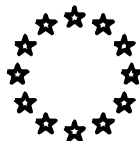


2000

**EXTERNAL MONITORING REPORT
ON THE
SPECIFIC PROGRAMME
FOR
RESEARCH AND TECHNOLOGICAL
DEVELOPMENT**



**IN THE FIELD OF
ENVIRONMENT AND SUSTAINABLE
DEVELOPMENT**

MAY 2001

This report is part of the series of the external annual monitoring reports prepared for the EC Framework Programme and the Euratom Framework Programme, and their constituent Specific Programmes.

The Commission has over the years been placing increasing emphasis on the evaluation of Community R&D activities. As part of the process of continuous improvement, a new programme monitoring scheme has been introduced in 1995. The new scheme involves independent external monitoring experts and a timely response by the Programme management to the recommendations produced by the experts. The new scheme thereby provides the basis of a quick response mechanism to programme developments and should give advice on key issues.

This report is the second covering the Fifth Framework Programme; the report also highlights progress in relation to ongoing activities under the Fourth Framework Programme. The report should help reinforce establishment of best practices and identify the scope for further improvements in programme implementation

The report consists of three parts:

Part A: *External monitoring report prepared by the following independent external experts:*

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Part B: *Responses of the Programme Management to the external monitoring report.*

PART A:

Report of the external Monitoring Panel

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1. EXECUTIVE SUMMARY

The environment & sustainable development sub programme of fp5 is large and scientifically and technically broad-based. The programme was well designed and addresses the principal environmental issues/ problems faced by the European community. Many of these also have a global dimension. Consequently outputs from research projects are needed urgently to implement existing policies, formulate new European environmental policy and help the community establish its position in international fora. However the overall focus tends to be on remediation rather than prevention and therefore the environmental research is not adequately integrated with sustainable development issues. This is a shortcoming of the programme.

The programme committee has played a crucial role in the design of the esd and in modifying the work programme to meet changing needs. However the opportunity to make such adjustments is very limited and this prevents an adequate response to newly emerging scientific challenges. The three eags have provided substantial advice on the work programme content to the directorate. These groups have much to offer the directorate but their role needs to be better defined.

The esd sub programme is being well implemented. The evaluation procedures are transparent and followed rigorously but should be reassessed with a view to simplification. The directorate's scientific officers do a good professional job but they carry a very high work load. Consequently most of their effort is committed to work programme modification and project evaluation and selection procedures. Their support to the research scientists during the operational phase of projects is generally less effective than it should be, particularly for fp4 projects. Nevertheless it is a major achievement of the directorate to have established such a soundly based programme with the staff resource available.

While the Directorate has made an effort to disseminate research findings to a wider community through videos, brochures etc a clear policy is still lacking for the synthesis of research results from a range of projects into a clear, coherent message for policy makers and other stakeholders. Additional resources to support this vital activity are needed, including the use of external agencies.

The monitoring was undertaken during a year (1999-2000) when 'change was in the air' e.g. the development of the European Research Area, the drafting of the Sixth Environmental Action Programme, the development of ideas for the next Framework Programme and the full involvement of the Accession countries in FP5. It was appropriate for the Panel to focus on the possible impacts of such changes on the ESD and these are addressed fully in the body of the Report. The Panel considers two of these issues – ERA and Accession Countries – to be of particular importance to present and future research.

Firstly the ERA: because of the nature of much environmental research the Director and the Heads of Unit had no difficulty in showing that many FP5 ESD projects incorporate several of the features falling within the ERA concept. The Panel was pleased that the Directorate is considering how future FP5 activities can be pursued within the ERA structure. One of the major problems is to bridge the gap between EU research and that of national programmes. The Directorate needs to work with PC members and National Contact Points to establish stronger links.

With respect to the Accession Countries: analysis shows that their participation and project success rate in ESD was significantly less than that of the Member States. This is to be expected during their first year of involvement in FP5. The Directorate should give targeted support to the National Contact Points in the ACs and create initiatives to encourage their inclusion in Member State scientific networks.

The Panel acknowledges the support provided by Directorate staff during its Monitoring work.

2. INTRODUCTION

Each year the European Commission is required by Council to monitor progress with the implementation of the Fifth Framework Programme [FP5] and its specific Sub Programmes with the help of independent qualified experts. In compliance with this requirement, the 2000 External Monitoring Panel for the Environment & Sustainable Development Sub Programme [ESD] was established by the Commission in December 2000. 'Broad Guidelines' to aid the Panel in its work were provided by the Commission. The monitoring is intended to provide the Commission with a quick feedback and recommendations to help the Programme management to reinforce existing strengths but also to offer constructive criticism.

This year the 'Guidelines' suggested that the ESD Panel should focus its attention on a number of specific topics but was also free to offer advice over a broader field if it so wished. The specific topics were as follows:

- progress in meeting objectives and adequacy of resources
- programme management and outreach
- participation by Accession Countries [ACs]
- evidence of European Added Value [EAV]
- contribution to the European Research Area [ERA] concept
- contribution to EU policies
- follow-up to the Recommendations of the previous [1999] monitoring study.

The procedures followed by the Monitoring 2000 Panel in making its assessment are given in the next section of this report. The Panel has directed its attention mainly towards FP5 but also recognised that about 400 projects from FP4 were still running during the year under review. There was also interest in whether research results from FP4 projects already completed were being effectively disseminated and implemented.

In moving from FP4 [1994 – 1998] to FP5 [1998 – 2002] there was a marked change in direction. The Commission and Member States, while recognising the scientific achievements of the previous Framework Programmes, required FP5 research to be more directly relevant to meeting the Community's industrial, commercial, economic, policy and social needs. ESD was restructured into four Key Actions -Sustainable Management & Quality of Water; Global Change, Climate & Biodiversity; Sustainable Marine Ecosystems; City of Tomorrow & Cultural Heritage. In addition cross-cutting research is undertaken within the Generic Activities and there is Support for Infrastructure.

The annual budget for 2000 to implement the second FP5 call was 214 Meuros for Key Actions, 36 Meuros for Generic Activities and 28 Meuros for Infrastructure. At the second call [excluding Infrastructure which had a later deadline], 1384 proposals with a total requested EU contribution of 1930 Meuros were accepted for evaluation within ESD. Of these 375 [28 %] passed the evaluation process and 200 Meuros was allocated to support 174 projects. This represented a commitment of 20 % from the ESD budget to this bidding round and an overall bidding success rate of 1 in 8. The funding commitment from the first and second rounds was 400 Meuros or 40 % of the total ESD budget. These figures do not include other calls, such as SME Measures and Accompanying Measures which are much smaller.

The second and third calls for research proposals provided opportunity for the Commission and the Programme Committee [PC] to undertake a re-appraisal of the detailed Work Programme Document, which specifies the areas of research to be supported. Comments and advice on revisions to the Work Programme were also given by the External Advisory Groups [EAGs] to the Directorate. Several modifications to the Programme were implemented by the Commission

following approval by the PC. These were made against a backdrop of a number of important events that occurred during the year, as follows:

- the Five Year Assessment of the overall Framework Programme and the individual Science Programmes, including the ESD Sub Programme, was completed¹;
- a paper from Commissioner Busquin describing the concept of a European Research Area was published, subjected to wide ranging debate and approved by the Council² ;
- the proposal for 6th Environmental Action Programme³ was drafted;
- new ideas for the structure and content of the New Framework Programme [2002 – 2006] were being developed;
- sustainable development in the Member States had been given a higher profile.

This document is the Final Report of the 2000 ESD Monitoring Panel. It focuses on the issues offered in the Broad Guidelines as referred to above. These issues are addressed in the sections that follow. The Panel also provides in the Report Conclusions and Recommendations arising from its work.

3. MONITORING PROCEDURES

The ESD 2000 Monitoring Panel was appointed by the Commission in November 2000 with the appropriate contractual matters being completed in December 2000. There were five Panel Members [Annex 7.1]. The Panel held four meetings in Brussels during the period 11 December 2000 to 19 February 2001. All Panel Members were present at these meetings⁴. Commission staff made arrangements for the meetings and interviews. They provided statistical data, information and extensive documentation [Annex 7.2]

The Panel's assessment was based on:

- existing published and unpublished reports prepared by the Commission and others;
- statistical reports and data prepared by Commission staff at the request of the Panel;
- discussions with the three External Advisory Groups [EAGs] during meetings in Brussels;
- individual interviews with selected Commission staff [DG Research and others], National Contact Points and some Members and Observers of the Programme Committee [PC] and EAGs [Annex 7.3];
- the returns from three different questionnaires [Annex 7.4] specifically prepared by the Panel for the following target groups:
 - (a) the Directorate's four Heads of Unit [Annex 7.4.2];
 - (b) Members and Observers of the PC and EAGs [Annex 7.4.1];
 - (c) Project Coordinators [Annex 7.4.3];
- information obtained by an ESD Panel Member attending the following meetings
 - (a) Joint Meetings of the 2000 Framework Monitoring Panel with representatives from Specific Programme Monitoring Panels [18 December 2000 & 22 March 2001];
 - and

¹ Five Year Assessment– Energy, Environment & Sustainable Development.1995-1999– June 2000 PCT-ENV-00-096

² 'Towards a European Research Area' COM[2000] 6 of 18 Jan 2000

³ 'Communication from the Commission to the Council, the European Parliament, the Economic & Social Committee and the Committee of the Region on the Sixth environment action programme of the European Community: Environment 2010: Our Future, Our Choice. COM(2001)31 of 24 January 2001

⁴ The Panel was assisted by Dr Marco Weydert and Sabrina Minique.

