to bring both sides together in a spirit of co-operation rather than confrontation. The publication of the WCS gives timely support to this effort.

Environmental Education in Schools

Curriculum development The curriculum is the responsibility of the school in partnership with the Local Education Authority (LEA) and central Government. The burden of that responsibility falls on the head teacher and staff. In junior schools, environmental education is well established as the school organisation favours the use of an inter-disciplinary approach. It is in secondary schools that the inadequacy of environmental education is most apparent. LEA's can promote curriculum development in certain areas through the allocation of resources e.g. in those authorities where environmental education advisers have been appointed, there is more and better environmental education taking place. Field work activities can be greatly encouraged by the payment of travel and accommodation grants and by the financing of LEA field centres both within and outside the authority's area. Curriculum development is also brought about through continuing professional training provided by LEA's, DES, voluntary organisations, professional associations and educational institutions. There are very few courses on environmental education as such, but many on environmentally related topics sometimes related to specific subject areas. They tend to be evening, one day or weekend courses. Professional courses in environmental education for teachers lasting one term or longer (full or part time) involve only 6 institutions and less than 50 people a year. Part time courses can only attract local teachers, and full time courses require secondment which is at the discretion of the LEA. The number of teachers able to benefit from such courses is therefore limited.

The Schools Council (now to be replaced) is an independent national organisation which sponsors research leading to improved teaching methods and changes in the curriculum in schools. It also monitors and makes recommendations on examinations. In 15 years, it has produced over 160 projects, a number of which have relevance for environmental education e.g. Project Environmental, Environmental Studies 5-13, Geography for the Young School Leaver, Geography 16-19 and Art and the Built Environment. While the content of the environmental projects is excellent, the take up by schools has been very low. Currently the Council is embarked on programmes of new work which place teachers at the centre of curriculum research and development and puts emphasis on collaborative working with national and local statutory and voluntary organisations. Within this framework an attempt is being made to develop a policy and an approach to environmental education for the Schools Council. This is being pursued through consultation with other interested and concerned persons, agencies and organisations at national and local levels.

The Department of Education and Science traditionally has left the management of the school curriculum to LEA's. However, it initiated the "Great Debate" about what should be taught in schools, particularly secondary schools, and published in "Framework for the Curriculum" components of a 'good' school curriculum. A revised version, "The School Curriculum" was produced in 1981. There has also been passing mention of environmental education in documents such as the Primary and Secondary surveys. Following the environmental education seminar at Tbilisi, DES has produced 2 major publications about environmental education, "Review of Environmental Education" and Environmental Education: Sources of Infromation 1981". (In Scotland education is the responsibility of the Scottish Education Department, in Wales the Welsh Education Department, and in Northern Ireland the Department of Education for Northern Ireland).

Her Majesty's Inspectorate (HMI) contributed to the "Great Debate" with the discussion document "Curriculum 11-16". It was supported by a number of subject papers, one of which was "Curriculum 11-16: Environmental Education". This document stresses that environmental education is a function of the whole curriculum. It represents a valuable contribution to the literature about environmental education in schools and has been circulated to every secondary school in the UK. It has formed the basis of three regional seminars for head teachers and curriculum.

The voluntary organisations play a very important part in the promotion of environmental education. Their contributions are too many and varied for this annex. There are organisations that relate to most areas of environmental interest (a useful list is included in the DES book "Environmental Education: Sources of Information 1981") and professional associations for teachers and others interested in environmental education. Some organisations e.g. The Royal Society for the Protection of Birds, and the Town and Country Planning Association have set up education units which produce materials, liaise with schools and run courses for students and teachers. In 1980, 2500 teachers attended training courses organised by the Royal Society for the Protection of Birds. While some organisations concentrate on the provision of information, others like the British Trust for Conservation Volunteers encourage involvement in environmental improvement projects.

In 1980, 1500 volunteers completed 79,000 days work through BTCV. A number of teacher professional associations have environmental education sections, e.g. the environmental education working group of the Geographical Association. An important professional association is the National Association of Environmental Education which comprises teachers from all subject areas. Through one of its publications, "Environmental education: a statement of aims" it encourages all schools to adopt an environmental education policy and offers guidelines. Within the charitable environmental organisations, there is sometimes a debate as to whether funds raised ostensibly for conservation projects should be used for education.

