

**ORGANISATIONAL BARRIERS TO  
WIDENING PUBLIC ACCESS TO  
ENVIRONMENTAL INFORMATION:  
APPRAISING THE SCOTTISH OFFICE'S  
STRATEGY**

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The principal purpose of this article is to highlight the insufficient nature of the Scottish Office strategy to combat the organisational barriers that restrict the public's opportunities to access environmental information in key areas of social life. This approach, which is based on a self-help, non-interventionist position, presumes that it is a relatively easy matter for organisations who are involved in producing or disseminating environmental information not only to co-ordinate their activities, but also to determine the information needs of their client groups. In contrast, our research indicates that the aims, values and policy agendas of these organisations pose significant barriers to co-operation and the identification of information needs. Furthermore, organisational participation in policy communities and policy networks (Hecló 1978; Jordan and Richardson 1979; Rhodes 1990; Wright 1988) creates additional barriers. Without substantial input from the Scottish Office, these organisational barriers will not be overcome.

The analysis which informs our appraisal of the Scottish Office strategy is derived in the following way. Firstly, we amend the methodology employed by the Scottish Office to conceptualise the organisational processes that significantly affect the public's access to environmental information in key social settings, or contexts, such as the home, community, work and

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education. This amounts to a change in the unit of analysis from 'learning contexts' to the 'environmental information systems' which learning contexts incorporate. Then, the goals or performance standards of an environmental information system are identified. This analysis of system goals leads on to the construction of questionnaire items and interview schedules exploring the organisational features or barriers that inhibit the performance of Scotland's environmental information systems. A database was assembled containing the responses of over 2,000 of the organisations that participate in environmental information systems (Moxen et al 1995). This article's conclusions are based on an analysis of this material.

The article addresses a significant gap in the current literature. Academics have preferred to focus on the problems of accessing specific types of information while ignoring the broader system of provision. Such analyses tend to involve reviewing statutory provisions and implementation frameworks for public access to specific types of environmental information, typically that which pertains to levels of industrial pollution and is held on registers (Rowan-Robinson et al 1996). The organisational and inter-organisational processes that, in general, fashion the public's access to environmental information in key social contexts are largely ignored in the current literature, despite the fact that governments place considerable weight on the need to co-ordinate and manage these processes more effectively. To that end, this article provides a critique of the Scottish Office strategy of self-help and non-intervention.

It is worth noting that, for the purposes of this analysis, the policy positions that underpin the Scottish Office stance on the matters under investigation are largely taken for granted. This decision reflects our desire to comment on the Scottish Office proposals for managing the contributions that organisations make to the process of disseminating environmental information throughout society. The rationale for Scottish Office interest in such matters, and the aims and objectives the Scottish Office hopes will result from its intervention, are valid matters of study but they fall outside the brief of this article. Given that the goals and values informing the environmental policies of governments are regularly critiqued in the academic literature, a focus on management issues appears timely (Moxen and Strachan 1998).

## **SCOTTISH OFFICE POLICY FRAMEWORK**

Within the context of environmental education, the importance of making available to the public accessible and comprehensive sources of environmental information has long been recognised. This sentiment featured prominently throughout the 1992 Rio de Janeiro and 1997 New York Earth Summits, and is a recurrent theme in both the blueprint document Agenda 21 (UNCED 1992) endorsed by world leaders in 1992 and in the European Community's Fifth Action Programme on the Environment. The assumed benefits of environmental education rest on the notion that a good deal of environmental damage is unintentional and could be avoided if society better understood how their decisions and actions impact upon the environment (DoE 1994). In simple terms, by building on society's existing knowledge of and interest in environmental issues, it is widely held that environmental education will instil a sense of environmental stewardship on the part of every individual in society (LGMB 1994).

In response to the international momentum, the Scottish Office, like government administrations world-wide, has been charged with delivering environmental education within its existing policy framework for environmental protection. The Scottish environmental policy framework strongly mirrors the overall approach of the UK government. This approach, outlined in the 1990 White Paper, **This Common Inheritance**, while relying heavily on regulation and market signals as instruments of environmental protection, also recognises that environmental education can significantly affect the values, knowledge and behaviour of individuals, groups and organisations. In an effort to encourage such 'understanding ... and greater responsibility ... among everyone in Britain' (DoE 1990, p.3), the government has set itself the goal of improving the channels through which environmental information is made available to the public (DoETR 1997).