- (b) Commission meeting involving PC Members and others to discuss a Draft Report on the synergy and coordination of EU and national research policy [24 Jan- ESD Monitoring Panel Chairman attended].
- discussions at Panel meetings leading to the identification of key issues.

Although this monitoring exercise has been completed in a relatively short time the Panel considers that it was able to obtain a good understanding of the ESD Programme and associated issues. However, it would have been helpful if the Commission had provided an overview document describing the principal issues and synthesising the basic statistical data at the outset. This was a recommendation of the previous [1999]Panel. There is no implication here that the Commission Officers were unhelpful, they were not. They provided full support in arranging interviews, documentation etc but no overview/synthesis was made available in writing.

The Panel is grateful to the Commission Officers for the support they provided and also to those who agreed to be interviewed and those who completed the questionnaires.

4. ANALYSIS OF THE SUB PROGRAMME EXECUTION AND PROGRESS

4.1 PROGRAMME OBJECTIVES

The 5th RTD Framework Programme focuses on a number of Key Actions directed towards meeting the priorities of the European community. It therefore needs to pay particular attention to the implementation of research results. Its main objectives are the promotion of sustainable development while at the same time supporting and encouraging competitiveness and employment in Europe.

The Work Programme for the Sub Programme "Environment and Sustainable Development" meets these objectives to a large extent, even though the participation of industry and commerce in a programme that is aimed at research in the environmental field is, by nature, less pronounced than in other programmes, e.g. 'Energy'. The spring 1999 Work Programme was revised in October 2000 and Programme relevance was improved by taking into consideration recent techno-economical developments and new policy initiatives, such as the ERA.

These objectives of the FP5 Work Programmes generally meet the environmental research needs of the Community. However opportunities for radical changes to the Work Programme are limited since a change of the Programme itself would require a Council decision. This has an adverse effect in the case of new scientific and policy issues/developments. There is the need to introduce a greater element of flexibility within the Work Programme without losing sight of its principle objectives and continuity. Rapid response procedures and an appropriate funding mechanism should be established.

The Guide for Proposers has recently been streamlined and simplified. The returns from the questionnaires to project Co-ordinators clearly show that the existing Guidelines and procedures were complex, difficult to follow, slow and costly. The Guideline improvements are therefore welcome. However the Directorate must subject the procedures to regular review, so that responding to a Call for Proposals by European scientists is made as easy as possible. This is particularly important in increasing the participation of Candidate Countries.

The Panel sought to identify sectors of the Work Programme that had not been addressed by those projects already funded by means of a questionnaire to the Heads of Unit. They were asked to

identify any gaps in those areas of FP5 for which they have management responsibility. Their responses indicated topics that had not been covered and how the Calls for Proposals had been modified to accommodate lacunae. The Panel concludes that a number of the gaps which remained after the first Call for Proposals have now largely been filled in the 2nd Call.

The PC and the three EAGs [Water and Marine, Global Change, City of Tomorrow] support the Directorate on the overall content and orientation of the ESD Sub Programme. The PC, which is composed of official representatives of the Member States, with Observers from Accession Countries and other associated countries, has to approve the Work Programme and any modifications to it. It is also required to approve the Commission's suggested list of projects to be funded. The PC also exercises a quality assurance role over the proposal evaluation procedures. It is informed by the Directorate about the Programme research outputs and the advice provided by the EAG to the Directorate.

With respect to the PC's responsibility for project approval, a number of its Members consider that this role should be left largely to the Directorate but monitored by the PC at intervals. This would leave more time for the PC to address strategic issues. These should include discussion on the research results and the formulation of future research targets within a policy framework at both EU and Member States level. The Panel considers that there are opportunities within the PC forum for representatives of Member States to exchange information on national research initiatives as an important step towards ERA objectives.

A number of PC Members expressed concern that the focus of FP5 ESD Sub Programme is directed towards more conventional environmental research topics and does not adequately address integrated sustainable development issues. The view was also expressed that European research should be more closely linked into international environmental research programmes and have greater opportunities to participate in field studies outside Europe. Collaborative research with the developing world countries should also be encouraged. The FP5 objectives are somewhat restrictive in this regard. The Panel recognises and supports these concerns but considers that it is probably too late in the life of FP5 to introduce major changes into the objectives.

The EAGs set up in 1999 have not yet established a clear role. The use of recognised experts to provide the Directorate with advice is welcomed in principle. The EAG members seem to be committed and willing to make an active contribution to the Programme's success. However it appears that EAG advice is only taken into account infrequently and Members are discouraged from addressing longer term strategic issues or offering suggestions to help in the formulation of future programmes. There is the need to define the roles and tasks of the PC and the EAGs more clearly and to arrange some interchange between them. Unless the EAG Members can see that their advice is having some influence their commitment will diminish. The decreasing numbers of participants at some of the recent EAG meetings may indicate that a sense of disenchantment may already have set in.

4.2 ACCESSION COUNTRIES

Apart from a delay in ratification of the necessary agreements, Accession Countries (ACs) were able to participate in FP5 on nearly the same footing as Member States. This option was opened to give ACs time to adjust to the European procedures and level of research before accession. Prior to FP5 ACs were eligible in programmes such as INCO set up to facilitate cooperation with non-EU-countries, especially those of former Eastern Europe and the developing countries.

One of the Panel's tasks was to assess the performance of the ACs in submitting proposals to FP5, to compare their level of success with that of Member States, attempt an explanation for any differences and, if necessary, offer suggestions for redress.

Analysis of the data from the 2 Calls for Proposals in 1999 -2000 revealed that AC participation, as well as their success rate, was well below overall average [Fig. 1], although there were exceptions. Of all proposals submitted, 1 in 7 was funded while the success rate for proposals with partners from ACs was only 1 in 8.7. Individual participants from EU Member States had a chance of 1 in 6.4 to be funded, while those from ACs only had a chance of 1 in 10.1. [The higher chances for individual participants as compared to individual proposals is due to a bias towards larger projects: projects with consortia consisting of up to 15 partners had a 14 % chance of funding, while for those with more than 15 partners the chance rose to 23%.] Projects coordinated by ACs had practically no chance of being funded: only 1 in 54 was successful.

Several reasons have been suggested for this below average performance of ACs:

- *FP5 and its Work Programme are set by the Member States according to their requirements. It may be that this agenda is not fully relevant to the needs of the ACs.*

Following discussions with AC Observers in the PC and AC members of the EAGs the Panel reached the conclusion that the agenda was relevant, although some topics which are important to the ACs may be absent or had been given a low priority.

- *There is little or no tradition of applying for research money in many of the ACs and there was limited incentive in the past as adequate funding had been provided by the state. The approval procedure at a national level to enable an AC organisation to participate may often be protracted.*

While these are serious problems the Panel considers they will be overcome with time through increasing experience.

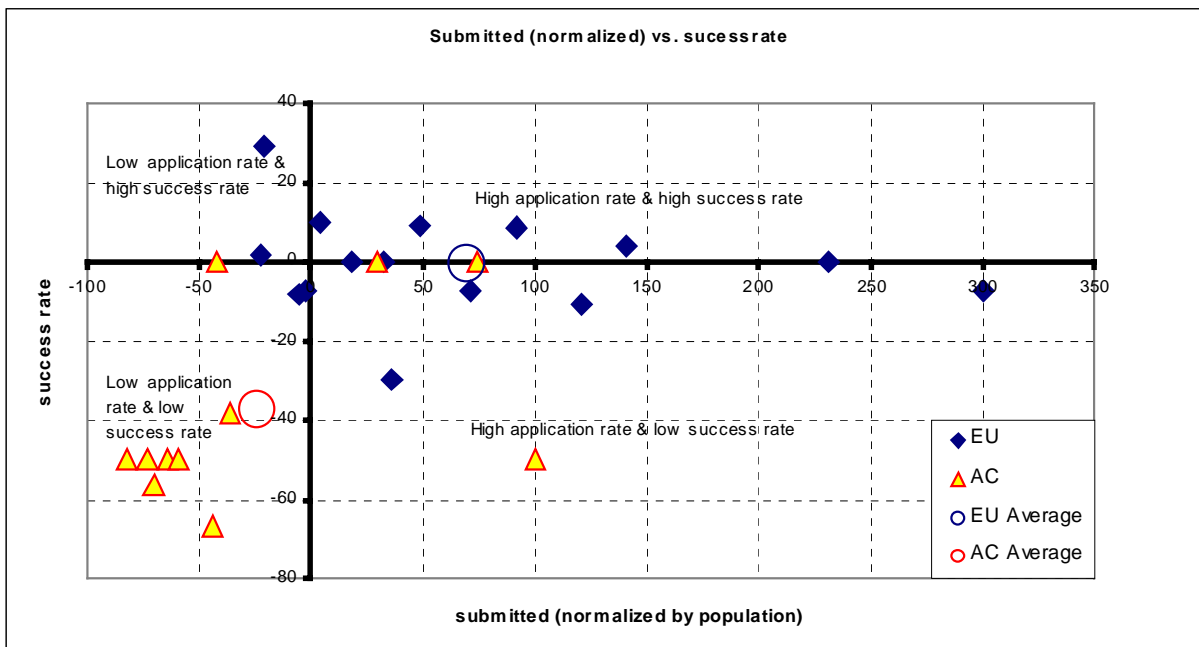


Fig. 1: Participation and success rate for participants from individual countries.

Participation was normalized by the population of the countries and success rate is represented as deviation from the average. Participants from ACs in general show below average participation as well as below average success rates.