Field Work. The term used to include all studies that take place outside the classroom, be it in the school grounds, the immediate locality, either urban or rural, or more distant areas. Education in the environment is not new, it has been a feature of the rural studies curriculum since the turn of the century, but the movement was boosted by the formation in 1943 of the Council for the Promotion of Field Studies - now the Field Studies Council (FSC). In 1981, the "Directory of Outdoor Studies Centre in England and Wales", listed over 500 day and residential centres for field studies. They are managed in a number of ways, including FSC, LEA, Youth Hostels Association, charitable and private organisations.

Since the production of the Skeffington Report in 1969, which advocated education for children and adults about the urban environment and urban issues, about 15 urban studies centres have been set up. As well as the study of towns, they encourage community involvement and action in environmental management, they are linked by the Council for Urban Studies Centre.

Certain subject associations like the Institute of Biology, the Geographical Association, the National Association for Environmental Eucation, fully endorse the value of field work in the schools curriculum. Some examination boards allow students' field work to be examined at 'A' level, and the majority of CSE (England and Wales only) exam syllabuses in environmentally related subjects make field work compulsory. Traditionally field work concentrates on the development of environmental skills and knowledge.

Educational cuts and rising costs are reducing the opportunities for teachers to take children to residential centres, especially outside their home area. Several centres have been closed, and the National Association of Field Studies Officers is conducting a survey to find out how cuts are affecting field study provision.

Resources. There is a very wide choice of environmental education teaching and learning materials. They are available from commercial publishers, iondustry, business, charitable organisations, Government Departments and environmental pressure groups. Some materials are concerned predominantly with environmental topics like weather studies or the ecology of a pond and others with environmental issues like the use of energy, use of farmland, or pollution. Some materials are available free of charge. However, teachers have been handicapped by not knowing what information is available.

The establishment of an information centre in 1980 at the Council for Environmental Education has enabled annotated bibliographies to be produced on over 20 environmental topics and issues. These bibliographies enable teachers to make a balanced selection of resources for teaching. Many of the materials listed are available on postal loan from the Resource Centre of the Conservation Trust.

The major curriculum projects in environmental education have been very impressive. They have identified the important areas of knowledge, skills and concepts and linked them to the age and ability of children. They have been cross-curricular but have not shown adequately how they can be adapted to suit a traditional subject approach. As s result, the specially prepared resource packs, etc have limited use in schools.

Examinations. During the 1970's exam syllabuses at 16+ and 18+ were developed in environmental studies and environmental science with the idea of making the topic academically respectable. They have not achieved the popularity the originators hoped for, as most students still opt for the traditional subjects. However, examination boards have been willing to retain this minority subject even though uneconomic.

There has been much debate among environmental educationalists about the value of having a separate subject called environmental education, but this is largely resolved. Environmental education integrated into the whole curriculum is ideal, but being realistic, less than the ideal has often to be accepted. Examinations affect the curriculum of secondary schools considerably, and with the possible change in England and Wales to the new 16+ examination, there is an opportunity to discuss how best to include environmental education.

The traditional subject areas, even though they may have a strong base in the environment, have not always developed a strong environmental education component. For example, biology exam courses require students to learn a lot about plants and animals but comparatively little of the course is devoted to a study of ecology. Environmental issues are rarely studied.

Where separate environmental studies courses have been introduced by examination boards, the similarties between them are few. This is one reason why as a qualification for further study or employment, they have limited acceptance.

Teacher Training

"Environmental education demands a reasonably sophisticated level of understanding of the process of education - probably a level beyond that generally achieved by graduates ..... doing the post graduate Certificate of Education" (Sean Carson). As a result, after initial training few teachers have the competence or confidence to become involved in effective environmental education teaching schemes".

Prior to the falling of the axe on colleges of education which trained teachers mainly for primary and middle schools, about 2500 teachers a year enjoyed a course which included guidance on teaching in an environmental manner.