Likewise, the Scottish Office lays great importance on the effective dissemination of environmental information throughout society in an effort to improve environmental education (Lord Sewell 1988; Wilson 1998). To that end, the Scottish Office strongly advocates that the organisations which play a part in the collection, interpretation and dissemination of environmental information redouble their efforts to co-operate and function effectively for the wider social good. The social good, in this instance, is the realisation of 'those learning opportunities which help people to develop the knowledge, understanding, values, attitudes, skills and behaviour consistent with environmental protection and improvement and [contribute] towards sustainable development' (SEPA 1996). Essentially, the objectives are

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twofold. Firstly, to instil a sense of environmental stewardship, and secondly to generate broad based public understanding and support for the Scottish Office's policies for environmental protection.

To date, environmental activity in Scotland has developed in five key policy areas (McCulloch and Moxen 1994). The first of these concerns the steady increase in government legislation, primarily aimed at reducing the environmental impact of industry. Subsequent to the introduction of Integrated Pollution Control (IPC) under the provisions of the Environmental Protection Act (1990), Her Majesty's Industrial Pollution Inspectorate (HMIPI), River Purification Boards (RPBs) and Local Authorities were responsible for regulating pollution control in Scotland (HMIPI 1995). More recently, these bodies have been amalgamated under the auspices of the Scottish Environment Protection Agency (SEPA) which came into being in April 1996 (Scottish Office 1992).

The second area relates to the use of financial sanctions and incentives which have been used to deter unnecessary environmental damage, and encourage environmentally sensitive activity. Market signals such as taxes and subsidies have proved to be useful mechanisms with which to influence the behaviour and consumption patterns of both consumers and producers. For example, the Government has employed price incentives to encourage motorists to buy unleaded petrol (DoE 1990).

A third area is related to the notion of 'active citizenship' and concerns the growth in environmentally informed consumer pressure. Increasingly, people and organisations have taken it upon themselves to become environmentally responsible and have contributed to the development of what is often called the green market (Moxen and McCulloch 1994). Essentially self regulatory, the green market is supported by government where it believes it to be a viable alternative to regulation as a means of enforcement: 'environmental concerns ... [should be] ... reflected in all areas of policy, working through the market, wherever it can provide an effective alternative to regulation' (DoE 1995).

The fourth area relates to the increasing prominence of environmental activity at the local level. A substantial number of Local Authorities have developed strategies to promote, inform and mobilise greater environmental awareness in the community (COSLA 1993). Finally, there has been a steady increase in environmental activity undertaken by community based voluntary groups, partly funded by government grants. When congruent with government goals, voluntary sector activity is strongly supported by the

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Scottish Office, especially since it incurs the latter relatively little cost (McCulloch et al 1996).

Each of the five areas of environmental activity in Scotland is currently served by, and relies heavily upon, environmental information services. Correspondingly, the relative proficiency of environmental information services will strongly influence developments in a particular area of environmental concern. In many cases, information services are planned and co-ordinated to serve a specific function. This is very much the norm in the implementation of the Scottish Office's regulatory policy. Services of this kind tend to be pre-determined, dispersing goal-related information through designated public agencies (for example, before the establishment of SEPA, the HMIPI and RPBs). The services which have developed to support active citizenship, the green market and environmental activities in the public sector, such as those undertaken by Local Authorities, are relatively spontaneous by comparison. These services tend to be ad-hoc, disseminating information through public, private and voluntary organisations in response to intermittent environmental information needs.

### **ROOTS OF THE STRATEGY**

The Scottish Office strategy to alleviate the principal organisational barriers blocking access to environmental information in key areas of social life is outlined in the report, **A Scottish Strategy for Environmental Education** (Scottish Office 1995). This key policy document draws heavily from the conclusions presented in the earlier report of the Working Group on Environmental Education, **Learning for Life: A National Strategy for Environmental Education** (Scottish Office 1993). The Working Group concluded that, in general, the systems of collecting, processing and distributing environmental information were satisfactory, requiring only minor and incremental changes for the future: 'if present activities were drawn together by identifying common aims and by co-operating more closely in programmes which contribute to this common purpose, a great deal more might be accomplished for relatively little outlay' (Scottish Office 1993, p.viii).

Both the Working Group and the Scottish Office are of the opinion that the organisations active in this field can be relied upon to provide the 'little outlay' required to overcome the organisational barriers mentioned. The putative agent of change driving this process forward is an increasing sense of moral obligation on the part of organisations to support environmental

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education. This is a commitment that the Scottish Office believes will continue to strengthen in tandem with society's growing need for environmental information (Scottish Office 1995a; Scottish Office 1991).

