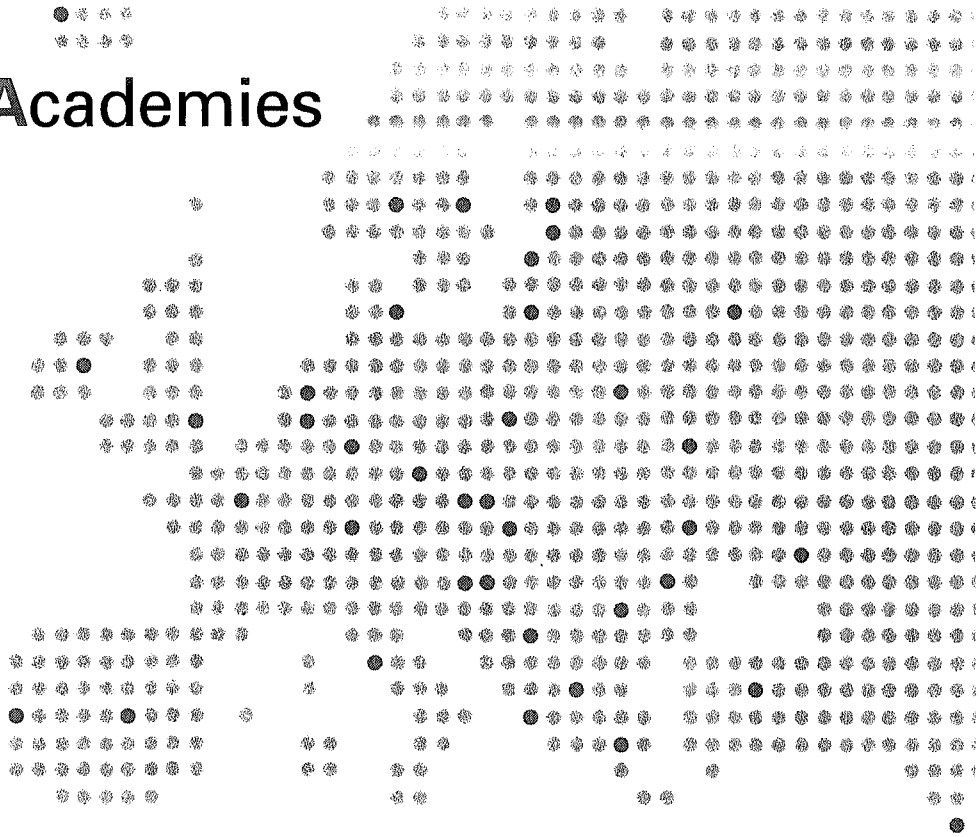
All European Academies



Science, Society and Culture

Response

to the proposal for

the Framework Programme 2002-2006

of the European Community

The European Federation of National Academies of Sciences and Humanities
ALLEA - All European Academies

Science, Society and Culture

Response to the proposal for the Framework Programme 2002-2006 of the European Community

In this communication ALLEA – All European Academies – offers a response to the proposal for the framework programme 2002-2006 of the European Union (COM (2001) 94 final, 2001/0053 (COD)). This response has been prepared in consultation with the members of ALLEA, the national academies of sciences and humanities from 38 European countries. In offering the views and reactions formulated in this response ALLEA hopes to contribute to the wider debate on the important issues of the European Research Area.

Amsterdam, June 7, 2001

prof.dr. P.J.D. Drenth
President of ALLEA

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Summary

ALLEA – ALL European Academies – is the federation of national academies of sciences and humanities in 38 European countries. The president of ALLEA, Pieter J.D. Drenth, in consultation with the member academies, offers his response to the proposals for the Framework Programme of the European Union.

ALLEA welcomes the current proposal as an important contribution towards increasing the quality of scientific research in Europe, among others by emphasizing the trans-national character of European research. We also value highly the attention given to the relationships between research and society.

ALLEA recommends that the priority area 'Citizens and governance' be broadened to 'Citizens, communities and quality of life', and that a priority theme 'Identity and identities in Europe' be added.

ALLEA warns against a too narrow definition of the fields of application in the priority areas driven by scientific developments (genomics, material sciences and information technology).

ALLEA recommends keeping procedures simple and transparent.

ALLEA warns against criteria and procedures unduly disadvantaging smaller research groups.

ALLEA calls to the attention of the appropriate legislative authorities that the European Research Area needs not only funding but also adequate fiscal and legal arrangements (e.g. with respect to patents, taxes, and the mobility of researchers).