- The national structures to inform scientists about FP5 and its opportunities and to provide support in developing and submitting proposals are either not in place or not sufficiently well established in many of the AC s.

Results from the coordinators' questionnaire showed that generally the input from national Contact Points was unhelpful or absent. These arrangements clearly need to be improved. It is very likely that, together with the lack of tradition in submitting project proposals, this explains the below average participation. However, it should not be the reason for the below average success rate, as the more experienced non- AC members of a project consortium, and in particular the coordinator, should provide the necessary support. Project coordinators with experience would not want to endanger their overall proposal by being satisfied with insufficient task descriptions etc. from newcomers.

- Evaluators are not familiar with scientists from ACs, as these have few or no publications in western scientific journals. There is a tendency to underrate their competence.

The first stage of the evaluation process involves an anonymous scientific assessment. However the participants are made known to the evaluators in the second and third stages. If this were a valid explanation, there should be a systematic difference in the ratings of the anonymous vs. the other stages. However, no significant difference was found in the relative ratings for the different stages: the average ratings for ACs is about 0.4 points down from EU averages for all criteria. The relative difference is even larger for top ratings for scientific quality than for the other criteria and the scientific ratings of proposals with AC participants generally show a clear shift towards lower values (Fig. 2).

All Keyactions - Rating for Scientific Quality and Innovation

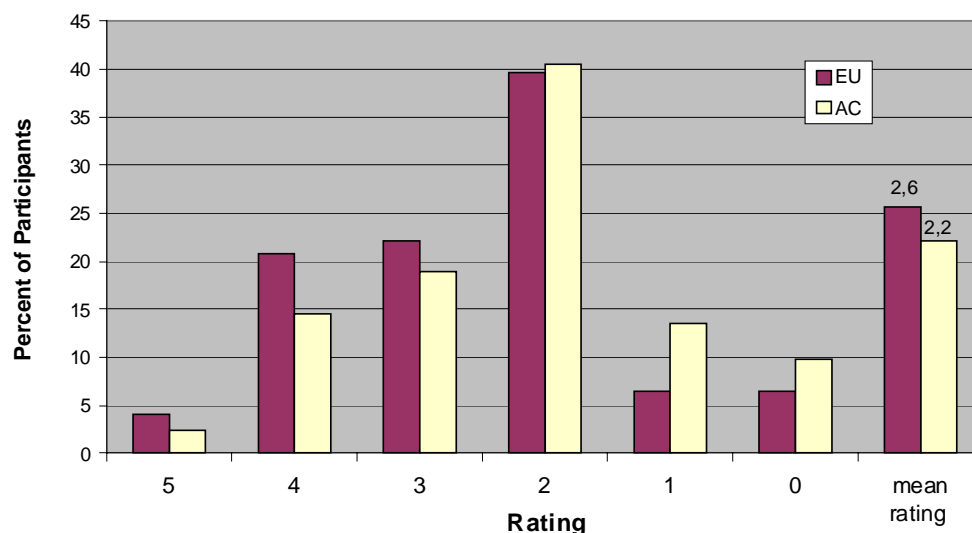


Fig. 2: Ratings achieved for Scientific Quality and Innovation by participants from EU member states and ACs in percent of submitted proposals to the research programmes of all Key Actions within ESD and average ratings. [The highest quality on the 0-5 scale corresponds to a rating of 5: proposals with a rating of 5 had a more than 90 % chance of being funded, those with a rating of 4 a 50% chance and of those with a rating of 3 only 4% were funded.]

- *Proposals submitted by consortia including ACs tend to be newly formed, possibly at a late stage of the call. This is because networking between scientists of Member States and ACs is weak.*

In most of the large projects or project clusters that were reviewed AC participation was focussed on research which required a geographical location within the AC. AC organisations may have been involved as participants for this reason rather than because of their recognised scientific capability. Consequently a Member State may not always have selected the most appropriate AC organisation to be a member of the consortium. Networking between Member State and AC organisations needs to be improved and the Directorate should encourage this.

4.3 EUROPEAN ADDED-VALUE

The Panel was requested to focus on the preliminary evidence of the impact of research results and EAV. Issues relating to the impacts are considered briefly elsewhere in the report but in particular in Section 4.6 [Dissemination].

The EAV concept is well recognised but there is a lack of a clear methodological definition. This is of concern because EAV is one of the key benchmarks in the project evaluation process. The Panel recommends that the Commission establish a clear set of guidance criteria urgently.

The evaluation criteria which appear in the Work Programme include ‘Community Added Value’ and ‘Contribution to EU policies’ within the same item. This item is subdivided as follows:

- Contribution to implementation/evolution of EU policies or addressing standardisation/regulation problems;
- European Added-Value of the project;
- Contribution to solving problems at the European level (the European Dimension);

Each of the above is subjective. In spite of these difficulties the Panel considered the EAV ratings for projects which were successful in FP5 [1st and 2nd call]. These ratings were obtained from questionnaires completed by Heads of Units and the project data statistics provided by the Commission. The majority of successful projects were rated 4 to 5 [on a 0 to 5 scale]. This implies a high level of EAV and policy relevance for most of the projects. As there is a tendency for projects with high ratings for their scientific content to also have high ratings for EAV and policy relevance, it is not clear whether this conclusion is really valid i.e. the evaluators may be influenced by the project's science quality assessment which is made prior to that for the EAV.

Large projects linked into well designed networks or built into effective 'clusters' within FP5 strengthen pan-European science and thus have a high level of EAV. A very good example of this is the stratospheric OZONE cluster. This includes one of the largest research projects in FP5 [THESEO] which makes extensive use of European and international research infrastructure. As a result of effective co-operation between researchers and the Commission's Scientific Officers, Europe has taken the lead in this field of science and has gained insights into the mechanisms and dynamics of the stratospheric ozone layer which have a strong policy relevance.

EAV should not necessarily be linked to pan-European issues. The study and resolution of regional problems was well recognised in FP4 but has been somewhat neglected in FP5. Large- scale regional research within ESD can produce significant EAV, even though some Member States may not benefit directly. For example the Global Change research has a regional dimension based on ecosystem units which show differing responses to large- scale influences. The ACACIA project, which is concerned with assessing the impacts of global climate change on Europe, is a good example of this. Regional issues are thus an important element of any well- balanced, policy- focussed European research programme.

4.4 EUROPEAN RESEARCH AREA [ERA]

Over the last decade there has been growing concern that European research was falling behind that in the US and Japan in terms of level of funding and output. Over the same period there was recognition that RTD was one of the fundamental drivers in providing economic prosperity and fulfilling other aspirations of society. In January 2000 Commissioner Busquin published a paper "Towards a European Research Area"². Its aim was to increase the impact of European research through improved cooperation and coordination, thus giving greater coherence to research and its applications. The Council of Ministers and the European Parliament have endorsed the proposal, many features of which have also been welcomed by the scientific community and industry^{5,6}

Although the Framework Programmes have been excellent in many respects they have been conducted largely independently of national research programmes. The ERA vision requires complementarity and coordination between EU and Member State research activities and also increasing involvement of industry and society, networking of Centres of Excellence, larger and more targeted research projects, strengthening of research infrastructure, greater focus in relation to policy, enhanced opportunities for talented young scientists and increased scientists' mobility. The ERA proposals recognise the importance of retaining a 'regional dimension' so that geographic and economic variations can be accommodated, but also the need to engage in international science.

Development of the ERA vision during the year and its acceptance by Council has potentially fundamental consequences for future Framework Programmes and it is appropriate that the Panel

⁵ Resolution of 15 June 2000, OJC 205, 19.7.2000 p1

⁶ Resolution of 16 November 2000, OJC 374, 28.12.2000 p1

should have been specifically requested in its Broad Guidelines to look at the contribution the FP5 ESD Sub Programme is making to ERA issues. However the Panel recognized that FP 5 was not designed to meet the ERA requirements. These will embrace future Framework Programmes and some elements within the present FP5 but the requirements of the ERA are much broader than this.

All of the FP5 Programmes have a strong element of networking leading to sharing of data and exchange of results and experience. This is good but more needs to be done, particularly in establishing the links between FP5 projects and national programmes. However, bridging the gap is not without its problems. There is a role here for PC Members to become more engaged in helping the Commission Officers and Project Coordinators to establish such connections.

The Directorate responsible for ESD Research has identified a number of large projects or clusters of projects which make a significant contribution to the ERA, e.g. THESEO, CARBO EUROPE, ELOISE, OMEX, CLARINET and others. A study was also initiated to map ESD research across Europe, to identify Centres of Excellence and to draw out priority areas for research⁷. The draft report on this study was discussed with representatives of Member States at a meeting on 24 January 2001.

The Directorate Heads of Units, in discussions with the Panel, and in their responses to the questionnaire, offered a number of FP5 projects or project clusters that they considered fitted the ERA concept. Projects offered by the Water, Marine and Global Change Units appear to meet ERA requirements, but those from the City of Tomorrow Unit are less appropriate. This is possibly because research in the area was newly introduced at the start of FP5 and a large interactive research community takes time to be established. Nevertheless one project in this area – Sustainable Refurbishment in Europe – with its 19 contributors, strong links with a wide user community extending from government authorities and city planners through to tenants and its potential for major industrial and commercial outputs, has many of the attributes sought in an ERA activity.

With respect to the Support for Infrastructure in FP5, although the budget is relatively small there are some good environmental projects which bring key databases together [Fauna Europa], integrate climate modelling systems [PRISM], coordinate participation in ocean drilling [IODP] etc.

