Planning Environmental Education in Europe

Report of two meetings: Bergen (1993) and Jurmala (1994)

European Committee for Environmental Education (ECEE)

IUCN
The World Conservation Union

Planning Environmental Education in Europe

A report based on the conferences

Strategic planning in environmental education
1-3 November 1993, Bergen, The Netherlands,
IUCN North West Europe Committee

Strategic planning in environmental education for the school system
17-19 October 1994, Jurmala, Latvia,
IUCN European Committee for Environmental Education

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Bureau of Environmental Education and Training (BEET)
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European Committee for Environmental Education (ECEE)

This report is published by the European Committee for Environmental Education, a regional committee of the Commission on Education and Communication, IUCN, in October 1995. It was written and edited by the Bureau of Environmental education and Training (BEET), an international consultancy operated by John Baines and Stephen Sterling (UK). The views expressed are those of the meeting participants and the editors and not necessarily those of IUCN.

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A compilation of papers by individual conference participants who were present at one or both conferences and who were referred to in one way or another in the text of the report (see also the references after 'conclusions and recommendations' will be available end 1995 from:

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About this document

Planning Environmental Education in Europe was written in September 1995. Given the lapse of time between the conferences (1993 and 1994) and writing the report, ECEE and the editors decided to produce a document based mainly but not exclusively on the conference material. It is not strictly a conference report or proceedings, but more a compilation about strategy for environmental education which uses excerpts and paraphrased extracts from the conference papers to illustrate the theme. This helps avoid the problem of dating, and also makes the document useful to a wider group of people, including those who did not attend either of the conferences.

The title reflects that the conferences were aimed at helping all those in a position to adopt strategic approaches to environmental education at any level. It also reflects the aim of this publication which is to contribute to the development of such approaches. The report is not detailed or comprehensive enough to be a handbook on strategy, but as a collection of ideas and experiences, it should assist and encourage those involved in this path.

While the Bergen conference (1993) was concerned with national strategies and the Jurmala conference (1994) was concerned with strategies in the school system, the two discussions have not been strictly separated out below, partly to reflect the fact that there should be consistency and continuum between these levels of planning, and the fact that strategy at any level involves generic principles.

The report references sources where possible, but some material comes from rough notes produced by conference working groups. It should be noted that not all the working groups produced reports, and therefore the editors have worked from incomplete sources. We have cut, paraphrased and restated material heavily and have not used material that is already dated in its relevance.

The editors hope that this report is a fair and useful reflection of the Bergen and Jurmala conferences, but accept responsibility for any errors.
NB '1993' in the text means the Bergen conference, '1994' means the Jurmala conference. To a limited extent, we have supplemented the conference material with other referenced material to enrich the document - (marked by 'ref' in the text).

Contents Page

Foreword

I. Introduction 6

II. Context 7

a. Mandate for strategy
b. IUCN CEC's response and current developments
c. The Bergen and Jurmala conferences - summary
d. Issues, shifts and tensions

III. Facets and dimensions of strategy 13

a. What is strategy?
b. Levels and integration
c. Strategy style

IV. Principles and approaches in the formal education sector 17

V. Success factors 22

a. General success factors in strategy building
b. Learning from experience
c. Case studies

VI. Conclusions and recommendations 32

References

Bibliography

Foreword

During six years of chairmanship of the former North West Europe Committee of the Commission on Education and Communication of IUCN (and around one year of the newly established European Committee) I have often wondered what has driven me and others to plan so many conferences as we have done each year since 1960. Was it for the quality of environmental education, was it personal ambition, as it the fascinating communication between people who had never met before?

It must have been a combination of factors. But doubt and fear have also come over me sometimes: how could I, we, manage without any structural funds, does our choice of a theme like formal education make us drift away from IUCN's main programmes, how do we cope with the lack of programmatic input into the conference (up to a few weeks before they would start), can I find enough time for the organisation and funds for the travelling?

But the desire to have a good professional meeting has always given energy to overcome doubts and fears. And that is exactly why again a new report is lying before you, a report about many relevant aspects of why and how to organise strategies in environmental education. What then could be the importance of this report for environmental education? During the Latvia conference (held in Jurmala) I felt again that the trouble we had had in designing a quality meeting paid off; just the right time for many countries, an enormous spirit and energy level of the participants, qualitatively good conference contributions, great social events. And not to forget the organisational input from Raimonds Ernsteins and Valdis Bisters and their centre's staff in Riga!

How satisfied one may look back at an event which has taken place, the real proof of its value lies in the effect it has, not only on those present, but also on those involved who could not attend. The present report is meant to contribute to that effect. For this I refer to the conclusions and recommendations at the end of the report.

I wish to thank John Baines and Stephen Sterling for the professional, knowledgeable way in which they succeeded to produce a high quality document within a nearly impossible timespan. Thanks to IUCN headquarters we could financially manage this report and have it printed.

Chris Maas Geesteranus
Convenor of the Bergen and Jurmala conferences

I. Introduction

Strategy for who?

"If we are serious about reforming the attitudes of people towards their environment it is not enough to call on formal education to do something: what is needed is a strategy that will address every influence capable of being guided and involve everyone who has an influence on the behaviour of someone else, and that should be pretty well everybody."

-John Smyth, Closing remarks, Jurmala conference.

Why focus on strategy?

"We all know - as government officials, professional educators, facilitators or researchers - how long an innovation like environmental awareness and environmentally wise action takes. How long have we been struggling to integrate environmental education into the formal school system? Half a generation, and still in none of our countries I dare to say has the integration taken place to an extent we feel necessary. So in my view, there is every reason to discuss the matter of strategic planning thoroughly."

- Chris Maas Geesteranus, Opening address, Bergen conference

What is the value of strategy?

* It clarifies objectives, targets and activities.
It helps explain to others what changes you or the initiating group are working for,
and what others can expect from you.

* It is a basis for systematic action.
New and existing activities and programmes can be related to the strategy. Duplication, competition and areas of no activity can be more effectively tackled.

* It helps specify the function of environmental education (EE) in relation to other policies. For example, in many cases, EE is seen as a means or instrument to enhance objectives in the field of conservation and development.

(After Peter Bos 1993)

"We need to convince those who are in charge of the real decisions in the field of environmental education - and the finances that are needed to that end - that this way of working is indispensable if we wish to proceed in environmental education".

- Chris Maas Geesteranus, Opening address, Bergen conference

II. Context

IIa. Mandate for strategy

There has been an increasing call for strategic approaches to the promotion of environmental education, development education and education for sustainability over recent years.