ALLEA stresses that, for the sake of both Europe and the countries involved, it is important to stimulate world-wide mobility of researchers, including participation by scientists from the New Independent States in Eastern Europe and from developing Countries.

ALLEA would welcome increased research funding placed at the disposal of the European Science Foundation (ESF).

Recommendations

1. ALLEA recommends that, in addition to the proposals for the Framework Programme 2002-2006, the following proposals be considered:
   - Placing additional European Union research funding at the disposal of the European Science Foundation;
   - Initiating intensive cooperation with other Directorates with regard to fiscal and legal instruments (e.g. with respect to patents, taxes, and mobility) in order to strengthen research in the knowledge-based economy.

2. ALLEA recommends that the reasons given for strengthening the European Research Area be supplemented with an observation on the intrinsically transnational character of scientific research.

3. ALLEA recommends that consideration be given to ways of realising greater synergy between funding provided via the Framework Programme and structural funds for research.

4. For the sake of both Europe and European science, and of the countries involved, ALLEA recommends further stimulation of world-wide mobility of researchers, including active participation by researchers from the New Independent States of Eastern Europe and from developing countries.

5. ALLEA recommends that potential Actions relating to the social and cultural setting of research and development be considered for each Priority Area, and that whenever such Actions are formulated, some funding is dedicated to appropriate contributions from the social sciences and humanities.

6. ALLEA recommends that the fields of application in the three priority areas that are driven by scientific developments (genomics, material sciences and information technology) should not be defined too narrowly, so as to allow for the exploration of these insights and skills in other areas as well.
   - Genomics and related subjects are not only to be developed in relation to human health, but also for the understanding they will provide of other organisms, and hence of ecosystems.
   - Information technologies are not only to be developed for immediate commercial and consumer purposes, but also to address the need on the part of the scientific community to deal with large and complex collections of data and models.

7. ALLEA recommends that with respect to sustainability and food safety a clear distinction be made between research driven by immediate policy interests and research and development of a more general nature (e.g. virology), and that funding under the Framework Programme be carefully monitored in this respect.

8. ALLEA recommends that the research area 'Aeronautics and space' be focused on space research, and that its budget be adjusted to reflect this change of scope, and that for aeronautics issues of safety and of environmental concern be dealt with under the appropriate headings (for environmental issues, the appropriate Framework area, and for safety the Joint Research Centre; see section 1.2.2 of Annex 1 to the proposal).

9. ALLEA recommends expanding the scope of the area 'Citizens and governance in the European knowledge-based society' to 'Citizens, communities and quality of life in the European knowledge-based society', and that the envisaged Actions be reformulated accordingly.

10. ALLEA recommends the addition of a priority area 'Identity and identities in Europe', which would address the past and present mosaic of diversity and interactions, so as to support the emergence of a multi-faceted Europe.

11. ALLEA recommends that application procedures be made as straightforward as possible.

12. ALLEA considers the European Science Foundation to be a valuable resource in evaluating research proposals and forming networks of excellence.

13. ALLEA suggests that positive consideration be given to implementing the recommendations of the Davignon review panel of the Joint Research Centre.

14. ALLEA calls upon the European Institutions to arrange for a faster and simpler European patent system.

15. ALLEA calls upon the European Institutions to consider fiscal mechanisms that support research and development.

16. ALLEA recommends that in section 2.2 (Human Resources) of Annex 1 specific Actions aimed at increasing the participation of women be formulated, based on reports already available. One Action might be, as suggested by the Royal Society (London), to lift age restrictions on fellowship programmes.

17. ALLEA recommends that in section 2.2 (Human Resources) of Annex 1 specific Actions aimed at the careers of younger scientists and scholars be formulated, such as providing them with support for longer periods, including a fellowship when returning from research carried out elsewhere.

18. ALLEA recommends that in the formation of networks of excellence and application procedures for integrated projects, care be taken that procedures do not disadvantage smaller research groups or businesses.

19. ALLEA endorses as a key priority the support for building and maintaining data banks and similar infrastructures for research, accessible to scientists and scholars.

Introduction

ALLEA - ALL European Academies - is the federation of the national academies of sciences and humanities in 38 countries in Europe, including not only member states of the European Union but also countries seeking accession to the European Union as well as other European countries. The academies represented by ALLEA seek to promote excellence and integrity in scientific and scholarly research. The academies value independence from particular ideologies, nationalistic objectives, commercial aims and forms of political partisanship, since they are convinced that such an independent position is the most important condition for enabling the scientific community to contribute to our common interest.