#### **LEARNING FOR LIFE: METHOD AND RECOMMENDATIONS**

The Report's key finding is that while those organisations which disseminate information have a broadly satisfactory understanding of sources and the range and types of materials they hold, the exchange of information between source and disseminating organisations could be more efficient. The Report further states that source and disseminating organisations which are linked by and participate in networks are likely to exchange information far more effectively than those which fail to establish or utilise network facilities. Correspondingly, one of the Report's main policy proposals is that the organisations which source and disseminate environmental information become involved in networks.

The Scottish Office response to the Report focused on the assumption that the organisational barriers to widening access to environmental information are relatively slight and could be quickly addressed by the organisations active in the field of information provision. Given these circumstances the Scottish Office believes that by heightening the commitment of organisations to their role as information providers and by highlighting best practice, change can be triggered and standards of service raised in learning contexts. In other words, aside from offering advice and encouragement, the Scottish Office strategy is largely one of non-intervention.

The deficiencies of the Scottish Office stance are best revealed by unpacking the analytical weaknesses of **Learning for Life** which stem in large measure from the concept of the learning context. The Working Group's method of analysis is to conceptualise the need for and provision of environmental information, by categorising the main activities in everyday life which have a considerable impact on the environment. The Report identifies six spheres of social life where there is a need for a distinct type of environmental information. Using the term learning context, the six spheres identified are those of the community, the home, the workplace, the school, post-school education, and recreation and leisure. The spheres identified do provide a starting point for investigating the public's access to environmental information; however, a means must be found to investigate the variable activities within each sphere.

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The principal difficulty with this concept is that learning contexts are far too broad and diverse to provide a base from which to explore information provision in Scottish society. For example, the range of environmental issues raised in the community learning context include restoring local amenities, preserving the natural and built heritage, ensuring that local environmental concerns and knowledge inform the planning decisions of local authorities, and cleaning up public spaces. The development of waste recycling initiatives and community involvement in housing improvement schemes are further examples of the breadth of environmental concerns evident in the community learning context.

Given the scope of the environmental issues that feature in a learning context, it is highly unlikely that the great variety of information services that address these issues will share many common features or be subject to similar pressures and problems. Therefore statements regarding the status of information services in a learning context are likely to be misleading and to overlook significant differences in the performance of distinct types of service. This problem can be avoided by shifting the focus of analysis from heterogeneous learning contexts to the more homogeneous 'information systems' they contain (see Figure 1). The findings of the Report, and the Scottish Office strategy that it underpins, are both fatally flawed because they fail to recognise the need to examine differences in the provision of services within a context. When the analysis shifts from the learning context to that of the environmental information systems they incorporate, the organisational barriers to widening access to environmental information prove to be a good deal more substantial than the Scottish Office envisages. However, before reviewing our research findings, the concepts and models that informed the processes of gathering and interpreting the research data will be explained. The tools concerned reveal the various ways in which the characteristics of the organisations that comprise an environmental information system can curtail its ability to provide the public with opportunities to access information.

### **MODELLING ENVIRONMENTAL INFORMATION SYSTEMS**

The organisational features of an information system are as follows. As Figure 1 indicates, an information system contains both source organisations which gather, interpret and publish environmental information, and disseminating organisations, which access and distribute the materials produced by sources. In practice, many organisations will perform both sourcing and disseminating functions. These organisations form part of an

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environmental information system, in the sense that they are linked by a common concern with a specific and limited range of environmental issues such as waste management in the home, or buildings insulation, or food preparation.

Most if not all of the organisations comprising an environmental information system will pursue a range of non-environmental objectives that are fundamental to their operations and which they value more highly than the provision of an information service. The resources allocated to this activity are likely to reflect its position in the organisation's mission statement and hierarchy of operational objectives. Few, if any, will prioritise the provision of environmental information as a key business objective.

A further feature of an information system is that some of the participating organisations may be linked by networking arrangements. The goals and functions of these networks are potentially multi-faceted and can be dedicated environmental information exchanges in support of environmental education, or policy networks in support of lobby activities. The latter possibility has significant implications for the performance of environmental information systems.

**Figure 1**  
**Contexts and Sample Information Systems**

<i>Information Systems</i>				
<i>Learning Context</i>	Source Organisations	Environmental Issues	Disseminating Organisations	Client Group
Home	Scottish Office Environment Department; Industry.	Energy Conservation	Housing & Tenants' Associations	Families, Households
Community	Local Authorities	Local Environmental Protection	Community Development Organisations	Local Groups
Recreation and Leisure	Scottish Natural Heritage; Historic Scotland.	Wildlife Habitat and Species Protection	Tourist Information Centres	Tourists, Sports Associations
School	Voluntary Environmental	Local Environment	Primary and Secondary	5-14 Year Olds