The Heads of Units are also actively considering future development within FP5 and how research may be taken forward within the ERA framework. A particular example proposed by the Water Sector involves the coordination of EU and national programmes for integrated catchment management, possibly through large scale Concerted Action. Examples of forward thinking of this type is supported by the Panel. However, Commission Officers should not cluster projects in an attempt to demonstrate ERA applicability or for administrative convenience where it is inappropriate to do so. There must always be a sound scientific purpose. This also applies to the formulation of very large projects. Members of the PC s and EAG s have expressed similar concerns and the view that very large projects, establishment of Centres of Excellence and major clustering may lead to the exclusion of some of the smaller Member States and the ACs. The Directorate should be conscious of these concerns in managing future FP5 projects in the context of the ERA.

Greater emphasis should be placed on increasing the mobility of scientists between participating organisations. The Directorate should explore means of achieving this during the remainder of FP5 and into the future.

⁷ This report ‘ ENVOT – Study on ways of improving complementarity and synergy between national and community research in the field on the environment and sustainable development [including biodiversity]’ will be available in May 2001.

4.5 EU POLICIES

The 5th EU Framework Programme, for the first time *expressis verbis*, fully recognises that research and development should meet the needs of the European Society and support EU policy. This is particularly important for the Environment and Sustainable Development Sub Programme, since the European Council has set itself ambitious goals in the 5th Environmental Action Programme and these are being carried forward into the 6th Environmental Action Programme (2001 – 2010), currently in preparation.

It is critically important to define research targets in line with the policy requirements at the outset to ensure that the research results have strong policy relevance. The Panel held discussions with officers from the Policy DG s [Environment, Regio, Tren] concerning their influence on the research programme at its formulation stage. Although a Group of Directors and ‘mini-teams’ are in place to discuss such issues these arrangements do not appear to adequately address the need.

With respect to the operational stage of FP5 it was clear from the Panel’s discussions with officials of DG Environment that they have a major demand for R&D to support European environmental policy, especially in the area of global change. The ongoing 5th Framework Programme thus requires the closest possible co-operation between the DG Research and other relevant policy Directorates in any modification to the Work Programme and in project selection.

It is equally important for the Directorate to ensure that the policy relevance of research results is identified and that the results are applied. It is not just a question of compiling scientific results from individual projects or clusters, there is the need for synthesis involving relevant DGs so that policy issues are adequately addressed. The Group of Directors and their mini teams should be identifying the key areas on which strategic studies should focus. However the Panel gained the impression that these arrangements do not work as effectively as they should. All those interviewed from the policy Directorates considered that the interactions with DG Research had to be strengthened. Additional resources must be directed towards the analysis of research results and their application. This issue is also important because, although research within the EC is mainly within the responsibility of the DG Research, there are also major research programme that lie within Policy DG s. Co-ordination is essential to avoid gaps and overlaps and to maximise research impacts.

Today, many environmental problems are global. Several of these major issues are being addressed through international conventions and it is necessary for the EU to establish its policy position in relation to these. Such policy requires supporting research much of which lies within the ESD Sub Programme. It is therefore essential that research co-operation between the EU, international organisations and non-European states [both industrial and developing countries] should be well supported.

During the course of Panel interviews concern was frequently expressed that because R&D is being increasingly driven by policy requirements [deliberate shift from FP 4 to FP 5] there is a danger of curiosity-driven research being neglected. The Panel shares this view and notes that such research has always been a particular strength in Europe. The absence of an element of more basic research in the Programme may, in the long-term, be detrimental to the European environment in particular and society in general. The Panel would recommend that the Directorate should ensure that there are opportunities within the Sub Programme for some curiosity-driven research while retaining an appropriate balance with research directed by policy needs.

4.6 DISSEMINATION AND IMPACT OF RESULTS

There are many scientific and technical achievements arising from the FP3 and FP4 ESD Sub Programme. Several of these were referred to in the 5-year Assessment of the ESD and will therefore not be repeated here. There are well-established ways of disseminating research results in the scientific community e.g. through presentations at scientific meetings, publications in scientific journals etc. The Commission indirectly supports such efforts through the organisation of scientific workshops and symposia. While there is no specific incentive from the Commission to encourage scientists to publish their results, dissemination at this level appears to be satisfactory. However, it would be helpful if the Commission could collate relevant statistical information in terms of numbers of peer-reviewed papers and other publications, expressed in relation to project cost, number of project participants etc.

Last year the Commission strengthened dissemination of results outside the scientific community mainly by enhancing the visibility of European Research through press releases, press conferences, posters, brochures, flyers, videos, etc. although the role of CORDIS in this could still be improved. The quantity and quality of material produced and the availability of mailing lists tailored to specific audiences suggests that this effort has been quite successful.

However, the problem of synthesizing the multitude of research results obtained within a project or between project clusters into a coherent message for policy makers and other stakeholders is still not satisfactorily resolved. The scientists involved cannot take full responsibility for this synthesis, although they must participate in the process. The analysis of the responses to the questionnaires sent to project coordinators suggests that many of them have no clear idea as to how their results should be disseminated outside the scientific community. There is a requirement for the project coordinators to provide Technical Implementation Plans (TIPs) during and at the end of a contract. The TIP is one step towards the synthesis of research results, but it is not well suited to meet this need in environmental research. A few projects/clusters (e.g. OZONE, ACACIA) have succeeded in distilling the essential policy messages. This is because they have clearly defined policy requirements and the project coordinators and the Commission's Scientific Officers made a special effort to focus the research findings. A mechanism should be put in place to ensure that this is more widely achieved. One option would be to add an additional year (e.g. 3+1 years) to every project/cluster during which only synthesis and dissemination activities by the coordinators are funded. At the same time, in the absence of staff resources within the Commission, external specialists should shadow the projects and lead dissemination once the research phase of the project ends. This work would include organisation of workshops to bring scientists and stakeholders together. The PTAs could play an important role here. The approach would also lead to inter-service benefits within the Commission.

The Panel considers that many of the research results are not being effectively utilized at the present time. This represents a loss of resource and the Panel wishes the Directorate to examine the above proposal urgently and provide an appropriate budget. The same issues were raised by the 1999 Monitoring Panel but the Directorate's response in providing less than a half person/year to focus on this work is inadequate.

The Panel was requested to examine research impacts. Such an assessment at the present time is only meaningful in relation to FP3 and FP4. There was little information to enable it to quantify the impacts of research on European international science standing, Directives, European policy in relation to international issues, industrial competitiveness etc. However, because of their commitment to FP5 there appears to be little effort directed by the Science Officers to the implementation of the results of FP3 & FP4. There is the need for the Directorate to undertake a systematic study of research impacts across these areas.

4.7 MANAGEMENT

The Energy and Environmental research were drawn together into a single Programme within FP5. To ensure that appropriate intra- and extra-Programme interactions were made and in an attempt to improve administration, the Programme management arrangements made use of three Directors with primary responsibilities for Energy, Environment and Coordination/Administration. Several of the Commission Officers interviewed reported that this management arrangement did not work well. Its shortcomings were also discussed by the Five-Year ESD Assessment Panel which recommended that the management structure be reviewed. The 2000 Monitoring Panel was pleased to note that the Commission has responded to these concerns and that new arrangements for the Energy and ESD Programme management have come into place in 2001. In addition to the four scientific units a unit for policy and a unit for administration has been introduced. The Coordination Directorate has been disbanded. This Panel recommends that the effectiveness of these new arrangements be monitored by their successors.

The Directorate managing the ESD Sub Programme has a wide range of responsibilities and covers a broad span of environmental science and technology e.g.

- encouraging the application of research results to policy/industry/commerce etc [principally from FP3 and FP4],
- managing FP5 in terms of the evaluation process for project selection, negotiation and progress,
- developing future Programmes.

The ESD Directorate's structure in 1999 2000 included four scientific Units with each Head of Unit having a specific responsibility for a well-defined element of the ESD Sub Programme of FP5. This arrangement appears to work well in the management of the science. Panel Members, from their personal experience as past participants in the Framework Programmes and from their discussions with Heads of Units and Scientific Officers, considered that the Commission staff are both committed and efficient in managing their work. However a wider view was sought and the Panel submitted a questionnaire [Annex 7.4.3] to a number of coordinators. 110 responses were received and analysed. In making an application for FP5 research funding coordinators generally found the procedures somewhat difficult to follow and the Commission's documentation and guidelines rather complex. They considered the procedures to be slow and expensive in terms of the time an organisation had to commit in order to participate. There was particular concern in relation to all of these aspects from those coordinators who were bidding for the first time. Nevertheless the support provided by the Directorate's Scientific Officers to coordinators at the stage when they were developing their proposals and during project negotiations was generally helpful. While overall this implies that there is a good management process in place there are differences between coordinators' level of satisfaction with the Scientific Officer support for different Actions. The Panel therefore recommends that the Directorate investigate further the reasons for these differences in the level of support provided by individual Units.

There appears to be a falling off of Commission staff support to the coordinators during the lifetime of a project. This is regrettable but most probably reflects the high work load on the Commission's Scientific Officers. The Directorate recognises this problem and has responded by seeking external help through the use of consultants as Programme Technical Assistants [PTAs]. It is too soon to judge whether the PTAs' contribution will be effective.

The Commission's overall help provided to coordinators can be contrasted with that being provided at a national level. Coordinators generally found this to be inadequate or, in many cases, absent. A number of coordinators, particularly from the smaller Member States, indicated that support at their national level was very strong but this was the exception rather than the rule. The Panel recommends that Directorate through seminars/workshops/visits etc encourages the full participation of national contact points in the process.

Coordinators found the Commission's administrative procedures for payments and reporting arrangements on projects to be very satisfactory but there is still uncertainty among many coordinators as to the steps to be taken to disseminate their research results other than through a TIP [see Section 4. 6].