A growing mandate from international agreements and documents have led a number of governments to engage in various ways in developing strategy for environmental education, often as part of an environmental strategy, or strategy for sustainable development. International encouragement for this process includes IUCN's *Caring for the Earth,* Agenda 21 (specifically Chapter 36), the Commission on Sustainable Development, EC policy on sustainable development and environmental education, and the Environment for Europe agenda set by inter-ministerial meetings held in Lucerne in 1993 and Sofia 1995.

'Governments should strive to update or prepare strategies aimed at integrating environment and development as a cross-cutting issue into education at all levels within the next three years. This should be done in cooperation with all sectors of society. The strategies should set out policies and activities, and identify needs, cost, means and schedules for their implementation, evaluation and review. A thorough review of curricula should be undertaken to ensure a multidisciplinary approach, with environment and development issues and their socio-cultural and demographic aspects and linkages. Due respect should be given to community defined needs and diverse knowledge systems, including science, cultural and social sensitivities.'

- 'Reorienting education toward sustainable development' in Chapter 36 'Promoting education, public awareness and training' Agenda 21, UNCED 1992.

'In line with the objective and the guiding principles set out in the 1988 resolution, environmental education should be considered an integral and essential part of every citizen's upbringing, (and) should be strengthened as soon as possible at all educational levels'

- Conclusions of the Council and Ministers of Education meeting within the Council, EC 1 June 1992.

Action 6.1. Ensure that national strategies for sustainability include action to motivate, educate and equip individuals to lead sustainable lives.
Action 6.2. Review the status of environmental education and make it an integral part of formal education at all levels.
Action 6.3. Determine the training needs for a sustainable society and plan to meet them.
- *Caring for the Earth,* IUCN, UNEP, WWF, 1991.

IIb. IUCN CEC's response

The IUCN Commission on Education and Communication (CEC) has made education and communication strategy a central theme of its work. The mission of the CEC is to:

'promote and guide capacity building and the strategic planning of education and communication for sustainable living, through networks and through IUCN staff, members, CEC members, partnerships and collaborating organizations'.

With regard to national environmental education strategies, the CEC's own strategic objective is to:

'influence and assist change agents (civil servants, directors of NGOs) in the strategic management of education and communication in support of implementation of Agenda 21 or Biodiversity Convention.'

The Commission's European Committee for Environmental Education (ECEE) includes amongst its goals:

'stimulating and advocating the development of national strategies and policies for environmental education and communication'.

In Europe, to date this work has included:
* The Bergen (1993) and Jurmala (1994) conferences on EE strategy
* A working group on national EE strategies (continuing)
* A European meeting with UNESCO on 'National Strategies for Environmental and Development Education', November 1994.
* *Planning education to care for the Earth* book (1995)
* Database of education strategies

IIc. The Bergen and Jurmala conferences - summary

Title: 'Strategic planning in environmental education'
Held: Bergen, The Netherlands 1-3 November, 1993
Organized by: IUCN CEC North West Europe Committee.
Chairman: Chris Maas Geesteranus
Participants: 50 from national and provincial governments, NGOs, and educational institutions.

Rationale and starting points :
* insufficient coordination of strategic planning between national, regional and local levels
* local work often isolated and under-resourced
* need to bring support, continuity and direction to EE work through strategy

Objectives:
* to show good practice and review status of EE in Europe
* to review cooperation between NGOs and governments
* to review principles of the planning process

Outcome sought:
* to produce working models that individual countries can adopt and thereby strengthen strategic planning in EE

Title:	'Strategic planning in environmental education for the school system'
Held:	Jurmala, Latvia 17-19 October 1994
Organized by:	IUCN ECEE/Centre for Environmental Science and Management Systems, University of Latvia in collaboration with Ministry on Environmental Protection and Regional Development and Ministry of Education, Culture and Science, Republic of Latvia
Chairman:	Chris Maas Geesteranus
Participants:	35 from national and provincial governments, NGOs, and teachers.

Objectives:
* to discuss the elements of the process (curriculum development, teacher training, examination requirements, research, school management, supporting infrastructure etc and their links)
* to give examples of innovative processes from all over Europe (under very different administrative and curricular circumstances, but with some common problems)
* to show how the local EE community can participate in developing national policy and in supporting schools
* to identify minimum requirements for effective development of environmental education in the formal school sector

Outcomes sought:
* production of practical guidelines for planning EE in school systems
* an analysis of the main development and implementation problems and suggestions for overcoming them
* insight in how to start the planning process

IId. Issues, shifts and tensions

This section looks at the context for strategy, including common issues facing those involved in EE strategy, shifts in how EE is perceived and implications of these changes for strategy - whatever the level of operation.

•Issues - the challenge identified by participants at Bergen

Personal
- most people only know development as material development
- the fear that real solutions will threaten our comfortable lifestyle

Social
- a problem-based message does not sell
- lack of environmental awareness and knowledge

Political
- little real interest among politicians to tackle the issues and change behaviour
- lack of political support for thorough environmental education
- insufficient recognition of environmental education as a means to a sustainable society

Resources
- lack of funding and commitment by government
- insufficient commitment from those in senior positions in education

Strategy
- lack of environmental education strategy
- dilemma of top-down versus bottom-up
- how to involve all groups in the process
- getting cross-sectoral cooperation
- making the process transparent
- making effects and successes more visible
- the difficulty of measuring results

Institutions
- role of teacher/educator in environmental education challenges traditional role
- insufficient numbers of people skilled and influential in environmental education
- widespread failure to understand nature and importance of environmental education and development education
- often changing personnel in key government ministries

Concepts and objectives
- wide ranging and often vague objectives in environmental education
- environmental education too often modelled on natural sciences only

•Shifts in perception of EE

'Education is still too often seen as instrumental to nature conservation instead of a way to enable people and institutions to make wiser decisions about their involvement in sustainable living.'

Chris Maas Geesteranus, Opening address, Bergen

'In the seventies, EE was based on scientific knowledge about nature conservation and technical improvement of industrial pollution. Over two decades, the consensus view of the environment has broadened to become a much more wide-ranging and integrated view. Similarly, the focus of EE has shifted towards human, political and economic sciences, from natural landscapes to rural, industrial and urban environments, and embracing local, regional and global scales. The aim of EE has changed from transmission of knowledge to personal and social transformation or development. From an 'objective' study based on natural sciences, its concerns focused on personal and global aspects with recognition of political and economic dimensions. This meant growing interest in complexity, controversial issues and sustainable development.

The original view of EE can be taught effectively through sciences such as biology, geography and chemistry. However, the full and more recent interpretation of EE cannot be adequately taught in this way for several reasons including:

- the environment dimension is only an aspect of the wide subject matter to be dealt with by these subjects

- the emphasis is too strongly on the development of knowledge and technological skills and underestimates the value of socio-economic dimensions

- the importance of communicative skills for the personal development of youngsters involved is insufficient

- value formation is generally omitted.