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	Organisations		Schools	
Post-School	Historic Scotland	Environmental Impact Assessment	Colleges and Universities	Students, Trainees
Workplace	Confederation of British Industry; Chambers of Commerce.	Noise pollution	Organisations in the Public & Private Sectors	Managers, Employees

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Policy networks are largely a reflection of broader policy communities (Marsh and Rhodes 1992; Jordan and Richardson 1979), where participants share a 'specialisation and acquaintance with the issues in [a] particular policy arena' (Kingdon 1984, p.209). However, as the population of a policy community can be drawn from across the public, private and voluntary sectors, relationships between participant organisations are not necessarily harmonious. While members of policy communities are linked by a common interest, they typically hold different perspectives on issues and form competing coalitions or policy networks to further their goals. The policy community with a stake in Scottish Office environmental policy incorporates policy networks of businesses and environmental interest groups with competing perspectives on specific issues (Bomberg 1994). The competitive nature of policy networks sustains divisions between the wider membership of policy communities, and does little to foster broad-based co-operation.

Plainly, the networking activities that the organisations comprising an environmental information system are engaged in will significantly affect its performance. Where members are linked to competing policy networks, information exchange is likely to be impeded and co-operation difficult to achieve.

The goals of an environmental information system are complex. The principal aim of an environmental information system is to provide information which not only enables people to better understand the environmental impact of their activities, but also highlights alternative options and choices which may be less environmentally destructive. To gain an insight into the goals and sub-goals of environmental information systems, let us consider the ability of a system to generate awareness in a specific area of environmental concern.

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Tourism in Scotland is a fast growing industry, bringing benefits to both local communities and visitors (Scottish Office 1993). However, the associated increase in outdoor pursuits has placed the environment under increasing threat. Ideally, an information system will make available to organisations and individuals active in this area comprehensive information to enable them to make environmentally informed decisions. This implies that, to be effective, information systems have to fulfil two roles. Firstly, they must encompass the appropriate sources of information, and, secondly, they must disseminate the information provided by these sources among the relevant organisations and individuals.

Turning to the first of these points, numerous organisations provide information on a wide range of environmental issues relating to tourism. Particularly important sources include Scottish Natural Heritage (SNH), the Scottish Tourist Board (STB), Historic Scotland, Local Authorities and the National Trust for Scotland. It is important that these bodies produce materials and artefacts that satisfactorily address the full spectrum of relevant environmental issues. Unreliable, out-dated, and insufficiently comprehensive information will make for far less environmentally sensitive decisions. Thus an important goal for an information system is that it contains a range of sources that adequately address the spectrum of environmental issues present in its field of activity.

Disseminating organisations attempt to bridge the gap between source organisations and users of environmental information. Outwith the formal setting of primary, secondary and tertiary education, the number of private, public and voluntary organisations which access and disseminate environmental information produced by specialist sources has steadily increased. For example, with respect to the Scottish tourist industry, bodies such as Area Tourist Boards, Tourist Information Centres, Visitor Centres, Ranger Services and Outdoor Activity Organisations all disseminate information with a distinctly environmental theme.

To perform effectively, disseminating organisations must audit their services and explore any evidence of under-utilisation by client group segments. Auditing or monitoring the views of service users clarifies the precise nature of the demand for environmental information, and highlights any areas where customers are unsatisfied. By communicating such problems back to the main sources of information, remedial action can be taken in the appropriate areas. Thus, service audits or reviews are needed to ensure that information services meet the needs of customers. In their absence, the ability of service managers to manage effectively is severely curtailed.

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To engender environmental responsibility in the wider public, disseminating organisations must investigate any evidence that significant sections of their client group are not accessing the services provided for them. The need to rectify service under-utilisation springs from the Scottish Office concern for information systems to encourage individual ownership and responsibility for the environment. In a wider sense, taking account of the needs and involving the public not only enhances environmental information systems, but also legitimises the whole strategy in the eyes of the public (Keating 1994; Knox and McAlister 1995).

Clearly, disseminating organisations need a significant pool of resources if they are to succeed in comprehending and meeting the information needs of client groups. Aside from business status, the resources disseminating organisations are willing and able to spend on investigating their client groups will reflect their values and objectives.

In conclusion, the effectiveness of an environmental information system, is a function of:

- the degree to which disseminating organisations are aware of the information needs of their client group,
- the degree to which adequate sources of environmental information are available;
- the ability of disseminating organisations to access these sources.