Now that they have either disappeared or been absorbed into institutions of further and higher education, there has been a trend to more academic courses organised on a subject basis. As yet they do not appear to meet as well the needs of environmental education.

There are facilities for teachers to receive in-service training in aspects of environmental education. Long courses of one term or more probably involve less than 50 teachers a year, but a greater number attend courses and conferences organised by Government Education Departments, the LEA and the professional and voluntary organisations. They often take place in the evenings or at weekends and attendance is purely voluntary and usually at the teachers' own expense. As the majority of such courses are organised on a local basis, it is impossible to be certain how many teachers participate in them. However , as attendance is voluntary, only those teachers with the necessary motivation are likely to attend. Courses which are concerned with specialist subjects or particular environmental topics or issues do not usually reflect the holistic approach sought by environmental educators.

Environmental Education in Further and Higher Education Establishments

Environmental education in technical and vocational training in further and higher education falls into two main categories,

a) courses devoted almost entirely to environmental sciences,

b) environmental options, which can be studies within the more traditional subjects.

In higher education there has been a proliferation of new degree courses in the environmental field. About 90 are listed by the NAEE in a document which is regularly updated. These are of a specialised and vocational nature with four main bases:

a) environmental health within the medical and health professions,

b) environmental design within the general area of planning, landscaping and architecture,

c) resource conservation within the natural sciences, often with a base in geography and biology and including aspects of management, e.g. forestry, agriculture,

d) social science/human ecology approach to human environment and community.

Because of the specialised nature of most of these courses, the holistic view of the environment advocated by environmental education is rarely achieved. Also they rarely emphasise the positive contribution the courses could make to the development of a personal environmental ethic.

It has been suggested that students with higher qualifications in environmental sciences, have found it more difficult to obtain employment which uses their special talents, than other graduates. This has led to some people to suggest that students wishing to study environmental science, would be better to study a main line science subject such as physics, chemistry or biology and choose the environmental options offered within it.

However, research by the Institution of Environmental Sciences (1979) has shown that the proportion of students finding employment in areas related to their studied subject is the same as in others. An introduction to Careers in the Environmental sphere is published jointly by CEE and CoEnCo Youth Division.

In business management schools, environmental education is sadly lacking, both in the initial training courses and in the in-service ones. Many of the middle management in larger industries have not had the benefit of school based environmental education programmes, and without suitable programmes for use in in-services training, they are not able to consider responsibly the environmental impact of their decisions. At a time of recession, it is likely that conservation will have a low priority because it will be thought to be of secondary importance. "Ends", a magazine published by Environmental Data Service, helps keep decision makers in touch with environmental legislation and promotes concern for the environment.

The professional Institutions Council for Conservation (PICC) was founded in 1972 to provide a forum for interprofessional discussion and action on environmental issues. It presently consists of some sixteen professional institutions and many other organisations with conservation interests. The Council holds regular meetings and seminars and, through its newsletter and other publications, seeks to disseminate information and advice. From time to time it appoints working parties to consider particular issues of environmental concern.

At a lower level of training, the City and Guilds of London Institute offers examinations for young people seeking jobs in industry, agriculture, the public services, etc. A most encouraging development is that an environmental component has been made compulsory in all the Foundation courses. This unit relates mainly to the area in which they are seeking employment, but it also promotes the concept of interdependence in their view of the environment.

Environmental Education and Environmental Information

Youth and community organisations have become more aware of the wider implications of environmental issues and environmental groups have recognised that their aims are parallel to those of the youth and community movement. Projects involving environmental improvement have proved very popular among young people and have been able to attract a lot of support, both moral and financial, from Government, charitable and commercial organisations. It has been suggested that such activities could provide useful employment for school leavers without jobs, but the voluntary organisations have rejected the suggestion that such activities be made compulsory.

Television, radio, newspapers and magazines are the major sources of information on environmental topics and issues and formers of public opinion. How far they are able to achieve fundamental changes to environmental values and attitudes is debatable. However, it is significant that in totalitarian states, control of the media is seen as essential in the moulding of public attitudes and even in the democratic states, various interest groups seek to influence the public sources of information.