EE is not a subject bound task but 'wishes to create' the possibility of a socially determined adjustment of the educational system, which would show these characteristics:

* EE is not subject bound, but subject transcending
* Subjects from the scientific sphere as well as from the socio-economic and expressive domains share in the educational process
* Personality development and communicative skills are at least as important as environmental-technological practicality

* Controversial and complex aspects are inherently bound up with environment and should not be avoided.

We might discern four levels of strategy:
i) Within the curriculum of existing subjects
ii) By means of subject integration and striving for horizontal interweaving of aims
iii) Through project teaching, in which pupils themselves make evaluation
iv) School-transcending initiatives

Through these stages of EE runs a continuous thread of increasing student involvement, starting with passive learning via active processing towards action research, emotional involvement and decision-making.' (After Dirk Coolsaet 1994)

'Some alternative strategies for EE are now emerging from different places in the world. They all have in common that they try to make EE *educational.* This means exchanging the view of the pupil as an object for manipulation regarding his/her behaviour for one where the pupil is regarded as a thinking and acting individual, where the goal is to build up his/her own *action competence.* The concept of action competence is not only being able to act according to one's own wishes and beliefs. It is also a competence which includes insight into how the community functions and how natural systems function as a basis for our life support system. ' (After SØren Breiting 1994)

•Tensions in strategy

These shifts in the way EE is seen have direct implications for strategy. Strategy at any level can either be predominantly *transmissive,* which is typically top-down, and designed to communicate a message meant to encourage behavioural change in target groups, or *transformative,* which is typically bottom-up, and essentially participative, owned and open-ended. Or a strategy can be some combination of these two models (Sterling ref).

In the first view, EE is seen as an instrument of change, often in relation to preconceived goals. In the second view, EE is seen as intrinsic to change which must be owned and not predetermined. The first is 'supply driven', the second more 'demand-led'. Clearly, there is some tension and some ideological difference between these two models, which are also reflected in differing approaches to pedagogy and curriculum development (see section IV 'Curriculum development and classroom strategies' below). This tension is apparent in many case studies of strategy development whether at national or local level. A case can be made for or against either approach, but often an approach which combines elements of both may be most appropriate.

A further tension which tends to be reflected in these two approaches, is between emphasis on strategy as *product* (producing a strategy document) - and strategy as *process*. Again, a combination is often most useful and appropriate.

III. Facets and dimensions of strategy

This section looks briefly at the nature of strategy, and then looks at some of the issues and tensions that need to be considered in the strategy process.

IIIa. What is strategy?

'It is best to think of a strategy not as a plan but as a means of planning and taking actions to change or strengthen values, knowledge, technologies and institutions. By the same token, a strategy document is an essential tool to make the strategy explicit and record the policies and actions agreed by the participants. But it is only a tool; it is not the strategy'.

- Jeremy Carew-Reid 1994 (ref)

Policymaking

'Successful policymaking is striving for a goal by reducing uncertainties'
Leo Klinkers 1993

According to Leo Klinkers, successful policymaking :

- puts the prime emphasis on moving away from an undesirable situation, rather than going towards a goal, because one can never be sure of reaching this goal. This allows progress to be judged
- depends on a good negative feedback process - that is, a 'course correction process' - being in operation.
- means deciding what are the acceptable margins of error
- knows when to change course entirely if necessary

Process of policy-making (generic)

There are seven steps - which can apply at any level of policy-making

* Define the problem
* Give evidence to show the existence of the problem
* Decide whether action or policy is needed to remedy the problem (value judgement)
* Show why action or policy is needed

* Analyze causes of problem and try to go for root cause
* Analyze costs, benefits and feasibility of alternative courses of action
* Take appropriate actions

(After Leo Klinkers 1993)

Components of strategy

There are four basic components of strategy:

* Assessment/research - on issues, current state (of knowledge, skills, possibilities, constraints etc), actors, stakeholders
* Planning - setting objectives, designing the actions etc
* Implementation - taking the actions
* Monitoring and evaluation - feeding back and adjusting the programme

'These components must continue together and reinforce one another. Most strategies have begun by working in sequence...but this need not be the case. It is better for example that implementation starts early; it does not have to wait for all planning to be completed.'

Jeremy Carew-Reid 1994 (ref)

IIIb. Levels and integration

This refers to the location of any strategy - whether it is national, regional, local or institutional, or some combination of these levels. While defining the area of concern of any strategy may be relatively easy, strategies rarely occur in isolation.

Thus there is often a problem of :

* *Vertical integration* - ensuring preexisting and/or new strategies at different levels complement rather than conflict
* *Horizontal integration* - ensuring preexisting and/or new strategies across different sectors at the same level complement rather than conflict.

A successful strategy is integrated rather than fragmented. It has strong links *vertically* between say, government policy, and actual needs/activities at local level, and *horizontally* across sectors and interest groups.

It also needs to be integrated with parallel policies or strategies. If for example, a strategy for environmental education is at odds with the national educational, environmental or economic policy or strategy, it is unlikely to be successful. If it works in tandem with, and reinforces other

policy instruments, it is more likely to be successful.

Relation between national and local levels

'National policy and provincial and local policy are often not well-tuned. The aims and issues are different. The processes of policy making differ in pace. The communications programmes are not reinforcing each other. A true national strategy should not restrain itself to the national level, but has to have a vision and implications for the local level as well. The strategy has to be top-down and bottom-up.

By limiting itself to the national level, a national government takes the risk that autonomous and independent developments stop or begin to go their own way. A national government ought to be very interested in signals from the local level in order to make good - that is, realistic - policy.

Environmental education is not only an instrument for the realization of existing environmental policy, but is also a necessary condition for the making and remaking of a nationwide policy for sustainability.'

(After Riet Rjis, 1993)

National planning tends to concentrate on top-down flows of manpower, money and changes to educational infrastructure. This is needed as national governments and institutions have the power to make large-scale changes, but top-down planning must be balanced with bottom-up approaches. This is for several reasons including:

- in a democratic society, schools and other institutions will not pick up innovation unless they are involved in it, and there is some attempt at structural integration.

- no matter what the plan, effective execution ultimately depends on work at the local level

- the local participants know the particular environmental issues affecting the local community, and how any general strategy can be made relevant.

(After Guidelines for Working Groups, 1994).

'As this conference starts, so too does the national 'Spain Forest' programme. The first autumn activity is the collection of seeds. In Cadiz in the southwest of Spain, some children are collecting Mediterranean pine seeds. In the highlands of Andalucia, other children are collecting oak seeds. The programme is the same in both places but the

characteristics vary according to the specific necessities of each community. This is the spirit of 'bottom-up' perspectives in environmental education.'