Two Panel Members had been chosen to act as Observers for the 2nd Call ESD evaluations in spring 2000. They found that these were generally satisfactory and that the input of the Commission Officers was of a high professional standard although feedback to unsuccessful projects was unsatisfactory. This was confirmed in responses to the coordinators' questionnaire. The Directorate needs to improve feedback quality. Several interviewees expressed concern to the Panel over the selection and capability of the external evaluators. The Panel recommends that the Directorate undertakes a 'bench-marking' study by analysing the scientific capability and reputation of the evaluators [1999-2000] in relation to the wider ESD scientific community.

The Panel recognises that the ESD Sub Programme is very large and scientifically complex and that the Commission officers have to administer and manage all stages of research activity from project initiation through to dissemination of results. They also have to contribute to proposal development for the next Programme. They do a sound professional job but have a very heavy workload in administration and scientific support. It is unsurprising that some activities receive less attention than others. While some work elements are being contracted out much more could be done. This would enable the Scientific Officers to spend more interactive time with the project scientists and keep abreast of developments in their field of science. The cost of the management and administration of the ESD Sub Programme has been reduced year by year. It now stands at 6.3% of the Sub Programme budget. The Panel considers that this represents good value for money and demonstrates the efficiency of the Directorate staff.

5. RECOMMENDATIONS FROM THE 1999 MONITORING PANEL

There is a specific requirement on the 2000 Monitoring Panel to consider whether the Recommendations from the 1999 Monitoring exercise have been adequately addressed. These are therefore discussed below. [The 1999 Recommendations are not presented *verbatim* but have been shortened and paraphrased and are given in italics.] Several of the issues raised in the Recommendations of the 1999 Panel's Report have also been considered in some detail by the 2000 Panel and in some cases are carried forward in the Recommendations of their Report.

- 1. Documents should be presented to the Monitoring Panel at the start of their work in an organised, comprehensive and systematic way. Gender balance, less favoured region involvement and consistent statistics are three examples of areas that were found to be inadequate.*

With respect to documentation the response of the Commission was unsatisfactory. The Commission Officers must be aware of the type of documentation and statistical summaries that are needed by the Monitoring Panels. When requests for statistics were made the 2000 Monitoring Panel was presented with many pages of data often without adequate captions. This wastes the Panel's time and leads to frustration. It is noted that 1999 5-Year Assessment Panel for the ESD expressed similar concerns and called on the Directorate to anticipate the Panel's needs in the future by producing a document giving a brief overview of the Programme and areas of achievement or concern from a Directorate perspective. The 2000 Monitoring Panel wishes to have such arrangements in place in advance of the next Monitoring exercise. Gender statistics were made available to the 2000 Panel. These show that for the ESD Sub Panel there are about 3 times more male than female scientists in the older age

group [above 35] working on the research projects. In the younger group [under 35] there are equal numbers of men and women. This may be interpreted as an encouraging trend, but it may also indicate that women are less frequently promoted to senior posts.

2. Timely reimbursement of subsistence and travel costs

The Commission response is satisfactory but the 2000 Panel was concerned that any expenses incurred while holding interviews with PC and EAG members or national representatives other than in Brussels were not to be reimbursed. The Panel considers that 'face to face' interviews are very valuable and would therefore recommend that some budget provision is made so that a limited amount of travel to undertake interviews in a Panel Member's home country or in an adjacent country can be accommodated.

3. Guide for Proposers should be improved

The response from the Commission is satisfactory. The Guide has been improved.

4. A two- phase evaluation procedure should be tested.

The Commission has not tested the two- phase evaluation procedure. The Panel was told that a Commission review, which included the results of German experience, concluded that the two- phase procedure would increase the workload and extend the time between proposal submission and decision.

5. The Database for Expert registration should be more user friendly

A satisfactory response was given by the Commission. The registration form has been simplified.

6. The Evaluation Moderators should ensure longer consensus reports and a quick response to all proposers.

The Commission's response is satisfactory.

7. Opportunities for mobility of Officers should be increased and the MIS improved.

The 2000 Panel accepts that the Directorate's ability to increase staff mobility is limited by resource constraints but the situation would be eased through more outsourcing of work. The MIS is being improved progressively but is still not a satisfactory system. The 2000 Panel considers that it may be necessary for each Directorate to develop its own information system but these should be compatible and networked.

8. Project follow-up by Scientific Officers was not effective

The 2000 Panel considers that active interchange and monitoring of projects by the Directorate during the lifetime of a project is essential. If this task cannot be met from within the Directorate due to staffing constraints it should be externalised [see Sections 4.6 & 4.7].

9. Measures should be put in place to ensure prompt completion of the Technology Implementation Plan.

The Directorate's response on the completion of TIPs is satisfactory, but no steps have been taken to adapt the TIP to meet the specific needs of the ESD [see Section 4.6].

10. Consultants should be engaged and workshops organised to determine the potential of research results and procedures established to ensure application to policy, commerce and industry.

The 2000 Panel considers that while the Directorate has made some progress in the application of research results to meet policy and other requirements this falls short of what needs to be done. The response is therefore unsatisfactory. This issue concerning the application and dissemination of research results is also addressed in Sections 4.5 and 4.6 of this report.

11. The Marie Curie activity should be strengthened.

The Directorate's response is unsatisfactory in that it gives no indication as to whether it would wish to strengthen such arrangements or not. In discussions within the Directorate the 2000 Panel was unable to obtain a view as to whether, resources permitting, the Fellowships should be increased. This is surprising in that the ERA seeks to achieve greater mobility of scientists. The Panel supports this view.

12. There is room for inter, intra and with the JRC, programme collaboration.

The Directorate's response is generally satisfactory. There are systems in place which should aid collaboration and information exchange but do they work? These issues are addressed in Section 4.5 of this report.

13. Harmonisation between the EAGs and the PC should be ensured through an annual collaborative workshop.

The Directorate response does not address this issue. Relationships between the PC and the EAGs are considered in Section 4.1 of this report.

14. The Commission should develop a focussed effort on result dissemination.

It may be noted that the ESD Five-Year Assessment Panel also recommended that a major effort should be made by the Directorate to increase its dissemination activity. The Directorate has responded by allocating one person to work on dissemination issues within the ESD Sub Programme. This is a totally inadequate response. The issue is further discussed in Section 4.6 of this report.

6. CONCLUSIONS AND RECOMMENDATIONS

The principal conclusions and recommendations from the Report are presented below:

MONITORING PROCEDURES

The Fifth FP ESD Sub Programme is large [1083 Meuros] and scientifically/technologically broadly based. The Second General Call for Proposals took place during the period being monitored. 1384 proposals were received and evaluated and 174 of these were funded at a cost of 200 Meuros. Although the Sub Programme is large and complex and the monitoring period was relatively short the Panel was able to gain a good insight into it and associated issues. However the Panels task would have been greatly aided had the Commission provided an overview document at the start.

6.1 The Panel recommends that a document giving basic statistical data and analysis and describing the principal issues facing the Directorate in developing and managing the research should be made available to future Panels at the start of their work.

PROGRAMME OBJECTIVES

The Work Programme for the ESD Sub Programme meets the more conventional environmental research and policy needs of the community. The Work Programme has been modified and most gaps have been covered in advance of the 2nd and 3rd Calls for Proposals however a number of interviewees considered that the Work Programme does not address adequately integrated sustainable development issues and the Panel agrees with this view. The changes in direction through modifications to the Work Programme are welcomed but if a new scientific issue emerges there are occasions when a rapid response is needed. There does appear to be a mechanism to accommodate this.

6.2 The Panel recommends that a rapid response procedure should be established by the Directorate to accommodate new scientific issues as necessary.

The Programme Committee should have a quality assurance role in relation to proposal evaluation procedures but should leave the detailed approval to the Commission Officers. This would allow the PC to devote more time to strategic issues.

6.3 The Panel recommends that the Directorate encourages PC Members to use the PC forum for the exchange of information on research initiatives in Member States.

Although the EAGs have provided substantial advice on the Work Programme some EAG members consider that the EAGs have not yet established a clear role. If Members do not believe that their advice is having some influence on the ESD Sub Programme then their commitment will diminish. More interchange between the EAGs and the PC is required. The Panel considers that the EAGs have much to offer the Directorate.

6.4 The Panel recommends that the Directorate defines the EAG role more clearly and establishes a means for more effective interchange of information between EAGs and the PC.

ACCESSION STATES

The participation of ACs in FP5 and the success rate of their proposals are lower than that of EU Member States. This is especially so in the case of coordinators from ACs. However, this was to be expected for the first few calls and should not discourage ACs from participating. There are many reasons that contribute to this result and most of them will lose importance as experience increases in the ACs. This process can be accelerated by giving additional support to the national contact points in the ACs and by creating incentives to actively invite ACs to join international scientific networks to increase the interaction between scientists within the EU and in ACs.

6.5 The Panel recommends that the Commission gives special support to national contact points in ACs both to increase their efficiency in informing scientists in their countries about RTD-programmes and during the proposal phase. Incentives should be given to include ACs in RTD networks funded by the EU as a means to make the scientific communities more familiar with each others capabilities and thus ensuring that the most appropriate research groups are involved in research project proposals.

EUROPEAN ADDED-VALUE

The EAV concept is well recognised but there does not appear to be any definition of methodology for use in proposal evaluation procedures. There are many examples in the ESD Sub Programme of large projects linked into well designed networks or clusters which strengthen pan-European science and these clearly have a high level of EAV. Regional projects can also contribute to EAV and should not be overlooked. Nevertheless:

6.6 the Panel recommends that the Commission establish a clear set of guideline criteria for EAV with some urgency.