Comparing today with ten years ago, among the general public there is much greater awareness of, and interest in, the environment. Natural history programmes on television such as 'Life on Earth' and 'Botanic Man'have attracted large audiences, and in current affairs programmes, environmental issues are debated regularly. About 7 million people watched special 'Wildlife on One ' (BBC 1) programme about the Wildlife and Countryside Bill in 1981 which itself has generated more discussion than any other Parliamentary Bill. The quality newspapers too devote space regularly to environmental issues at local, national and international levels and the Guardian even has a regular feature called 'Alternatives' which from time to time deals with environmental matters. There are now also a number of 'environmental' magazines for the public and professionals produced by both commercial publishers and environmental and professional organisations. Some are specifically concerned with environmental education including "Review of Environmental Education Developments" (REED) produced by the Council for Environmental Education and "Environmental Education" produced by the National Association for Environmental Education, "Bulletin of Environmental Education: (BEE) produced by Town and Country Planning Association and two new international journals launched in 1981. Circulation is small, about 4000 together. However, since the demise of Vole in 1981, there is no magazine on bookstalls dealing predominantly with ecological and environmental issues.

Environmental information is available through a number of channels a) The Government Departments and Statutory Bodies, b) various non-government organisations, c) pressure groups, d) industry and commerce, e) the media including commercial publishers.

Information about the environment that reached the public has four main purposes:

a) To increase the general level of awareness and appreciation of the environment and to understand the inter-relatedness of its systems. There is little public information available on this. The WCS has provided a convenient vehicle for developing such information and WWF-UK has prodiced a film for hire and a short publicity leaflet on the issues dealt with by the WCS. Use of these resources is being encouraged. In 1981, a weekly magazine "The Living Countryside" was launched by a commercial published.

b) To increase awareness of specific issues of topics. Over the last 3 years for example, the Department of Energy has developed a comprehensive education programme which utilises advertising, information packs, public lectures, etc., as part of its 'Save It' campaign. Most organisations produce educational information relating to their area of concern and organise activities, although many are primarily of a recreational nature.

c) To change or reinforce attitudes, modes of behaviour and involve people more directly in the decision making process. Certain environmental issues are very controversial, and 'educational' materials are produced by the different factions to try and attract the allegiance of members of the public.

d) To reassure the public that environmental difficulties are being adequately taken care of.

'Earthscan' acts as an agent for development and environment news material, supplying it to the press, radio and television. This organisation is threatened with closure, and there will then be no systematic way of channelling information about environmental topics to the media except for the press releases issued by individual organisations.

There is no mechanism comparable to the Development Journalists Group, bringing together journalists interested in furthering the theme of conservation.

Most education takes place on an informal basis but there are formal courses in adult education relating to various environmental topics and activities organised by Local Education Authorities, the Workers Educational Association and various statutory and voluntary organisations. For example the Countryside Commission in association with the Association of Agriculture has developed a programme of Farm Open Days. On these days, certain farms are open to the public and an education programme is arranged. The residential Study Centres in the national parks arrange regular courses, which as well as becoming more popular with home audiences, are attracting participants from overseas. However, these formal courses reach only a minority of the public and are usually attended by people who already sympathise with the aims of the environmental movement.

Some industries, particularly the largest ones, have become concerned by the hostility of environmental groups to the impact of industrial processes on the environment. Some have set up educational units to produce educational materials to counteract these views, and devote resources to building up a 'good neighbour' image. Industry is now aware that it cannot afford to ignore the criticisms levelled at it by environmentalists and it must provide answers to their questions and in certain cases change its policies.

There has also been a growing interest in environmental interpretation which contributes so much to the education of the public. In 1980, the Carnegie Trust provided funds for the institution of a national Centre for Environmental Interpretation which is housed at Manchester Polytechnic. It aims to further encourage and support environmental interpretation in the UK.