In what follows we will address three clusters of issues: the European setting of research, the priority areas, and our views on other aspects of the proposals (e.g., human resources, the need for simple and efficient processes and procedures, and the Joint Research Centre). Recommendations as summarised above follow at the end of each section. As ALLEA is able to draw on the expertise of esteemed national academies of sciences and humanities in Europe, our organisation may itself be well placed to fulfil a variety of advisory and evaluatory roles, both at the present moment and as the process moves forward.

Before offering our response to the 'Proposal for a decision of the European Parliament and of the Council concerning the Multi-annual Framework Programme 2002-2006', we would emphasise that the realisation of the European Research Area is not exclusively a matter of the next Framework Programme. We need to coordinate the best and most effective elements of and contributors to European research, whatever their specific context.

With this in mind, the next Framework Programme should be seen in conjunction with other European mechanisms for assessing and funding research, in particular the European Science Foundation and its programme for Collaborative Research EUROCORES. In this connection ALLEA believes that European Union funds should be made available to the European Science Foundation by matching the financial contributions of the national research councils with EU-funding. Such support would

certainly give further boost to the coordination of European research, and would be a means of securing wider implementation of the intention expressed in the Explanatory Memorandum with respect to the priority themes (section 4.1.1) that the EU should participate in research programmes carried out by Member States acting jointly. Opening up national programmes, e.g. those of the national science foundations, as one of the Actions proposed in the third target of the Framework Programme 2002-2006, 'Strengthening the foundations of the European Research Area', offers another valuable means of stepping up the coordination of European research. It is only in such a wider setting of support for research, including the support offered by national funding agencies, that it is possible and acceptable to focus in the next Framework Programme on a limited number of priority areas, as these will exclude large areas of relevant, promising research.

Several important measures for encouraging innovation fall outside the scope of the Framework Programme because they are of a different nature. Henceforth, major responsibilities lie with other Directorates within the European Commission than the Directorate responsible for research. Thus, in order to promote a suitable fiscal environment, it may be useful to cooperate with other Directorates in order to review tax incentives and other fiscal mechanisms for encouraging research and innovation. A faster, simpler and less expensive patenting system is also desirable, as also observed at the end of section I of the Explanatory Memorandum to the Framework proposal.

Recommendations

1. ALLEA recommends that, in addition to the proposals for the Framework Programme 2002-2006, the following proposals be considered:
   - Placing additional European Union research funding at the disposal of the European Science Foundation;
   - Initiating intensive cooperation with other Directorates with regard to fiscal and legal instruments (e.g. with respect to patents, taxes, and mobility) in order to strengthen research in the knowledge-based economy.

1. Europe: a socio-cultural research area in the world

We greatly value the concept of a European Research Area and the way this is operationalised in the key aspects of the proposals for the next Framework Programme.

i. The European Level

Greater collaboration in research and development within the European Union has been justified mainly in terms of developing a knowledge-based economy and society in the European Union to promote innovation, competitiveness and employment, sustainable growth and social cohesion and strengthening the scientific and technological basis of Community industry. These are of course valid grounds, which reflect the legal and political basis of the European Union. However, in addition to such instrumental reasons for developing a European Research Area, a more intrinsic motive for substantial collaboration lies in the nature of scientific and scholarly research. Science and scholarship are not limited by national boundaries. Nor is the impact of such research on society constrained by national borders, or even restricted to the European Union or the European continent. Science is not a national but an international activity, the quality of which is assessed by international fora of peers, even though science's funding and regulation are always embedded in particular geographical and political settings. Supplementing instrumental economic considerations with intrinsic factors may foster a richer and more adequate and attractive view of the nature of scientific research.

We value the European dimension in the proposal for the next Framework Programme and in the development of the European Research Area. However, major mechanisms for the funding of research and development remain national in character. Such national mechanisms may well be effective in dealing with a variety of research interests and programmes in a way appropriate to the national and regional settings of research. As it clearly makes no sense to have two programmes (at national and European level) funding the same kind of research, and as it is undesirable to duplicate application and evaluation procedures, we fully agree that a distinguishing

criterion is needed. The criterion 'European Added Value', as applied in the current proposal (Explanatory Memorandum, section 3), is an appropriate requirement for distinguishing research eligible for funding under the next Framework Programme from research funded through national programmes. Greater synergy between the use of structural funds, which are largely national in character, and framework funding is desirable to ensure greater efficiency.