### **RESEARCH THEMES AND QUESTIONS**

Our model of the organisational features and goals of an environmental information system provided a framework for the study's questionnaire and interview schedule. Firstly, disseminating organisations were asked to discuss their main source organisations and the overall interpretative and factual quality of the data and artefacts such sources produce. This provides an insight into the perceived reliability of major sources. The respondents were also asked to detail their environmental information needs and to state whether or not they were adequately addressed by sources. To assist in this exercise, a classification chart depicting the many differing spheres of environmental information was presented to them. The typology used (which breaks down environmental information into 60 different categories) conforms to the framework recognised by the Government's 1990 Environment Paper, **This Common Inheritance** (see Moxen et al 1995 for further details).

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Respondents were asked how easy it is to access sources and to keep up to date with their growing numbers. Accessing information tends to be only one task out of many undertaken by disseminating organisations, which typically pursue varied and multiple goals. This means resources are likely to be at a premium in such organisations. The substantial amount of resources disseminating organisations must allocate to the task of keeping abreast of available sources, including time and staff, could be a barrier to the development of a more effective information system. To ascertain the extent to which such matters inhibit the performance of disseminating organisations, the respondents were asked about their knowledge of the information produced by sources, and to indicate how confident the organisation is that its 'knowledge base' is accurate and up to the minute.

One tool, generally thought to increase an organisation's ability to keep abreast of sources and their contents, is for the source and disseminating organisations operating in specific information systems to be networked. This line of argument rests on the notion that networks provide opportunities for their members to collaborate and pool resources and information. The assumption that the network arrangements between information providers enhance the exchange of information is a central feature of the Scottish Office's strategy, and the possibility that networking arrangements might inhibit the performance of an environmental information service is ignored. Correspondingly, a further aim of our study is to clarify the type of networks that feature in environmental information systems and to ascertain whether they facilitate the flow of information. In particular, we were interested in the possibility that the networks present in environmental information systems may not, as the Scottish Office expected, be co-operative mechanisms facilitating the exchange of environmental information, but rather policy and lobbying coalitions (Jordan and Richardson 1987; Sabatier 1987).

Finally, we explored the knowledge that disseminating organisation have of the information needs of the people and organisations that rely upon their services, that is, their client groups. This is not something that is easily done by direct measurement (that is, by surveying every respondent's client group). However, an insight into this matter can be gained by measuring the degree to which organisations actively monitor levels of client group awareness of environmental matters and satisfaction with their services. Questions on these matters were included in the study's questionnaire and interview schedule.

In summary, the research's questionnaire items and interview schedules addressed four key themes:

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- the availability and efficacy of environmental information sources;
- the ability of disseminating organisations to access this information;
- the goals and functions of networks;
- the extent and effectiveness with which disseminating organisations monitor their information service and the information needs of their client group.

### **SAMPLE**

Questionnaires were sent to representative samples of disseminating organisations in the environmental information systems operating in **Learning for Life's** six learning contexts (Moxen et al 1995). In all, over 2000 organisations were surveyed, the response rate being 36%. Where a few major systems dominate information provision within a learning context, as is the case in the home, post-school education, work, and recreation and leisure, one was selected and organisations contributing to it sampled. Thus, within the home context, organisations concerned with housing were sampled, and in the post-school context further education institutions were selected. In the work context, industry provided the sample and, in recreation and leisure, the tourist industry was studied. In the community context, a wide range of organisations was sampled to reflect the diversity of bodies operating within it. In the case of the school context, the former Grampian region was selected for intensive study. The region's mix of urban and rural areas means that its schools and institutions are likely to reflect the characteristics of information systems operating in the education system as a whole.

In addition to surveying organisations, interviews were conducted with key information providers. Approximately 60 interviews were conducted and this qualitative information helped flesh out the data gathered by means of the questionnaire.

### **RESEARCH FINDINGS**

The data suggests that there are relatively few problems with respect to the availability of most types of environmental information. Sources of information covering almost all of the environmental issues which feature in learning contexts are available. However, this does not tell us whether organisations believe that the information they manage to get their hands on

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is authoritative or fully appropriate for the needs of their users. Issues relating to the quality of the information disseminating organisations pass on to their clients are taken up below.

Where the survey does indicate that there is a lack of information, this generally applies to highly specialised environmental areas. For example, one such area pertains to local information, although the resource constraints typically encountered by local projects would undoubtedly account for their limited ability to compile and distribute environmental information. Further problem areas concern issues related to 'green tourism' and 'green leisure'. Given that such issues are relatively new, the situation may well improve over time. An additional area which presents difficulties is the limited availability of information that addresses highly legislative and regulatory matters. Yet this could be explained by the fact that regulatory and legislative information is notoriously difficult to come by. Moreover the work of SEPA may succeed in rectifying this problem (SEPA 1996).