One aim of environmental education is to encourage public participation in environmental decision making. This approach has been eagerly developed by planners, and based on over 10 years of experience, the Royal Town Planning Institute has publichsed "Public participation: an issues report". It identifies 24 primary issues which raise fundamental questions about the conduct of public participation at all tiers of government. In spite of attempts to involve the public more in the decisions affecting their local environment, progress has been disappointingly slow.

A valuable initiative has been made by the National Federation of Womens Institutes. In co-operation with CEE, a leaflet about the WCS has been circulated to every group, and a support programme encouraged.

The response has been excellent and could serve as an example to other organisations.

Promotion of regional co-operation in environment education

Since the introduction of the term environmental education in the 1960s the movement has been characterised by considerable international and regional co-operation that has enabled environmental education to assume an accepted identity throughout the world. The UK has made a major contribution to the international acceptance of environmental education and is supporting a number of regional activities, involving both government and non-government organisations.

The Institution of Environmental Sciences and the World Environment and Resources Council organised the 2nd European Seminar on Environmental Education in Bern, Easter 1980. It was attended by more than 100 participants. It has organised a number of other international conferences and was instrumental in the introduction of two international environmental education journals in 1981.

The UK Government is a member of IUCN and severl non-government organisations are also members. The UK has 8 members on the Commission on Education. The Commission on Education NW European Committee meets annually to exchange ideas and information and develop projects. In 1980 it produced the leaflet "Care for the Coast". The UK sends 3 representatives.

Environmental Education Network is a project initiated in 1977 for junior schools by the European Commission. It aims to encourage the development of environmental education materials and programmes. The UK is participating in the programme. Through the Council for Environmental Education, the UK is contributing to the environmental education research project based at the Institute for Science Education at Kiel University on materials for environmental education.

The UK is also closely involved with Council of Europe progrmammes for environmental education.

The strengthening of the Council for Environmental Education as the national centre, has enabled information about regional and international activities to be exchanged more effectively. The advice of the Council on the development of environmental education is frequently sought by individuals and organisations from overseas. An important medium for the dissemination of information on these and other environmental education issues is the Council's journal "Review of Environmental Education Developments" (REED).

The government and environmental education

Environmental education predominantly concerns 2 Government Departments, the Department of Education and Science and the Department of the Environment. Other departments also have an interest in particular aspects of environmental education, e.g. the Department of Energy, Ministry of Agriculture and Fisheries. Most financial support for the environmental education movement has come through the Department of the

Environment's "Small Grants". Recipients of grants include the Keep Britain Tidy Group, the British Trust for Conservation Volunteers and the Council for Environmental Education. Funding is for one year, and must normally be matched by equal amounts from non-government sources. The Department has announced more secure funding arrangements for the Council for Environmental Education.

The Department of the Environment is particularly interested in projects that relate to inner city areas. It has given support to a number of urban studies centres, and commissioned the Environmental Board's report "Environmental Education in Urban Areas". The Environmental Board was disbanded in 1980.

The activities of the Department of Education are more related to formal education, but it has little power to influence the curriculum in schools or colleges of further and higher education. In response to the Tbilisi recommendations (1977) two booklets have been produced "Review of Environmental Education" (1981) and "Environmental Education Sources of Information for Teachers" (1981). These received a considerable input from HMI which also produced "Curriculum 11-16: Environmental Education" (1979). HMI has given considerable encouragement to the environmental education movement, but it has not funds to support initiatives. The English Department of Education and Science makes only a small financial contribution to environmental education activities.

Statutory bodies and environmental education

The Countryside Commission's education work covers a very broad area. They are involved in promoting conservation awareness among adults such as farmers, councillors and professional advisers whose actions have a direct influence upon the way the countryside is used and managed. Also, educational materials which deal with landscape conservation and access issues have been developed for schools. Future work will probably include the promotion of worthwhile new educational initiatives in the voluntary sector. In its reorganisation, the Countryside Commission has closed its education department.

The Nature Conservancy Council was established "for the purpose of nature conservation and fostering the understanding thereof", and the development of responsible attitudes towards the environment is fundamental to its work. Through the experience of its widely dispersed staff in conserving flora, fauna and geological and physiographic features, and the specialist service provided by its Training and Education Advisory Section, it seeks to assist professional educationists.