(Miguel Ruiz Trigueros 1994)

'While it is a relatively simple matter for a few highly motivated teachers to introduce good EE in a few schools, which they have done since the mid-1970s, broad integration of such educational opportunities has proven to be a much more difficult and long-term task. Thus, despite an abundance of grassroot activity, and official government policy, programmes are needed to stimulate and steer the intended development work....The intent of the centrally initiated policy and programmes is to create an institutional framework that supports initiatives by educational institutions to permanently integrate EE into their teaching.'

EE in Norway - a systemic approach, 1994 (ref)

IIIc. Strategy style

This refers to two spectra of which help define the style of any strategy. There are four variables which determine a style of strategy (ref Baines and Sterling):

'Heavy' (very prescriptive and detailed)
'Light' (non-prescriptive and outline only)
'Top down' - (centralized, with little consultation and participation)
'Bottom up' - (decentralized, based on extensive consultation and involvement)

A balanced combination is often the most successful way.

	Pros	Cons
Heavy	Provides guidance	Needs much information to generate
	responsibility laid out	Cooperation among target groups likely to be poor
		Harder to change or correct
Light	More acceptable, requires participation; more flexible; easier to consult	May not give sufficient guidance or framing, open to manipulation
Top down	Easily prepared, can attract government support, low cost if limited exercise	Imposed - little ownership; may not reflect real situation and neglect existing work
Bottom up	Change tends to be more lasting	Parts may not cohere as a whole; difficult to guide or control; takes longer

IV. Principles and approaches in the formal education sector

•Constraints to innovation in schools
(After Working Group 1994)

Common barriers to innovation and EE in schools include:
* lack of environmental responsibility by individuals and the institution
* environmentally aware teachers feeling isolated
* lack of individual creativity or space for it
* lack of support from management system
* unfamiliarity with alternative methodologies
* lack of resources
* resistance to change

•Key considerations
(After Liisa Jaaskelainen 1994)

A strategic approach to improving and implementing environmental education in schools system implies a number of steps and key questions to be considered - prior to, and during the design and implementation of strategy. (Liisa Jaaskelainen's paper was written after reference to all the conference material).

Step 1: Define the sort of environmental education required

- What do we want?
It should be visionary, participatory[1], and practical. The following diagram shows development phases of environmental education.

Expounding the phases of environmental education

Phase	Name	Area of Specific Emphasis	Central Subjects
I	Nature protection education	Biological nature	Biology
II	Environment protection education	Bio-physical nature	Natural sciences
III (present)	Environmental education	Natural environment Cultural environment	Natural sciences Social sciences
IV (future)	Environmental education	Cultural environment Ideological environm.	Social sciences Humanistic sciences Arts

[1] Participation does not only refer to (local) NGOs and teachers. Appendix1 gives an overview of these persons and institutions which are involved as well.

Step 2: Identify the direction of change needed in mainstream education.

- What kind of education is receptive to developing environmental education?

Changes are beginning to take place in school education systems which environmental education can assist or inspire further. These include changes:
* in the role of learner, from passive recipient to producer of knowledge and skills;
* in the role of the teacher, from a feeder of knowledge to a guider and facilitator of the learning process;
* in the role of local authorities, from controller to supporter;
* in the role of parents, from passive observers to active participants in school life;
* in the role of NGOs towards that of partners with teachers, holding special competence in environment matters;
* in the role of administrators, from top-down strategic planners to process-stimulating participants.

Step 3: Incorporating the characteristics of good EE in mainstream education.

- How does the implementation of good EE influence mainstream education?

This incorporation should seek and lead to a number of changes:
* from human-centered thinking towards biosphere-centred thinking
* towards multi and interdisciplinary working
* towards will and commitment to work for the environment
* towards future orientation and the recognition of the role of learners in creating the future.

Step 4: Identifying the structural changes needed in the school system.

- What kind of structural changes are needed to make it possible to realize good EE?

Structural changes most often needed are:
* decision-making processes which empower teachers to decide how they should work
* mechanisms to allocate time for interdisciplinary EE
* dynamic networking with partners such as environmental specialists, NGOs and research organizations
* access to specific EE resources such as regional EE forums

Step 5: Establishing tools and indicators to assist in bringing about structural change

-What kinds of tools and indicators are available or can be created?

These might include:
* Legislation and directives
* Policy statements and guidelines
* Curricula
* Allocation of finances and other resources
* Evaluation
* Consultancy, advice and inspection
* Programmes for pre and in-service training
* Production and inspection of materials
* Support networks

Step 6: Selection of tools

-What kinds of tools or indicators are useful and valid in any particular country?

The degree of centralization and flexibility of an educational system determines to a great extent the usefulness of possible steering instruments. Directives and guidelines are appropriate in a centralized system, but local activity, inspiration and partnership is more appropriate for decentralized systems. In whatever system, formal recognition and status for EE is valuable.

Step 7: Exploring new landscapes

- Where can we find new solutions and inspiration?

In EE, we are working with many aspects of the development process which are constantly evolving. We need to 'explore new landscapes' to assist and renew this work. These might be:
* theoretical discussion on learning and sustainable development
* psychological analysis of change towards positive action
* research results, such as that obtained by action research in relation to EE
* experiences of others, such as in changing school structures
* keeping contact with influential actors such as IUCN and international EE projects

•Stimulating innovation and EE in schools
(After Working Group report 1994)

Educational authorities should:

* provide incentives and motivation to teachers - preferably whole staff - to attend courses
* ensure the provision of a support team and resources on an on-going basis
* present such courses as an integral part of its systematic training programme

In-service training courses should:
* provide value-clarification exercise for teachers, personal development and how to handle value issues in the classroom
* give the opportunity to reassess knowledge as a balance between natural and social sciences
* give experience in innovative learning and teaching methods
* focus on the 'new role' of the teacher as facilitator and the changes this implies

• Curriculum development and classroom strategies

Changing views of environmental education are resulting in the emergence of participatory classroom and curriculum development strategies, based on action research approaches. The following is based on Paul Pace (1994), who argues these approaches are in accord with the philosophy of environmental education.

Institutionalized education implies that decisions are taken about what children should learn. Curriculum planners making these decisions usually function within certain constraints imposed on them by legislation and/or the implicit value system of society and its educational tradition. Characteristically, curriculum development in many countries is therefore top-down, through a 'Research, Development and Diffusion' model. This typically involves identification of the educational problem, initiation of research to discover solutions, development of a curriculum innovation including trialling and evaluation of prototypes, and finally production of a 'fool proof' programme for diffusion into the user system. The innovation might reach school through legislation or policy controlling educational practice, or through resources such as in-service training which familiarize teachers with the innovation and associated materials.