EUROPEAN RESEARCH AREA

The Director and the Heads of Units have demonstrated that many of the existing projects and project clusters within FP5 already meet many of the requirements of the European Research Area. They are also actively considering how future developments within FP5 may be taken forward within an ERA framework. The Panel welcomes these initiatives but care must be taken to ensure that projects are not simply clustered to demonstrate ERA applicability. There must be a sound scientific purpose. In advancing the ERA concept there is a particular problem in bridging the gap between the FP5 projects and the national programmes.

6.7 The Panel recommends that the Directorate should use the PC forum to support the ERA and in particular establish a process so that PC Members and Commission Officers can work together to form much stronger links between EU projects and national programmes. The Panel also recommends that the Directorate should place greater emphasis on measures to increase the mobility of scientists between organisations participating in the Programme.

EU POLICIES

The ongoing and future research programmes in FP5 require close cooperation between DG Research and the policy Directorates with respect to Programme formulation, project selection and result implementation. Although the Group of Directors and the Mini Teams are a move in the right direction, more needs to be done. Because of the global nature of many environmental problems the ESD Sub Programme should support increased research cooperation between EU, international organisations and non-European states. While research to support policy needs is essential it is important to recognise that an element of 'curiosity driven' research is also required.

6.8 The Panel recommends that the Directorate should aim to (a) improve its interaction with the policy Directorates (b) enhance research cooperation with non European states and international science programmes and (c) secure opportunities within the ESD Sub Programme for an element of curiosity driven research.

DISSEMINATION

The Directorate has been successful in strengthening dissemination of research outside the scientific community through press releases, conferences, videos, brochures etc. However a clear policy for synthesising the research outputs from a range of related projects into a coherent message for policy makers and other stakeholders has not yet been firmly established.

6.9 The Panel considers that many of the research results are not being effectively utilised and recommends that the Directorate should make available substantial resources to establish a policy for the analysis and synthesis of research results and their dissemination. In an associated activity the Directorate should undertake a systematic study of the impact of the research results from FP3 and FP4.

MANAGEMENT

The Programme management arrangements for FP5 involving two research Directors and a coordination Director have not worked well. Consequently a new management structure has been introduced in 2001.

6.10 The Panel recommends that the 2001 Monitoring Panel examines the effectiveness of these new management arrangements.

The Heads of Units and the Scientific Officers are committed to their work and operate in an efficient and professional way. The support they provide to those submitting proposals is generally highly regarded. However there do appear to be differences between the Units.

6.11 The Panel recommends that the Directorate investigates the reasons for the apparent differences in the level of support provided by the Units to the coordinators at the proposal presentation and submission stages.

The Scientific Officer level of support to, and interaction with, coordinators, during the lifetime of a project, is too low. The Directorate is to use external consultants to address this and other issues which are being neglected as a result of the Scientific Officers' high workload.

6.12 The Panel recommends that the effectiveness of the PTAs and other external support to the Directorate and its Scientific Officers be assessed by the 2001 Monitoring Panel.

The helpful support that the Commission staff provides to coordinators may be contrasted with that generally made available at a national level.

6.13 The Panel recommends that the Directorate through seminars/workshops/visits etc ensures the full participation of the national contact points in FP5 activities.

The procedures for proposal evaluation were judged to be satisfactory in general by the Panel. The continuing trend towards simplifying the application procedure is welcomed. There is, however, concern over the selection of the independent external evaluators.

6.14 The Panel recommends that the Directorate (a) continues the trend towards making the application process more ‘user friendly’ and (b) analyses the scientific capability and reputation of the evaluators [1999-2000] in relation to the wider ESD scientific community.

The Panel considered the recommendations from their predecessors’ report and the Commission’s response to these. Where the Panel found the response to be inadequate it has carried the previous recommendation through to its own recommendations as presented above.

7. ANNEXES

7.1 Panel Members

FP5 ENVIRONMENT AND SUSTAINABLE DEVELOPMENT SUB PROGRAMME

2000 Monitoring Panel

Chair

Professor Brian Wilkinson

Consultant – Solutions to Environmental Problems [StEP]
Ramsbury, Wiltshire UK
formerly Director Centre for Ecology & Hydrology UK NERC

MEMBERS

DR MARIA DE FATIMA BORGES

Principal scientist at Institute for Marine Research (IPIMAR)
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At present, Visiting Scientist at School for Marine Science and Technology,
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Institute of Meteorology and Physics
University of Agricultural Sciences
Vienna, Austria

Rapporteur

KRISTINA SCHEJBALOVA

Environmental Consultant – Hydrogeology, Clean-up and Remediation Techniques, Project
Management
Ostrava, Czech Republic

7.2 LIST OF DOCUMENTS

Panel's working list of Reports, papers, statistics, documents etc provided by the Commission(not all of these are available to the public)

Doc. No.

1. 2000 External Monitoring Panel Broad Guidelines (15th November 2000)
2. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Towards a European Research Area. (18th January, 2000)
3. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Making a reality of the European research Area: Guidelines for EU research activities –2002-2006. (4th October 2000)
4. Strategy for a real research policy in Europe (18th January 2000)
5. Observations of the Experts Evaluations of the ESD Sub programme under the Programme "Energy and Environment & sustainable Development - 13th March to 7th April 2000 (1st May 2000)
6. Main Calls-Country/KA statistics: Allocated proposals – Coordinators and Participants
7. Energy, environment and sustainable development: Work programme, Calls for proposals, Guide for Proposers, Forms and Annexes (October 1999)
8. Energy, environment and sustainable development: Work programme for Part A: environment and sustainable development (27th October 2000)
9. Main Calls-Country/KA statistics: Proposal selected for financing – Coordinators and participants. 3 pages - deadline 15.6.1999, 15.2.2000, Grand total
10. Main Calls – Country/Organization type statistics: Proposal selected for financing. 3 pages- deadline 15.6.1999, 15.2.2000, Grand total
11. Main Calls –Country/Organization type statistics: Allocated proposals, 3 pages- deadline 15.6.1999, 15.2.2000, Grand total
12. Five Year Assessment report related to the specific programme EESD covering period 1995 – 1999 (June 2000)
13. 1999 External monitoring report on the specific programme for RTD in the field of ESD (no visible edition data)
14. Proposal for funding – Timetable (selection year 2000) – 1 page
15. Proposal for funding – Timetable (selection year 2000)- 7 pages
16. Proposal for funding – Timetable (selection year 2000)- 1 page
17. Proposal for funding – Timetable (selection year 1999)- 1 page
18. Council decision of 25. January 1999 adopting a specific programme for research, technological development and demonstration on Energy, Environment and Sustainable Development (1999/170/EC)
19. Draft: Recommendations of the delegates of the European platform for biodiversity research strategy held during the French presidency of the EU in Montpellier, France, 4-6 December 2000 concerning Biodiversity research related to the Biology of Invasions"
20. Press announcement: Greenhouse gases end emissions trading- EU report findings support European policy options (22nd November 2000)
21. Summary and conclusions on "Assessment of potential Effects and Adaptations for Climate Change in Europe"(2000)
22. Accounting for Carbon Sinks in the Biosphere. European Perspective (October 2000)
23. Assessment of Potential Effects and Adaptations for Climate Change in Europe (2000)

24. 1999 Annual monitoring report on the RTD activities conducted under the EC and Euratom framework programmes (2000)
25. DG Environment and RTD: Science as a Basis for Policy Making
26. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. On the sixth environment action programme of the European community. "Environment 2010: Our future, Our choice- The Sixth Environmental Action programme. Proposal for a Decision of the European Parliament and the Council. Laying down the Community Environment Action Programme 2001-2010
27. Research and Technological Development Activities of the European Union. Annual report 1999
28. City of Tomorrow and Cultural Heritage: Proposals funded in the 1st call (1999)
29. The City of Tomorrow and Cultural Heritage, David Miles. 1st and 2nd calls. Examples of projects and a cluster where work has started or where negotiations is complete and project not yet started.
30. Experience with Thematic networks and Concerted Action within the ESD sub-program.
31. City of Tomorrow and Cultural Heritage. Notes and Checklist for Potential Proposers to the Third Call & Annexe on Relevant European Policies
32. EER: Grands projects"; premières réflexions
33. Official Journal of the European Communities, L 290/58, 29.10.98
34. Direction Generale de la Recherche. Organisational structure
35. Accession countries "Allocated (normalized) vs. success rate (Quadratic graph)
36. Draft working document from the Commission services: How to map excellence in research and technological development in Europe (mapping 13)
37. Working document from the Commission services: Development of an open method of co-ordination for benchmarking national research polices – Objectives, methodology and indicators
38. Statistics on ESD programme – 17 pages
39. Statistics on ESD programme – 10 pages
40. Coordination des programmes nationaux et cooperations renforcees
41. Price Water House Coopers: study on ways of improving complementarity and synergy between national and Community research in the field of the environment and sustainable development (including biodiversity)
42. 2000 Monitoring panel - ESD Members
43. Personnel structure of DGXII - DI
44. Members of EAG – Water & Marine
45. Members of EAG: Global Change
46. Members of EAG: city of Tomorrow
47. Programme Committee –Representatives of EU Member States
48. Programme Committee – Representatives of the Associated Countries
49. List of EAG meetings
50. List of abbreviations