While, in the main, disseminating organisations can obtain the types of information they require, they are not convinced that the materials they distribute are the most up to date, comprehensive, and reliable. Significant proportions of the disseminating organisations in learning contexts fear that, because their knowledge of sources is partial, the information they pass on to their clients may be neither wholly appropriate for their needs nor authoritative. This is as high as 40% with respect to the recreation and leisure learning context. In the other contexts, the figure is of the order of a quarter. Organisations attribute their failure to be fully cognisant of available sources of information to the costs incurred in updating their knowledge base. Considerable effort is required to chart the materials being produced by established sources and those emerging from new ones. Reviewing and assessing the quality of material produced by sources is also a lengthy and complex process. Many disseminating organisations (approximately 40%) fear that their work in both these areas is seriously compromised. The key barrier which hinders access to high quality information is the sizeable investment of time, staff and other resources that disseminating organisations must make to update their knowledge of both the sources available to them and their contents.

The real issue is that, with the possible exception of the voluntary environmental sector, most of the organisations active in environmental information systems pursue a range of objectives they value more highly than their role in an information system. While, for some organisations, the

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provision of an information service is an important matter, for many more it is a matter of secondary or even less significance.

One way to improve the quality of information distributed by disseminating organisations would be to provide comprehensive maps or guides to information sources. This could be achieved by improving the quality of printed gazetteers and directories which describe and report on sources, their special features and characteristics (Scottish Office 1995). However, this does not alter the fact that organisations which disseminate environmental information typically pursue a great many other objectives. This is an aspect of information systems which the Scottish Office strategy largely ignores and it is a point that we will return to at a later stage.

A central plank of the Scottish Office strategy for strengthening the provision of environmental information is to encourage the spread of networking, on the assumption that this will foster closer co-operation and more effective sharing of expertise (Scottish Office 1993). The success of this strategy largely depends on the type of networking that is likely to develop. According to the logic of the Scottish Offices' strategy of non-intervention, this means co-ordinating mechanisms that greatly enhance the provision of environmental information. The goals and functions of the networking arrangements that are currently in place are a guide to future developments should the Scottish Office stick to its strategy of non-intervention. Unfortunately, our results hold little cheer for the Scottish Office. Findings indicate that members of networks are no more likely to obtain hard-to-come-by information than non-networked ones. The implication is that these arrangements facilitate lobbying and are essentially policy networks (Wright 1988) (that is, organisational groupings with shared agendas on issues of environmental policy), rather than mechanisms for co-ordinating public access to environmental information.

Consider, for example, networking within the community learning context. Networking is a significant activity in this context, with 40% of organisations being involved. Scottish Countryside and Wildlife Link, Scottish Enterprise's Environmental Forum, and Highland Environmental Network are an illustration of the range of networks in existence. In the community context, a few organisations report difficulties in acquiring certain categories of information, such as material relating to forestry and pollution. However, networked organisations are as likely to report such difficulties as their non-networked counterparts. Similarly, both types of organisation report difficulties in keeping up to date with the burgeoning number of source materials. These findings suggest that current networks do

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not primarily serve information exchange in support of environmental education.

Thus existing networks are valued by their members as a powerful means of co-ordinating lobbying activities at local, regional, and national levels. Therefore established networks are not the exemplar the Scottish Office hoped for, suggesting that dedicated information networks will not evolve spontaneously but will need to be helped into existence by government action. In addition, government intervention will also be needed to help organisations overcome the many differences and conflicts that separate them, and that are given voice through their membership of competing policy networks.

To reiterate, the results of the survey suggest there are relatively few problems with respect to the availability of environmental information. One respondent commented 'it is never *impossible* to get information ... we would be willing to supply whatever information was requested of us had we the time or staff'. This implies that one of the main barriers restricting an organisation's ability to disseminate environmental information is the prohibitive cost involved, given that disseminating organisations pursue multiple objectives in addition to their role as conduits for environmental information. This conflicts somewhat with the Scottish Office's assumption that disseminating organisations are able to bear such costs and do not require assistance, financial or otherwise. Another respondent remarked 'there is plenty of information available, the issue is getting the appropriate information to the right people'. This highlights another of the major problems with current information systems. Very few of the respondents, typically fewer than 10%, conduct periodic monitoring or evaluation programmes, and none do so regularly. This means, among other things, that disseminating organisations are ill-equipped to generate a demand for their services among those sections of the population which make little use of existing provision. This throws considerable doubt on the Scottish Office assumption that disseminating organisations can assess both the environmental needs of their client groups and the calibre and suitability of information services.