APPENDIX C

THE DEVELOPMENT OF AN ENVIRONMENTAL EDUCATION PHILOSOPHY

In the UK there is a long tradition of interest on natrual history. In the last century some of our most prestigious environmental organisations were founded including the Zoological Society of London and the Royal Entomological Society. Concern for nature was reflected in the foundation of such organisations as the Commons, Open Spaces and Footpaths Preservation Society, the Royal Society for the Protection of Birds and the Royal Society for the Prevention of Cruelty to Animals.

In schools, during the early part of this century, rural studies formed an important part of the curriculum in the rural areas, and it is on this rural/nature interest that environmental education laid its foundations. However, environmental education recognises that the environment is one - as continuum from wilderness to metropolis, and advocates the introduction of educational programmes designed to help solve environmental problems.

This brief survey by describing a few landmarks, traces the evolution of an environmental education philosophy which has received international acceptance.

Countryside in 1970, Second Conference held at University of Keele March 1965. Seventeen recommendations were made and the majority referred to the use of the natural environment as an educational resource (field studies). However, they also included recommendations for the training of specialists and the provision of information services for teachers and others.

Field studies were already a component of environmental education but this recommendation gave a further stimulus to its use. Today there are few schools which do not take their students out to learn from their environment. Facilities for outdoor education have been much improved, with the provision of centres run by LEA's, the Field Studies Council, Youth Hostels Association, other organisations and private individuals.

Recommendations relating to the role of Field Work in environmental education are being achieved and in some cases have gone further than at first envisaged, since field work also takes place in urban areas and includes studying the built as well as the 'natural' environment.

Less sucessful have been the recommendations that refer to the changes in the school curriculum. The'out-dated barriers between many school subjects' are becoming more entrenched, rather than less, in spite of repeated exhortations to consider the school's curriculum as one unit rather than a collection of pieces. There have been other very positive achievements based on the recommendations - the development of a national centre for environmental education in 1968 and the introduction in 1980 of a environmental education centre which provides a nationwide information service.

Skeffington Report UK 1969. The report was concerned mainly with planning and the built environment, but included a section on the need for education and public participation in decision making. This added a new dimension to environmental education in the UK, which has now spread, through UK attendance at regional meetings, to other European countries. Environmental education developed from a concern for the natural environment and it reflected the content and methodology of the Rural Studies courses. This 'rural' approach has contributed to environmental education:-

a) The use of the environment as an educational resource,

b) an appreciation and concern for environmental quality,

c) techniques and skills for studying the natural environment,

d) a body of knowledge.

The inclusion of the urban dimension has contributed to a more active and political environmental education movement, e.g.

a) public participation in environmental issues,

b) the problem solving approach,

c) community action,

d) techniques, skills and a body of knowledge relating to the urban environment.

International Working meeting on Environmental Education and the School Curriculum, IUCN, Nevada 1970. The first generally accepted definition was produced at this meeting to clarify precisely what was meant by environmental education. 'Environmental education is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter relatedness among man, his culture and his biophysical surroundings. Environmental education also entails practice in decision making and self-formation of a code of behaviour about issues concerning environmental quality'.

It has guided the development of environmental education from that date. However, like most definitions it is very wide ranging and needs further explanation. Hence while accepted by environmental education experts, it has had little impact on people in other walks of life and there is still much confusion as to what environmental education is all about.

Further suggestions of the meeting included making environmental education obligatory in school, teacher training and other courses. While compulsion is not an appropriate way in the UK for influencing curricula, the Departments of Education recently initiated a debate about what should be taught in schools, contributing curriculum recommendations in 1980 and 1981. Although environmental education was recommended there was no detail provided as there was for the traditional subject areas.

Conference on the Human Environment, UN, Stockholm 1972. This conference considered the global issues that required man's urgent attention - limits to economic growth, world poverty, environmental degradation and the nuclear threat. Although there was already a degree of 'internationalism' in school courses, in newspapers, on the radio and television, and in the literature of many organisations, the conference gave much support and respectability to discussion of these issues. It recommended a new effort in international environmental education and set up UNESCO-UNEP, the United Nations Environmental Programme.