In this model, the change agents are the researchers or education authorities who develop, evaluate and disseminate the innovations. Teachers are just the technicians who passively adopt the suggestions proposed by the experts. Besides widening the gap between theory and practice, such a model generates a technocratic approach to the resolution of educational and environmental problems and fosters passive consumerism - and is antipodal to the philosophy of environmental education which focuses on the complex nature of environmental issues and active participation in their resolution.

But this strategy still depends on teachers as curriculum makers to adopt and adapt the external input into a workable curriculum. They know their situation, its dynamics and the need for change. By reflecting on their own experience, teachers can develop, try out and improve curriculum material. The recognition of teachers as professionals and as active participants in curriculum development is the at the heart of this *action research* approach. This approach empowers teachers to develop an ideology critique enabling them to depart from ready-made solutions and discover innovative ways of solving problems.

Hence, the call now is for a new style of top-down curriculum development. In centralized systems, teachers are often prevented from participating in curriculum innovation by bureaucratic structures and lack of adequate resources. The new-top down approach should be one that reduces these obstacles by initiating a process of decentralization in which teachers are given a freer hand in curriculum decisions. Moreover, those who have traditionally considered themselves the change agents need to redefine their role, and start considering themselves as catalysts for change - for example by examining teacher education programmes to see if they equip teachers with the skills required for action research and curriculum development.

'The old ideas said that teachers can teach the solutions to all environmental issues, based on science teaching. The new ideas are more democratic, and are based on action competence. They are aimed at building up an ability to take action, not only to solve environmental issues, but to try to prevent environmental issues - to try to change society to prevent them. We liked the new ideas.'

Eva Csobod 1994.

'The main objectives of the Environment and School Initiatives (ENSI) project were clearly defined from the beginning and were linked to a new responsibility of the educational system in a prosperous environment:
* promotion of 'dynamic qualities' in students such as initiative, independence, self-confidence, creativity, willingness to become active and accept responsibility
* promotion of 'environmental awareness' in the local community to understand broader problems

All forms of schools - primary, secondary, vocational - could participate in the project when they applied the following criteria:
* personal involvement of students and their emotional commitment
* interdisciplinary learning and research
* reflective action to improve environmental conditions
* involvement of students, at least partially, in decision-making or problem-finding, on procedures and monitoring their work.'

(Dirk Coolsaet, 1994)

•Regional and local support structures for teachers
(After Working Group 1994)

The Jurmala conference recommended decentralization of responsibility for education. Support from outside the institution is considered essential to the promotion of EE, and this is even more important where a system is decentralized. It is vital not only that support is in place, but that it is locally, regionally, and nationally accessible.

Forms of support include:
* teaching materials
* cross-curricular coordinators for EE within the local education authority
* cross-curricular coordinators for EE placed in each school
* advisers for EE attached to ministry institutions and agencies
* centres for in-service and post-graduate training in EE, and field centres for short courses
* services by NGOs eg consultancy, materials, workshops, training courses, centres

What is available will vary from country to country, but the growth of such support partly depends on the demand for it. Demand might be stimulated by:

* a curriculum which obliges teachers to use support services
* teaching teachers how to search and use support services in pre and in-service courses
* keen teachers exerting influence on colleagues
* pressure by pupils and parents
* support facilities visiting schools rather than teachers having to research support
* incentives for teachers to use support services and attend in-service training
* information, databases and guidelines on resources available and their quality
* highly accessible information network

It was noted that in general, and judging from the experience of countries represented at Jurmala, local support (community or provincial) is much more effective than central support services. In all countries, NGOs play a crucial role in providing teachers with essential support.

V. Success factors

Va. General success factors in strategy building

The following ten features are based on the IUCN handbook *Strategies*

for National Sustainable Development and describe general characteristics of successful strategy. They might be applied to educational strategies at most levels of operation.

1. Strategies should establish specific objectives

2. The ultimate goal of strategies should be to enhance the prospects of sustainable development

3. Make choices - it is tempting to try to do everything, but strategies with too many objectives get bogged down

4. Make your strategies a process - not an isolated event. It should be adaptive and cyclical over time

5. Make the strategy as participatory as possible

6. Communication is the lifeblood of a strategy

7. Strategies are processes of planning and action - a strategy document is an essential tool but it is not the strategy

8. Integrate the strategy into existing decision-making systems - and build on current work, plans, skills and knowledge

9. Build the capacity to undertake a strategy at the earliest stage

10. External agencies should be 'on tap' not 'on top' - locally designed and locally driven approaches should be given precedence over 'model' strategies.

Carew-Reid 1994 and 1995 (Refs)

Vb. Learning from experience

- **Advice to national 'top-down' strategy initiatives** (Working Group 93)

- Start with reference to chapter 36 of Agenda 21 as working mandate
- Establish a platform on 'education for sustainability'
- Include representatives of relevant ministries, NGOs, all levels of the formal system, and the corporate world
- Include decision-makers and politicians - but not necessarily as permanent members
- Build in feedback mechanisms and an evaluation process from the beginning
- Start several projects at local level at early stage to feedback experience into the process

• **National strategies - success factors from the Scottish experience** (after John Smyth 1993)

Barriers to progress in advancing environmental education often appear to include fragmentation of effort, lack of leadership at high points of influence, poor comprehension of complex systems, short-term and materialistic perspectives, and a sense of inadequacy for the task.

What follows are some factors that emerged from the Scottish experience of producing a national strategy report, *Learning for Life* (1993), and which helped address these barriers.

* Make the most of an opportunity

- Whether by careful planning or by good luck, catching the right moment for promoting a strategy is important, for example through using international developments or noteworthy occasions.

In Scotland, the chain of events which led to the establishment of the Secretary of State's Working Group on Environmental Education in 1990 included the 1989 meeting of the NW Europe Committee of IUCN CEC - which led to environmental education being given a high profile in the presence of a minister - and the government's involvement in preparing a major policy paper on the environment.

* Get the definitions right

- Setting broad definitions of environment and of environmental education are vital. The environment is the whole environment in which people live - natural and man-made, physical and social, aesthetic and economic, with a past, present and future. Education comprises all those ways by which people learn about their environment, and which are capable of guidance.

In Scotland, our insistence on these broad definitions was widely welcomed but not always easy to sustain. Yet failing to maintain them would have led to a strategy full of holes.

* Put your principles into practice

- Broad definitions lead to the need for a 'holistic' approach, where all the 'learning contexts' affecting behaviour towards the environment are addressed.

Our working group created six sub-groups representing the main learning contexts - the home, the community, leisure and recreation, school, post-

school education and training, and the workplace. In addition, it had sub-groups concerned with powerful outside influencers - policy-makers especially in national and local government, and other external influencers such as the media and advertising. All the sub-groups were free to co-opt members from outside their group and thus extend the range of expertise available.