In conclusion, the study found evidence of three significant organisational barriers to widening public opportunities to access environmental information in learning contexts:

- disseminating organisations pursue multiple goals that stretch their resource base, thus compromising their ability to access and disseminate high quality information;

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- existing networks serve to promote the shared interests and values of their members and do not facilitate the exchange of information and its dissemination in learning contexts;
- their failure to undertake effective monitoring exercises significantly hampers the ability of disseminating organisations to stimulate demand for their services.

## **DISCUSSION**

Having failed to identify the organisational barriers noted above, **Learning for Life** and the Scottish Office strategy based upon it misconstrue the real problems which currently beset environmental information services in Scotland. This strategy rests on the notion that the intrinsic importance of the environmental question will lead organisations not only to place a premium on their information services, but also to support, hitherto unprecedented, inter-organisational co-operation. The findings of our study suggest that this stance is quite unrealistic. To overcome the barriers that make it difficult for them to prioritise their information services and co-operate more effectively in information systems, organisations require considerable financial and other types of support from the Scottish Office.

A significant barrier relates to the costs an organisation faces should it prioritise its information activities, audit its services and explore reasons why sections of its client group are under-utilising its services. Interpreting needs and sourcing and disseminating environmental information commands considerable time and financial investment. The self-help strategy of the Scottish Office relies on organisations having a significant amount of uncommitted resources to fund more extensive provision. This is highly debatable. In all organisations, resources are at a premium, and allocating funds to new areas often implies resource cuts to established programmes. Organisations may be unwilling to make cuts, particularly when, as is often the case, an information service is peripheral compared to other priorities; even if an organisation does have strong environmental values, resource limits are likely to mean that there is little scope to expand service provision. When taken in the round these circumstances point to one conclusion. The Scottish Office will need to bear some of the costs of securing the improvements it would like to see, in the channels through which environmental needs are interpreted and information is sourced and disseminated.

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There is a very large number of organisations which currently disseminate environmental information, each with its own values, wants, interests and goals. The Scottish Office strategy presumes such organisations will co-operate, share information and integrate their capacities to inform the public under the wider umbrella of a common cause, that is the more effective provision of environmental information services in learning contexts. This assumption overlooks two significant organisational barriers. Firstly the interests and objectives of organisations involved in the provision of information systems differ substantially. It is more usual for the aims of such diverse organisations to contradict rather than be mutually supportive of each other (Hill 1997; Hogwood and Gunn 1984; Mazmanian and Sabatier 1983; Pressman and Wildavsky 1973). Although it has been suggested that committed environmental representatives are becoming increasingly prominent in organisations (Rydin and Greig 1995), similar sentiments and beliefs are not necessarily enough to overcome the diversity of organisational goals.

In assuming that organisations will work under a common cause, the Scottish Office overlooks the deep-rooted mistrust that often characterises relations between organisations operating in different sectors of society. The results of our research indicate that a substantial number of disseminating organisations doubt the reliability of information produced by several key sources, including the media and industry. For example in the community learning context, housing and community development organisations are highly suspicious of the environmental information provided by industries. But in the work learning context, industrial organisations are highly suspicious of the information disseminated by, amongst others, their competitors and voluntary environmental groups. Thus many of the organisations involved in the provision of environmental information distrust and disapprove of one another. Hostility towards public policy objectives may lead some organisations to resist involvement in programmes that support government-backed environmental initiatives. For example, many in the voluntary environmental sector value their independence and frequently oppose the environmental philosophy, values, and policies of government.

It is interesting to note that when organisations do co-operate, as they do in networks, they appear to do so to facilitate lobbying and not to promote environmental education within learning contexts. In practice, the competitive and confrontational nature of lobbying activities (Sabatier 1987) is likely to compromise the functioning of organisations in information systems. Government action will be needed to establish dedicated

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information networks and to counteract the tendency of organisations to cooperate only in pursuit of narrow sectional interests.

The Scottish Office conceives of the organisations involved in the provision of environmental information as a potentially harmonious and co-ordinated group. This is an ideal but unrealistic interpretation. It must be recognised that aside from their roles as sources and disseminators of environmental information, these organisations are also members of the environmental policy community and pursue very different and often conflicting agendas through their participation in policy networks (Marsh and Rhodes 1992). While policy communities are composed of organisations which share a common interest in a given policy field, for example, environmental policy (Bomberg 1994; Kingdon 1984), policy networks are geared to lobbying a certain perspective on what are often contentious issues in that field. Thus policy networks are composed of organisations which share perspectives on a particular policy issue, pool information and collectively lobby government. By their very nature, policy networks are exclusive rather than inclusive, divisive rather than co-operative, and where information is exchanged, it is on a narrow range of matters set by coalition interests. All of this is inimical to the effective co-ordination of environmental information services in support of environmental education.