The International Workshop on Environmental Education, UNESCO-UNEP Belgrade 1975, produced the first major inter-governmental statement on environmental education. Recognising that the global problems highlighted at Stockholm required nothing short of a new global ethic if they were to be solved, the conference produced goals, objectives, guiding principles and recommendations for environmental education. The statement which has become better known as the Belgrade Charter, is a very clear statement of what environmental education is and what it is attempting to do. It has therefore given a very firm foundation for the environmental education movement to build on, and its importance is reflected in the high degree of agreement internationally on the aims and objectives of environmental education and the means of achieving them.

Environmental Education - A Report by HM Inspectors of Schools, Scottish Education Department 1974. The report recommendations showed that the messages of previous environmental education meetings had reached those people with a closer responsibility for the education of children. The report also gave more practical advice on the introduction of environmental education in schools. It is still valid today.

Regional Meeting of Experts on Environmental Education in Europe, UNESCO-UNEP, Helsinki 1977. There are few new recommendations in evidence, but the key features of environmental education are repeated, i.e. involvement with issues, fostering of values and attitudes, its inter disciplinary nature, desire to influence personal behaviour. However, there were recommendations concerning the criteria for the development of environmental education materials - that they should be multi-media, inter disciplinary, cheap, adaptable and stress various teaching and learning processes and techniques. In the UK there were already a number of environmental education resources available to teachers form Government Departments, Statutory Bodies, commercial organisations, publishers and voluntary organisations. Many reflect a particular view point and need careful use as educational resources.

Intergovernmental Conference on Environmental Education, UNESCO-UNEP, Tbilisi 1977. The first intergovernmental conference was able to draw together in a common statement, the many threads of environmental education that had developed over the past 15 to 20 years. Such consolidation was necessary before announcing any recommendations for future action. The 41 recommendations are comprehensive and over the last four years have provided a focus for individuals, organisations and Government Departments.

The benefits are now being seen, e.g. joint activities between planners and schools, environmental education programmes for adults, a discussion document on environmental education in the school curriculum 11-26 by HM Inspectors, a DES Review of environmental education, further financial support for a national centre for environmental education, etc. Tbilisi has been a major stimulus to the environmental education movement in the UK.

Environmental Education in Urban Areas, Environmental Board, Department of the Environment, 1979. Originally, environmental education evolved from a concern for the natural environment and many people still regard environmental education as a form of nature studies. Stockholm gave full recognition to the total human environment, including the built environment, although in the UK, urban environmental education has been a growing part of environmental education since the Skeffington Report. The report repeats many previous recommendations from UK conferences; the highest priority is in secondary schools, the need to develop an inter disciplinary approach and use of the local environment as an educational resource, but it also recommends making available support for Urban Studies Centres, involving the professions and trades in education activities, and giving financial support to 'enabling' agencies.

The World Conservation Strategy, IUCN, UNESCO-UNEP, WWF 1980. Although the Strategy says nothing new, it brings together all aspects of conservation for the benefit of politicians, environmental managers (planners, farmers, foresters, etc) industrialists and other developers and educationalists. It provides another opportunity for mankind to work out a more sensible relationship with the environment. One chapter concentrates on the role of education. Following closely on from the Tbilisi recommendations, it is helping to maintain the momentum of new activities. The WCS has caught the imagination of the environmental education movement and is the cause of many initiatives which will envourage better knowledge and understanding of its main themes:

a) The maintenance of essential ecological processes

b) The preservation of the diversity of earth's species

c) The careful and sustainable use of the earth's resources

d) Conservation and development are mutually dependent.

REFERENCES

The following references are a selection of the most important ones used in the writing of this report. They are reflected in statements throughout the report and do not necessarily relate to particular chapters.