* Bring in as many players as you can

- Spreading involvement in preparing the report so as to give everyone who wished to do so a chance to contribute to it, and through this a stake in its outcome and a sense of ownership.

The Scottish Group held intersectoral workshops on relevant topics and involving about 20 participants. These were drawn from government departments and agencies, local government, formal education, business, professional institutes, voluntary, community, religious and youth organizations. Their greatest value was in bringing together people who had previously had little or no contact with each other. New initiatives arose directly from these workshops. Conferences, discussions with key individuals, and questionnaires were among other ways that wide participation was ensured.

* Consult main implementers

- Talking to the main groups expected to implement the proposals to ensure their practicability and the implementers' support.

Towards the end of the consultation period, we took relevant sections of the draft report to a series of meetings with the main organizations that were likely to be involved in implementing its recommendations. This nearly always led to a strengthening rather than a weakening of the recommendations.

* Make words active, not comfortable

- Ensuring language used is meaningful and challenging.

Our recommendations tended to cluster round a set of words which represented vital qualities and needs, for example: commitment, partnership, ownership, information, example, research. But there is a danger that these words may become satisfying in themselves and that, having used them, that users feel absolved from the need to put them into effect. 'Commitment' means little if it does not lead to action; 'partnerships' call for sharing and reciprocality between widely different partners and potential competitors; 'ownership' of issues and policies depends on some ownership being relinquished by others; 'information'

can take strange forms when interpreted and selected; 'education by example' is apt to become the responsibility of someone else; 'research' can be used as a tool for delaying action. Even 'strategy' must not be allowed to be an end in itself; but must be put into effect.

* Be positive

- Avoiding solely making the case for environmental education on the grounds of a need to solve problems. This may be expedient in the short-term, but it is a poor foundation for an enduring concept of humankind's relationships with it's world.

A strategy should be aimed at achieving an environmentally healthy world in which problems are recognized as maladjustments, and their positive treatment as essential for an acceptable way of life.

* Do something anyway

- Not making the lack of resources an excuse for implementers to do nothing.

Many of the recommendations in the Scottish report need resources to be effectively implemented. However, we recognized that there is a lot that could be done for environmental education in every sector of society without great expenditure of resources. This instead depends on the convictions and commitment of those in a position to act - and at one level or another that is everybody. A lot of people acting on their convictions can become an increasingly powerful aid to changing the policies of those for whom they vote or pay.

• **Some lessons from the Dutch experience**
(After Peter Bos 1993)

* EE is not generally accepted subject- therefore it is important to create both interest and commitment. This applies to politicians, decision makers in government, NGOs, and key persons in target groups;
* EE needs a professional approach. Its breadth can make communication about it difficult.
The challenge therefore is to structure and focus contents, to specify aims and target groups, to do proper research on methods, to train educators etc - in sum, EE policymakers need to work systematically on the basis of a strategy and within a programme of activities that can be properly carried out within a certain time span.

• **More reflections on national strategy**
(Conclusions of Conference day, Bergen 1993)

* Guarantee a minimum level of research or critical reflection in the strategy process
* Develop the local level
* Use external actors to facilitate the process
* Learn from good examples

Vc. Case studies

National strategy in Norway
(After Jan Peter Stromsheim 1994)

Efforts to incorporate EE into the education system began in the 1970s. The Norwegian Government responded to the Brundtland Report in 1988 with a White Paper 'On Environment and Development' which presented plans for integrating environment and development into the school system, including that all teachers should be offered in-service training within a 3 year period. In 1991, the Ministry of Education formulated a national strategy for education on environment and development throughout the system from primary school to universities and adult education. In 1993, the Ministry of Environment produced a supplementary strategy. The Ministry of Education revised its strategy in 1994 to try to clarify the roles and tasks of agents at each level of strategy, as well as the goals of EE. The revised strategy contains:

* main goals relating to EE as defined by UN principles, and to dissemination of new knowledge about EE
* six sub-goals relating to - developing competence, EE programmes, developmental work, networking, international cooperation, evaluation and monitoring.

Programmes implemented in Norway have included building teachers' competence through in-service and pre-service training, participating in international programmes, establishing links between the school and society at several levels, supporting schools and teachers through nationally organized projects and networks, and attempting to mobilize the educational system at the national, regional, local and school level to integrate EE.

'What has proven most difficult in these efforts is not making teachers understand the goals, contents and methods of EE, but rather improving the institutional framework within which the educational institutions and teachers work, to encourage changes in teaching practice. The institutional framework has two dimensions, both of which create problems at present. The first is the school system itself, with its many

levels and chains of command, planning and influence. The second is cooperation between the school system and society at large, from the international to the local level.'
(*EE in Norway - A systemic approach*, 1994 ref)

Challenges identified by Jan Peter Stromsheim in 1994 were:
- how new curriculum guidelines integrating EE would work
- whether EE could be so integrated that it became 'integrated away'
- the need to continue building competence: eg. a four year programme was established to promote school based in-service training linked to local EE projects
- the need to maintain evaluation, including links between schools and local communities.
- a struggle for resources for EE against school reform which had a higher priority
- whether political support for EE would be sustained

The Dutch experience
(After Peter Bos 1993, 1994)

There have been three national plans for environmental education in the Netherlands. The first plan developed by two key ministries between 1988-90 went through several drafts including aims and content of EE, relevant sections of society and target groups, roles of different authorities and NGOs, needed action etc. But its impact was limited. There was a gap between the initiating ministries and the other intended participating ministries who at the time did not see the relevance of the strategy to their work.

The Formal Education Plan 1991-94 was funded by the government (70 million guilders) and was carried forward by six ministries with the Ministry of Education coordinating. The plan aimed at structural integration of EE into the education system, and implementation was in the hands of external managers dealing with primary, secondary, and vocational and agricultural education. The plan had two focuses:
* integration of EE into school subjects
* integration of EE into school organization, including addressing parents and management.

Many projects were financed including pilot projects in schools, regional workshops, cooperative projects between schools and involving NGOs, advisory services etc. The strengths of this plan is that there was political commitment and a mandate for coordination. This was essential. Also, there was sufficient funding. However, it was 'forced down by a political decision' so time was lost in establishing an acceptable structure for operating the scheme.