7.3 LIST OF INTERVIEWS

Interviewed Person	Function/responsibilities
11.12.2000	
Mr. M. Bohle-Carbonell, 1 st interview	DG RTD, Assistant to Director, responsible i.a. for further execution of operational tasks for all key actions
Mr. U. Finzi	DG RTD, Co-ordinating director for the "Preserving the Ecosystem" in 2000
Mr. Patermann	DG RTD, Director of Directorate "Preserving the Ecosystem: Environmental Research"
Mr. P. Valette	DG RTD, In 2000: Advisor to the director, In 2001: Head of Unit "Policy Aspects"
Mrs. M. Wauters	DG RTD, Head of Unit "Administration and Finance"
12.12. 2000	
Mr. A. Tilche	DG RTD, Head of Unit Sustainable Management and Quality of Water
Mr. A. Ghazi	DG RTD, Head of Unit Global Change, Climate and Biodiversity
5.1.2000	
Mr. Ch. West (UK)	Programme Committee Member
16.1.2000	
Mrs. E. Jaskulke	Member of the EAG, "Sustainable Management and Quality of Water" and "Sustainable Marine Ecosystems"
EAG meeting of Key Action Sustainable Management and Quality of Water	Commission advisory body
17.1.2000	
Mr. N. Hanley,	DG Environment, Head of Unit: Environment action programme, integration, relations with European Environment Agency) and his staff respectively
Mr. Bussini	DG Environment; Staff Member
18.1.2000	
Mr. D. Miles	DG RTD, Head of Unit, Key Action City of Tomorrow and Cultural Heritage
Mr. M. Poireau	DG RTD, Head of Unit of Secretariat for committees and advisory groups (in 2000)
Mr. M. Poireau	DG RTD, Head of Unit of Secretariat for committees and advisory groups (in 2000)
Mr. R. Hurst	DG RTD, Head of Unit for Coordination of Horizontal Aspects (in 2000)
19.1.2001	
Mr. M. Bohle-Carbonell, 2 nd interview	DG RTD, Assistant to Director, responsible i.a. for further execution of operational tasks for all key actions
Mrs. Ch. Sabbioni, Mrs. May Cassar	Chairperson and Member, respectively of EAG Key Action City of Tomorrow and Cultural Heritage meeting
EAG meeting of Key Action City of Tomorrow and Cultural Heritage meeting	Commission advisory body
Mrs. M. Vanderstraeten (Belgium)	Programme Committee Member
24.1.2001	

Mr. Z. Broz (Czech Republic) Mr. M. Leblanc (France) Mr. B. Lesaffre (France) Mr. G. O'Sullivan (Ireland) Mr. J. Oslanyi (Slovakia) Mr. L. Pawlowski (Poland) Mrs. C. Phillips (France) Mrs. I. Szabo (Hungary)	Programme Committee Members
29.1.2001	
EAG meeting, Key Action Global Change, Climate and Biodiversity	Commission advisory body
Mr. E. Ponthieu	DG RTD, responsible for Dissemination issues
Mr. Leyden	DG TREN
Mr. Brüning	Commission staff member resp. for EUROFLUX Project
Mrs. E. Lippiatou	Commission staff member resp. for MTPII-MATER and ESOP-2 Projects
Mr. K. Guenther Barthel	Commission staff member resp. for ELOISE Project
Mr. J. Buesing	Commission staff member resp. for NICOLE and CLARINET Projects
5.2.2001	
Mrs. M. Grubert	DG REGIO, City issues
Mr. G. Amanitides	Commission staff member resp. for the "Ozone programme cluster"
9.2.2001	
Mrs Renate Loskill (DE BMBF)	Programme Committee Member
13.2.2001	
Mr. A. Geisler (Austria)	Programme Committee Member
14.2.2001	
Mr Arwyn Davis (UK DETR)	Programme Committee Member
16.2.2001	
Mr. Tertschnig (Austria)	Programme Committee Member

7.4 QUESTIONNAIRES

7.4.1 Programme Committee and External Advisory Group members

**EC External Monitoring 2000
Environment & Sustainable Development Sub Programme**

Suggested Questions for Interviews

Completed by:

Date:

Member of (PC, EAG- specifications):

Completed questionnaire can be send directly to [e-mail address rapporteur]

1. Programme Objectives of FP 5

1.1 Are the objectives and content of the ESD Sub Programme satisfactory?

1.2 Are the programme objectives adequately reflected in the evaluation criteria?

1.3 Are there any changes you would wish to make i.e. any newly emerging issues, which should be included in FP 5 or FP 6?

1.4 Do members of the Programme Committee (PC) or External Advisory Group (EAG) consider they can influence Programme content effectively?

1.5 Are members of the [PC]/ [EAG] generally well briefed on any changes to the Sub Programme?

1.6 Are the resources to fund the approved projects adequate?

2. Programme Management

2.1 Are the FP4 projects being effectively followed up by the Programme Officers in terms of:

- a) on going projects
- b) implementation/dissemination of results of completed projects and scientific synthesis in relation to policy .

2.2 Is the FP5 Sub Programme well managed and followed-up by the Programme officers in general?

2.3 Are staff resources appropriate i.e. too few/too many/just right?

2.4 Are there any sectors of Sub Programme management which could be improved e.g. evaluation procedure, shortening time scales, relationships with contractors, external support services (e.g. PTA), in-service consultation etc?

3. Accession Countries

3.1 Is the Sub Programme content relevant to accession countries RTD needs? If not, what is missing?

3.2 Are accession countries given enough support by Programme Officers in bid preparation?

3.3 For the first two bidding rounds some accession countries appear to have been much less successful than others. What are the reasons for this?

3.4 Should efforts be made to address the above issue? What could/should be done?

4. Impacts of FP 4 and European added-value [EAV]

4.1 Do you have a clear view as to what is meant by EAV in relation to the ESD Sub Programme?

4.2 Are the outputs of FP4 having an impact on :

(a) EU policy/strategy/standardization/problems?

(b) co-operation and combination of complementary expertise and resources across Europe?

(c) National research programmes?

(d) International research/conventions?

4.3 How could the impact of the RTD be improved?

4.4 In your specific area of interest are there any particularly noteworthy outputs from FP4 and FP3? ie exceptional achievements?

5. Impacts of FP 5 and European added-value [EAV]

5.1 Has the change in structure from FP 4 to FP 5 led to an enhancement of the EAV in terms of:

(a) EU policy/strategy/standardization/problems?

(b) co-operation and combination of complementary expertise and resources available across Europe?

(c) National research programmes?

(d) International research/conventions?

5.2 Could you give some examples of projects/outputs/activities from FP3, FP4 and FP5 that have or will contribute in a major way to EAV?

6. European Research Area [ERA]

6.1 Do you have a clear concept as to what is meant by ERA?

6.2 Will the ESD Sub Programme in FP5 contribute to the ERA and if so, how?

6.3 Are your national research programs/strategies developed against a background of European research?

6.4 How important do you see each of the following in contributing to the ERA concept?

- Networking
- infrastructure development/rationalization
- mobility of researchers
- development of a European view/position in relation to international issues
- promotion of European identity
- other

7. 1999 Monitoring Panel

7.1 Have you seen the 1999 Monitoring report and the EC response?

7.2 Do you find the EC response generally satisfactory/unsatisfactory? [*please give specific reasons*]

8. Other Issues

8.1 Are there any other issues in relation to the implementation of the FP5 [ESD Sub Programme] you wish to draw to the attention of the 2000 Monitoring Panel?

8.2 Are the bidding, evaluation and success rate for FP 5 such that they have or may deter some of the leading European Scientists from submitting proposals? If so could you suggest remedies.

7.4.2 Heads of Units

Monitoring 2000 ESD Sub - Programme
- to be completed by Heads of Units
for Projects to be Funded under 1st and 2nd Calls of FP 5

PROGRAMME KEY ACTION:.....

COMPLETED BY (HEAD of UNIT):.....

DATE:

8. TOTAL NUMBER OF PROJECTS FUNDED IN FP 5 UNDER THE KEY ACTION:.....

TOTAL VALUE [EUROS] FOR PROJECTS FUNDED

9. IN FP 5 UNDER THE KEY ACTION:.....

1. European Research Area

Identify the top 10 projects funded under FP 5 which will contribute to the goals of ERA in a significant way. Briefly justify your choice (no more than 50 words) and state the particular attributes which support the ERA concept. (Please identify clusters)

No.	Work Programme Code	Project Title	Value (EU)
1.			

Description (no more than 50 words):

etcno.10

2. Contribution to International Science Programmes and Conventions

In the following table identify the number of projects which are contributing in a significant way to international science programmes (IGBP etc.) and/or conventions (Climate Change etc.)

Science Programme (for instance IGBP, WCRP etc.)	No. of Projects	Conventions (for instance Climate Change etc.)	No. of Projects
etc			

3. Industrial Involvement and Competitiveness

Will the project make a significant contribution to industrial competitiveness within outside Europe and policy relevance within outside the Europe and/or Policy in the short term and long term. Mark one box only by +. Identify cluster by brackets.

3a) Industrial competitiveness

Project Title	Short term	Long Term
etc		

3b) EU Policy

Project Title	Short term	Long Term
etc		

4. European Added Value

Please, complete the following table with the mark for EAV that was given to the project in its evaluation stage (“Community Added Value and Contribution to EU Polices”).

Project Title	Mark for EAV
etc	

5. GAPS

Which major elements among of the Work Programme have are being addressed through the funded projects from the 1st and 2nd calls. What action, if any, has been taken to close any gaps. Please, use descriptive form.

7.4.3 Coordinators

ESD Monitoring 2000

Questionnaire to Coordinators

FP5 PROJECTS

1. Please provide the following information in relation to your FP5 project [whether you were successful with your bid or not].