1. BBC Audience Research Department
2. CARSON, S McB (editor), 1978, Environmental Education: Principles and Practice, London, Edward Arnold
3. CURRICULUM DEVELOPMENT CENTRE, 1981, Environmental Education: a source book for Primary Education, Canberra, CDC
4. DEPARTMENT OF EDUCATION AND SCIENCE and WELSH OFFICE, 1980, A framework for the School Curriculum, London, HMSO
5. DEPARTMENT OF EDUCATION AND SCIENCE, 1979, Curriculum 11-16: Supplementary Working Papers by HM Inspectorate, Environmental Education: London, DES
6. DEPARTMENT OF EDUCATION AND SCIENCE, 1981, Environmental Education: a review, London, DES
7. DEPARTMENT OF EDUCATION AND SCIENCE, 1981, Environmental Education: sources of information 1981, London, DES
8. ENVIRONMENTAL BOARD DEPARTMENT OF THE ENVIRONMENT, 1979, Environmental education in urban areas, London, HMSO
9. HMSO, 1972, How do you want to live, London, HMSO
10. IUCN, 1970, International Working Meeting on Environmental Education and the School Curriculum, Nevada
11. IUCN, 1980, World Conservation Strategy, Gland, IUCN
12. MARTIN, G C and WHEELER, K (editors), 1975, Insights into Environmental Education, Oliver and Boyd
13. NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION, 1976, Environmental education a statement of aims, Birmingham, NAEE
14. PARK, C C, 1976, History of the Conservation Movement in Britain, Reading Conservation Trust
15. RICHMOND, J M and MORGAN, R F, 1977, A national survey of the environmental knowledge and attitudes of 5th year pupils in England, Columbus, ERIC/SMEAC
16. ROYAL TOWN PLANNING INSTITUTE, 1980, Public participation: an issues report, RTPI
17. SCHOOLS COUNCIL, 1974, Project Environment, Harlow, Longmans
18. SMEAC, 1978, From Ought to Action: a report of the National Leadership Conference on environmental education, Washington DC, SMEAC
19. SCOTTISH EDUCATION DEPARTMENT, 1974, Environmental Education, a report by HM Inspectors of schools, Edinburgh, HMSO
20. UNESCO-UNEP, 1975, Belgrade workshop on environmental education, Paris, UNESCO-UNEP
21. UNESCO, 1978, Intergovernmental Conference on Environmental Education, Final Report, Paris, UNESCO

ABBREVIATIONS

BTCV	British Trust for Conservation Volunteers
BEE	Bulletin of Environmental Education
CEE	Council for Environmental Education
CoEnCo	Council for Environmental Conservation
CSE	Certificate of Secondary Education
DES	Department of Education and Science
DoE	Department of the Environment
FSC	Field Studies Council
HMI	Her Majesty's Inspectorate
IUCN	International Union for the Conservation of Nature & Natural Resources
LEA	Local Education Authority
MSC	Manpower Services Commission
NAEE	National Association for Environmental Education
PICC	Professional Institutions Council for Conservation
REED	Review of Environmental Education Developments
RSPB	Royal Society for the Protection of Birds
RSPCA	Royal Society for the Prevention of Cruelty to Animals
SEEC	Scottish Environmental Education Committee
UNEP	United Nations Environment Programme
UNESCO	United Nations

ABBREVIATIONS

BTCV	British Trust for Conservation Volunteers
BEE	Bulletin of Environmental Education
CEE	Council for Environmental Education
CoEnCo	Council for Environmental Conservation
CSE	Certificate of Secondary Education
DES	Department of Education and Science
DoE	Department of the Environment
FSC	Field Studies Council
HMI	Her Majesty's Inspectorate
IUCN	International Union for the Conservation of Nature & Natural Resources
LEA	Local Education Authority
MSC	Manpower Services Commission
NAEE	National Association for Environmental Education
PICC	Professional Institutions Council for Conservation
REED	Review of Environmental Education Developments
RSPB	Royal Society for the Protection of Birds
RSPCA	Royal Society for the Prevention of Cruelty to Animals
SEEC	Scottish Environmental Education Committee
UNEP	United Nations Environment Programme
UNESCO	United Nations