The Framework Plan was begun in October 1993, and aimed to develop a strategy for EE in non-school situations. A different approach was taken this time: the seven ministries were involved in working on the relevance of EE for their own policies; there was concern to get better communication between EE supply and demand and better integration of EE schemes; bottom-up was seen as important as top-down and therefore implementation was based on market research and discussion with implementers; and the involvement of non-environmental groups in society in EE activities was seen as important. *Caring for the Earth* and Agenda 21 were seen as terms of reference for the Plan. It was inspired by consideration that social change demands widespread commitment of citizens, and there is a need to turn awareness into action, to have people explore their own opportunities for environmentally sound behaviour and deal with social barriers.

The strategy is in two stages. The development phase ran between 1994-5 and focused on marketing the objectives of the Plan, consulting with EE actors and designing the future framework for cooperation. In the implementation stage (1996-99) the result of the initial stage will be put into practice on the basis of agreement between the relevant parties. This agreement is the crucial element of the strategy. We are not really interested in noncommittal statements about the usefulness of cooperation. What is needed is a sort of contract in which parties put down the details of their cooperation and their specific contribution to it in terms of programmes, activities, monitoring, management etc. Partners include the six ministries that initiated the plan, the twelve provinces, local councils and the major NGOs. The process of reaching agreement in the development phase has involved interviews with key people, round table discussions, and conferences and workshops.

Four 'activity profiles' or focuses which will be used to structure EE programme have been adopted. These are 'the local environment'; 'leisure and recreation'; 'work situation'; and 'lifestyle and consumption'.

The Framework Plan creates conditions for a process of policy development without describing the concrete outcome. The results of the plan are now (September 1995) formulated in terms of a Strategic Policy Plan EE 1996-1999. Main goals are to accomplish the structural integration of environmental education into the formal school system (all levels) and to develop and implement environmental education in the non-formal sector.

An infusion approach in Malta
(After Edgar White 1994)

In the primary school, teachers were not familiar with EE or with the strategy of infusing EE into existing subjects. The solution to this

problem was in-service training on a big scale. To minimize disruption, we decided to spread training over three years making use of the teaching practice period when about one hundred student teachers took over classes for five consecutive weeks. Thus we were able to call four hundred teachers over the five week period, and provided five 36 hour courses of a very practical nature where both content and method were covered. To maintain the momentum, a primary science and EE support team for teachers was established. In addition, guidelines on EE across curricula were produced and distributed to all primary and secondary teachers.

Other innovations include fieldwork activity books which are distributed to all pupils who visit the field study centres, and the establishment of exchange links and visits between schools in Malta and British and Italian schools.

The progress achieved during these last three years can be described as encouraging. It is evident from the frequent participation of children in community functions related to awareness, appreciation, conservation and improvement of the natural environment. Attitudes and awareness have changed drastically in a positive direction in the past years.

Strategy in a diverse 'educational landscape' - Switzerland
(After Ueli Nagel 1994)

In the development of EE in Switzerland, strategic planning on the national level has not played a visible role. There are a number of reasons for this, the main factor being the highly federalized Swiss education system which reflects the strong regional differences including four official languages. There are also cultural differences which result in at least two considerably different approaches to man-environment relations - a 'germanic' approach and a 'latin' approach.

Thus, it is neither efficient or possible to impose a national EE policy in a top-down approach to the Swiss 'education landscape'. But the lack of an overall policy at national level does not imply that EE policy and practice develops at random. There is much strategic and conceptual thinking among EE professionals at all levels, and especially amongst the large national NGOs who have been a driving force in the development of EE in Switzerland.

In the seventies, the large NGOs set the pace in EE provision. 1980 saw the first national survey on the state of EE, the results of which were only published in 1985 after lobbying by WWF. The rather alarming results of this survey and intensified lobbying by NGOs led governments and administrations at national and cantonal levels to realize that merely giving support to NGOs did not fulfil the whole responsibility of a modern

state in environmental education. Only in the second part of the eighties did EE gain wide acceptance and official support in Switzerland. 1988 became a turning point as much preceding work culminated in a number of key developments including national conferences and founding of ecology centres or forums in four cities.

The development of EE in the nineties is characterized by the changing roles of NGOs (national, regional and local) and governments or government organizations (national, cantonal and communal). Activities and services which were pioneered by the large NGOs (awareness campaigns, educational materials, teacher courses, national documentation and clearinghouse, international exchange etc) as well as new services for target groups, are taken on by some extent by government organizations, universities and research institutes, or new government supported institutions (like the Foundation for Environmental Education in Switzerland, founded in 1994). The cantons organize regionally conferences on EE in school, and some more active cantons organize regional teacher training workshops and regular colloquia for EE professionals. The federal government addresses the public and selected target groups in a series of awareness campaigns (air, waste, climate, biodiversity etc) through the Office for Environment, Forest and Landscape.

As regards the formal sector, attempts by the federal government to take the lead for innovations in the school sector have been rejected repeatedly by the Cantons or Swiss Conference of Cantonal Ministers of Education. While this conservative mechanism has been overcome where an innovation (for example like the subject 'informatics') has been seen as essential to the economy, EE lacks a similar powerful lobby.

In many cantons in the German speaking part of the country, the curricula for primary and secondary education have been or are being revised. This process gives good opportunities for EE integration, particularly through a 'double strategy' - ie an introduction of EE essentials into the subjects of the core curriculum and a definition of the more global aspects of EE as a cross-curricular subject, together with other subjects like health education etc. Another opportunity of linking EE with ongoing education reforms is the linking of local environmental issues, especially in the school itself with local school development.

VI. Conclusions and recommendations

What follows is a reflection of the conferences' conclusions rather than a complete record. Some of the papers were incomplete, and the passage of time has also made editing necessary.

General (Jurmala conference)

The role of EE
* The survival of the human species depends on environmental education as it is vital to the maintenance of the Earth's life support systems, and vital for future decision-makers.
* Environmental education based on universal values should provide a basis for reform in education as a whole.

The nature of EE
* Sustainable development is a welcome concept in helping to conserve life-support systems, but biodiversity must also be included.
* There is a need to clarify the consequences of two views of education - as an instrument of change in society; or as an instrument of change in individuals. Teachers tend to identify with the latter.

Future development of EE
* EE is a 'cradle to grave' activity. More attention should be given to the early years - the emotional kindergarten age.
* The role of the family in EE, as an expression of the relationship between generation, needs greater consideration.
* Developing EE is a complex process requiring input from many disciplines. Merging of these disciplines is task for the years to come. Continuous discussion on the content and quality of EE is one way of stimulating this process.
* The development of innovative techniques in EE needs to be given priority.

Support for EE
* There needs to be more research on innovation in education as a long-term process.
* Regional and local support networks and infrastructures are of vital importance to teachers of EE.
* There should be an international centre or centres where all those working in a support capacity to teachers in EE can exchange experience and receive training.

For strategy makers (Bergen conference)

* Be flexible in your approach, recognize different situations in different areas and parts of the world.