Co-operation between the organisations comprising information systems is difficult to envisage unless it is supported by substantial action on the part of government agencies. However, the Scottish Office appears to have no policies to deal with the conflicts of interest, divergent perspectives, and differing agendas which separate organisations, and which make it difficult for them to co-operate in learning contexts.

### **CONCLUSION**

This article appraises the Scottish Office strategy to combat organisational barriers to widening public access to environmental information in line with society's growing needs (Scottish Office 1997). In particular, it challenges the idea that underpins this strategy, namely that it is a relatively easy task for organisations involved in the processes of sourcing and disseminating environmental information to work more cooperatively and effectively to meet the information needs of the public. By drawing attention to the significant divisions and barriers that thwart such cooperation, this article has sought to show why the self-help, non-interventionist stance the Scottish Office takes towards the problems of this sector is misplaced.

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Our analysis is radically different from that contained in the key policy document, **A Scottish Strategy for Environmental Education**, and our principal aims have been to question the validity of both this strategy and the analysis that sustains it (Scottish Office 1995). The analysis and strategy informing **A Scottish Strategy for Environmental Education** are heavily dependent on the earlier report of the Working Group on Environmental Education, **Learning for Life: A National Strategy for Environmental Education** (Scottish Office 1993).

**Learning for Life's** mandate was to 'develop proposals for increasing environmental awareness and understanding ... [and] ... to develop means of achieving a more co-ordinated approach to the delivery ... [of environmental information] ... within and by the public, private and voluntary sectors' (Scottish Office 1995, p.5). The key to the Report's findings and recommendations lies in the manner in which the need for and provision of environmental information is conceptualised.

As we noted earlier, the Report identifies six spheres of social life, characterised as learning contexts, where there is a need for a distinct type of environmental information and investigates the provision made for each type of need. The contexts identified are those of the community, the home, the workplace, the school, post-school education, and lastly, recreation and leisure pursuits. Although never explicitly discussed, the Report's rationale for segmenting social life into learning contexts is that the social situations associated with the need for environmental information can be placed into a number of broader categories, the reason being that actors in certain social situations interact with the environment in similar ways and are affected by similar sorts of environmental problems and issues. In fact, learning contexts and the needs they encompass are far too broad and diverse to provide a satisfactory base from which to explore information provision in Scottish society.

The highly differential nature of the information needs found within learning contexts means that the systems of information exchange that help satisfy those needs are likely to be as diverse as the needs themselves. Contrary to the assumptions made in **Learning for Life**, the systems involved may share few characteristics, be subject to quite separate pressures and confront very different problems. Where the context of analysis shifts from the learning context to that of the environmental information systems which they incorporate, the organisational barriers to widening access to environmental information prove to be a good deal more substantial than the Scottish Office envisages.

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When considering the performance of an environmental information system, it is important to bear in mind that its aim is to fulfil the information needs of a particular sector of society, namely that sector whose behaviour affects the environmental issues about which the system provides information. The sector of society whose information needs are addressed by a particular information system constitutes that system's client group. The goals of such a system are twofold. Firstly, they have to provide information that fully reflects the requirements of its client group, both in terms of the environmental issues that are relevant to them and the knowledge and understanding they have of these matters. Secondly, they have to ensure that all sections of its client group utilise the services it provides for them. To function effectively, the organisations participating in environmental information systems must co-operate and pool expertise, and audit both their services and client groups.

According to the logic of the Scottish Office's strategy of non-intervention, it is safe to leave the performance of environmental management systems in the hands of the organisations that comprise them. In this ideal model, systems will expand in line with society's growing need for environmental information. Our research data suggests otherwise.

Organisations are facing much tougher challenges than those identified in the Scottish Office analysis and accommodated in its self-help strategy for the sector. There are significant organisational barriers to widening the public's access to information. These barriers are rooted in the fact that the great majority of source and disseminating organisations are chiefly concerned with goals quite separate from that of ensuring that society's growing need for environmental information is met. Not surprisingly, organisations rarely monitor the views of their information users; nor do they investigate those segments of their client groups that make little use of environmental information. Finally, the fact that this sector's co-ordinating bodies and other networking arrangements are more a means of progressing lobby interests than facilitating the provision of environmental information in learning contexts confirms that information systems need reform and that there is little evidence that they are in a position to reform themselves.

In conclusion, to ensure that more effective means of disseminating timely, accurate, and appropriate environmental information to the various sectors of society are found, the Scottish Office must provide financial and other forms of support to the organisations that are involved in these activities. The organisational barriers to greater co-operation and effectiveness in this sector are too great to be overcome by self help alone.

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*June 1998*