- (a) Key Action.....
- (b) Number of participants.....
- (c) Total EC contribution sought.....euros
- (d) Number of member states participating.....
- (e) Number of accession countries participating.....

2. Is this the first occasion on which you have been involved in an EC project Yes No
If No – how many years have you been involved with EC projects?.....

3. In relation to the EC procedure for making an application for research funding for FP5 could you please complete the following:

EC Procedures are:

<i>Difficult to follow</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Easy to follow</i>
<i>Inadequate/complex</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Clear – documentation</i>
<i>Slow</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Quick</i>
<i>Costly to bid into</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Inexpensive</i>

4. If your project (from past experience) was unsuccessful did you receive a clear explanation for its rejection?

NO *1* *2* *3* *4* *5*

5. Was input from Commission officers

Prior to submitting your proposal

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

During project selection/negotiation

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

During the life of your project

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

6. Was the input from National Delegates/National Contact points

Prior to submitting your proposal

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

During project selection/negotiation

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

During the life of your project

HELPFUL? *1* *2* *3* *4* *5* *UNHELPFUL?*

7. Were the Commission's administrative procedures for

Project payments
Unsatisfactory 1 2 3_ 4 5 Very
Satisfactory

Project reporting
UNSATISFACTORY 1 2 3 4 5 *VERY SATISFACTORY*

8. Do you have a clear idea as to the Commission's requirements for disseminating research results of your project once they are available?

NO 1 2 3 4 5 *YES*

9. Please add below, any comments you would like to make with respect to relationships between Commission officers and contractors.

Information provided by:

Date:

Please return to [email address of rapporteur] by [date]

PART B:

**Responses of the Programme Management to the
external Monitoring Report**

Responses of the Programme Management to the recommendations of the Monitoring Panel

The Commission services would like to thank all members of the 2000 Monitoring Panels for their dedicated work and the efforts invested in this complex task. Some of the recommendations included in the monitoring reports address issues of relevance to all Specific programmes. Such issues are discussed from the Framework Programme viewpoint in the responses to the recommendations of the Framework Programme.

The following comments represent the responses of the relevant Directorates General to the recommendations regarding the specific programme *Energy, Environment and Sustainable Development* – sub-programme: *Environment and Sustainable Development*.

	Recommendation	Commission Services' Response	Target date for implementation / progress
1	<i>The Panel recommends that a document giving basic statistical data and analysis and describing the principal issues facing the Directorate in developing and managing the research should be made available to future Panels at the start of their work.</i>	The directorate will try to make statistical and other background data available to the panels as early as possible. However, in the Commission's view the panel can easily start its work without the statistics since these constitute only one input among many to the whole exercise.	"Self assessment" End 2001
2	<i>The Panel recommends that a rapid response procedure should be established by the Directorate to accommodate new scientific issues as necessary.</i>	In the 5 th Framework Programme, it was rather difficult to accommodate new scientific issues in the work programme because of the nature of the Specific Programme. The Commission's proposals for the Next Framework Programme and the associated specific programmes allow for greater flexibility and a faster response to emerging needs, especially under "Anticipating the EU's scientific and technological needs".	Next Framework Programme preparation, second half 2001-2002
3	<i>The Panel recommends that the Directorate encourages PC Members to use the PC forum for the exchange of information on research initiatives in Member States.</i>	On the average only one meeting per year is devoted to the presentation and discussion of the results of a call for proposals. Opinions on batches of projects are normally asked for in writing. This has already allowed the Commission to discuss more strategic issues with the Programme Committee, often after consultation of the Expert Advisory Groups. In addition, the Programme Committee has met as CREST ad-hoc group for co-ordination through co-operation (see also the ENVOT study). With respect to the Next Framework Programme, it must be noted that the Programme Committees of Framework 5 have no mandate and that currently the discussions are taking place in CREST and in the Research Group of the Council as well as in the ITRE committee of the European Parliament.	done

	Recommendation	Commission Services' Response	Target date for implementation / progress
4.	<i>The Panel recommends that the Directorate defines the EAG role more clearly and establishes a means for more effective interchange of information between EAGs and the PC.</i>	<p>The recommendations to strengthen the strategic role of both the EAGs and the Programme Committee as well as the interaction between these bodies are of particular interest for the future. In fact, programme committees should deal with the strategic issues, while the Commission informs them about management issues. The role of the EAGs can, however, not go beyond that of an advisory body, while that of the programme committees is defined by a Council Decision and input for future activities is generally first discussed by CREST. CREST may then ask the programme committees to meet as CREST ad-hoc groups with appropriate mandates (e.g. to give input for new specific programmes).. It has to be noted that for this Framework Programme, the EAGs were consulted i.a. on the contents of the ESD workprogramme and the revision there. Their advice was then made available to the programme committee at its discussions.</p> <p>No changes will be made at this moment.</p>	No additional implementation proposed
5	<i>The Panel recommends that the Commission gives special support to national contact points in ACs both to increase their efficiency in informing scientists in their countries about RTD-programmes and during the proposal phase. Incentives should be given to include ACs in RTD networks funded by the EU as a means to make the scientific communities more familiar with each others capabilities and thus ensuring that the most appropriate research groups are involved in research project proposals.</i>	The Commission services also agree that the National Contact Points in accession countries should receive additional, properly tailored support. Therefore several activities are being planned and a NCP Newsletter has been created to help NCPs to disseminate relevant information rapidly. The Commission will publish shortly two special calls for proposals to help integrate research teams from Newly Associated Countries in the EU research.	July-September 2001
6	<i>The Panel recommends that the Commission establish a clear set of guideline criteria for EAV with some urgency.</i>	The Commission services will keep the recommendation for clearer guidelines for evaluation criteria like EAV in mind for the Next Framework Programme, the last call for the fifth Framework Programme closing within a few months.	Next Framework Programme preparation, second half 2001-2002

	Recommendation	Commission Services' Response	Target date for implementation / progress
7	<i>The Panel recommends that the Directorate should use the PC forum to support the ERA and in particular establish a process so that PC Members and Commission Officers can work together to form much stronger links between EU projects and national programmes. The Panel also recommends that the Directorate should place greater emphasis on measures to increase the mobility of scientists between organisations participating in the Programme.</i>	<p>In the case of ESD the Commission has always searched for strong links between the EU, international and national programmes. In addition, a study (ENVOT) to determine where and how synergy and co-ordination can be increased has recently been completed. In the Next Framework Programme numerous actions are foreseen to increase links, complementarity and co-ordination between national programmes and national and EU programmes.</p> <p>Mobility will also be a major issue in the Next Framework Programme. However, it should be noted that many of the obstacles to increased mobility are outside of the control of DG Research (transfer of pension rights, insurances, language skills, employment of spouses and schools for children).</p>	Next Framework Programme preparation 2001-2002
8	<i>The Panel recommends that the Directorate should aim to (a) improve its interaction with the policy Directorates (b) enhance research co-operation with non European states and international science programmes and (c) secure opportunities within the ESD Sub Programme for an element of curiosity driven research.</i>	A number of actions have already been implemented like teams of colleagues from different DGs working together (Director and staff levels). Another example is the involvement of DG Environment in the briefings of evaluators on policy issues. Also 2 dedicated calls to address important topics have been prepared with other directorates, one on endocrine disrupters and one on a Biodiversity facility.	No additional implementation proposed
9	<i>The Panel considers that many of the research results are not being effectively utilised and recommends that the Directorate should make available substantial resources to establish a policy for the analysis and synthesis of research results and their dissemination. In an associated activity the Directorate should undertake a systematic study of the impact of the research results from the third Framework Programme and the fourth Framework Programme.</i>	The Commission has already implemented the Technology (or better: Results) Implementation Plan which gives an overview of the results and the intended use of these. An electronic version of the TIP has been developed in 2001. This should allow a better follow-up in the future. The first of these TIPs of the fifth Framework Programme projects are expected to be submitted in 2002. The possibility to have several staff members follow these in detail will depend on the staff resources available.	e-TIP operational end 2001-2002
10	<i>The Panel recommends that the 2001 Monitoring Panel examines the effectiveness of these new management arrangements.</i>	No comment (a recommendation for the 2001 panel)	Monitoring exercise 2001

	Recommendation	Commission Services' Response	Target date for implementation / progress
11	<i>The Panel recommends that the Directorate investigates the reasons for the apparent differences in the level of support provided by the Units to the coordinators at the proposal presentation and submission stages.</i>	The proposers are invited to address their questions to the Helpdesk. This allows the directorate to give the same answer on administrative, financial and legal issues to all potential proposers. If questions are directly addressed to staff, there will inevitably be differences in treatment.	done
12	<i>The Panel recommends that the effectiveness of the PTAs and other external support to the Directorate and its Scientific Officers be assessed by the 2001 Monitoring Panel.</i>	No comment (a recommendation for the 2001 monitoring panel)	Monitoring exercise 2001
13	<i>The Panel recommends that the Directorate through seminars/workshops/visits etc ensures the full participation of the national contact points in the Framework Programme 5 activities.</i>	The directorate organises seminars for NCPs. The same is done by the unit responsible for SMEs.	Done Continuous effort
14	<i>The Panel recommends that the Directorate (a) continues the trend towards making the application process more 'user friendly' and (b) analyses the scientific capability and reputation of the evaluators [1999-2000] in relation to the wider ESD scientific community</i>	Especially the formalities for the inclusion of candidates in the list of potential evaluators have been simplified and the long form has been abolished. There should therefore be no barriers for the inclusion of very busy high level experts on these lists.	Done Continuous effort