* Be critical of your own role. Allow others less familiar with EE to check you, and learn from their view.
* Do not hesitate to diversify your message - it cannot be the same for everyone. Be aware of the need to strengthen the message of your colleagues.
* Be aware of the gap in EE between possibilities/goals and execution.
* Try to think of strategy in a cyclical way where the planning process is continually repeated.
* Remember that planning on a national level cannot be done without involving regional and local levels, and engaging the rich experience that often already exists at these levels.

For IUCN CEC (Bergen conference - From working group report, 1993)

* Make clear the relevance of its work in IUCN
* Continue to work in support of education within the programmes of member governments and NGOs, for example by support of regional committees
* Cultivate work with 'natural allies', for example in women's education, health education, literacy campaigns, aid agencies especially through representative international bodies.
* Work primarily as a facilitator of interaction between educators and other Commissions, other IUCN programmes, regional committees including its own, related international bodies, national programmes in collaboration with regional committees, and other organizations with a remit for environment and development education. CEC should facilitate the formulation of shared philosophies and policies relating to education, the development of cross-linkages between bodies of these kinds, and the flow of information - particularly when it its usefulness in different contexts can be evaluated. It should thus have a clearing house role and be a source of comparative information on environmental education policies in and for member countries and organizations.

For IUCN (Jurmala conference)
* Governments should be addressed through official statements about EE in order to produce leverage.
* The education community is a necessary target group for IUCN projects and programmes.
* IUCN membership from educational organizations and institutions should be increased.
* A contact with UNESCO should be made in order to develop jointly and further the philosophy of EE.

For national governments (Jurmala conference)
* Governments should promote initiatives and produce national strategies for EE on the basis of Agenda 21, Chapter 36.
* Governments should involve NGOs in the preparation of national

strategies and plans for EE.
* Governments should allow for improved flexibility and decentralization of the educational system to achieve a better balance in communication in the development of EE strategies and plans.
* Ministries of education and of the environment, along with other ministries as appropriate, should cooperate to develop EE strategies and plans.

Action points for IUCN ECEE (Jurmala conference)
* Produce a list of basic principles by which EE will increase knowledge of biodiversity.
* Ensure that the whole of Europe, including the South, is addressed in the ECEE's activities.
* ECEE should ask all European governments to state what progress they have made in producing national strategies and plans for EE.
* An international training centre for teachers and facilitators in EE should be established.
* The Committee should ensure that the UN Commission on Sustainable Development includes EE in its statements.
* ECEE should assess the need for an ECEE statement on EE at the conference of ministers in Sofia, 1995.
* A European platform or network for exchange of information and good practice in EE should be organized to stimulate ongoing dialogue concerning its content, quality and evaluation.

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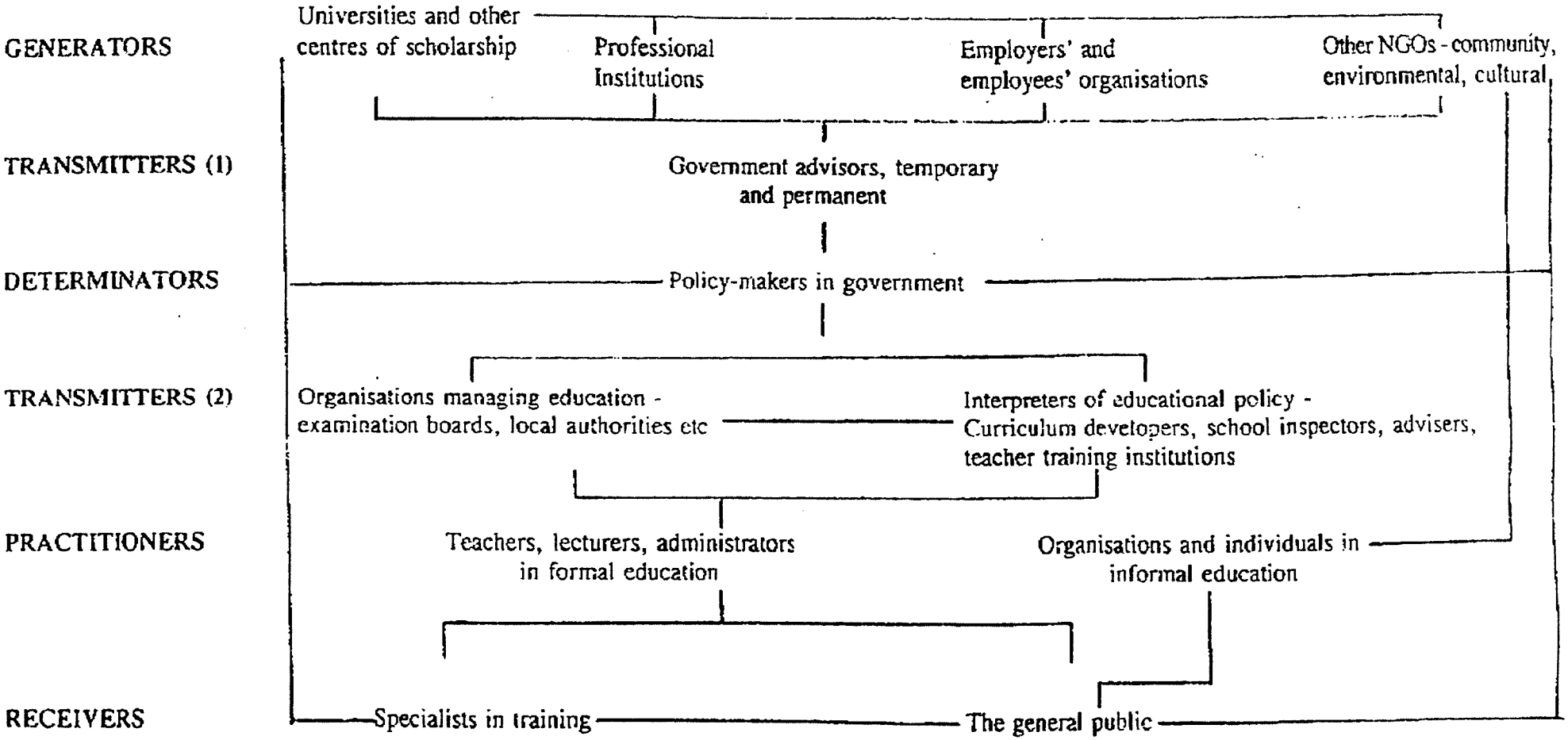
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ANNEX I

Fig.1. **Main two-way connections between groups involved in developing the form and content of education (other connections could be added) and within their own cultural and political milieu (adapted from Maas Geesteranus and Smyth 1987).**

Strategic Planning in Environmental Education
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