European decision-making on the allocation of research funding will hopefully become more effective once the European Research Area has matured. The added value of allocating funds for research at European level is currently not always obvious. Hence we fully agree with the requirement that research funded under the Framework Programme should have distinctive 'European added value'. As the European Union does not support all disciplines, nor fundamental research in itself, countries must be free to support disciplines. In the long run, however, a further shift in funding from national to supranational levels might be contemplated, as long as this did not result in an increase in cumbersome and bureaucratic procedures. If this were to happen, it might be preferable to ask national research programmes to indicate their 'national added value', i.e. to make clear why certain research and development programmes are positioned at national rather than at European level.

ii. Europe: a continent in the world

We would also stress the wider continental setting in which this European Union programme operates. We welcome the opportunities for participation by researchers from states seeking accession to the European Union. Involving states from Central and Eastern Europe, whether seeking admittance to the EU or not, is important for those countries, for the contributions their scientists can make to planned research, and for fostering cohesion and good relationships within Europe as a whole. It increases the attractiveness of the EU as a research setting.

We would also underline the global setting in which such a European Union programme operates. We value the openness towards participation by top scholars, scientists and engineers from all over the world, and welcome the openings offered (Annex 1, section 2.2, 2d Action). However, the formulations in the Explanatory Memorandum and the proposal appear in several places to be more reserved than

ALLEA considers desirable. For instance, in the Explanatory Memorandum, section 4.1.2: 'Third country researchers and organisations will also have the possibility *in some cases* of participating in the networks of excellence and integrated projects in *areas of special interest for those countries'* (emphasis added; similarly in ANNEX 1, towards the end of the introduction). In order to make Europe attractive and effective, drawing on the considerable technological expertise available in countries such as the United States of America and Japan is most valuable (a 'reverse brain drain').

We appreciate the intention of engaging in specific cooperation with the Mediterranean third countries, Russia and the New Independent States of Eastern Europe, and developing countries, in support of the EU's foreign and development aid policies (Explanatory Memorandum, 4.1). In our opinion, it would be appropriate to be more liberal in allowing participation of researchers from economically less developed countries, and permitting contributions by European scientists to research and development in such countries. Ethical abuse, e.g. of subjects in clinical trials or of animals in research, when legal restrictions are more lenient in those countries than in the European Union, should be countered. These countries should be able to derive more benefit from the next Framework Programme than they were able to do from the 5th Framework Programme. Involving such countries is inherently necessary for certain topics and may be beneficial for the development of science. Their involvement is inherently necessary for studying and resolving global problems in which they are heavily involved (e.g. environmental issues, infectious diseases, world population, etc.). Involving them may benefit the development of science and research by opening up a larger pool of participants, especially when the level of education in those countries rises. Creating better opportunities for their participation is not merely a question of fairness to them, but will also benefit the research itself by involving a larger number of competent persons. If the mechanisms of the Framework Programme are considered inadequate for encouraging scientific cooperation of European Union countries and accession states with New Independent States and the 'third world', we would favour a special EU programme dedicated to development cooperation in research and higher education.

iii. Europe: a Socio-Cultural Context for Research

The emphasis in the proposal for the next Framework Programme is on research and development in the natural sciences and technology. However, the Explanatory Memorandum accompanying the proposals of the Commission stresses the importance of the European Research Area using examples (drawn from the various priority thematic areas) which incorporate a social and cultural dimension as well. For instance, 'Using advances achieved in the analysis of the human genome and genomes of other living organisms' in public health will have to take place in the context of social health care arrangements. Health care is driven by a complex interplay of specialist knowledge, demands and rising expectations of consumers, budgetary constraints, limits to the available resources - especially staff - and demographic trends (in particular the ageing population). Thus, high-tech developments in medicine have to be acceptable within the value systems of consumers; they have to be integrated in processes of care. 'Using advances' is not only a matter of pharmaceutical technology, for instance, but is also related to income (poverty, employment). Another example, 'Preserving the European model of society', is not merely a technical matter for the information and communication sciences, but demands a thorough historic and social analysis of societies and their governments. Concerns about food safety, to take another example, are not always resolved through scientific information: concepts of what is 'natural', human values and superstitions, expectations and (mis)perceptions of risk, as well as culture-bound issues of trust and distrust of commercial companies and the scientific world interact strongly with scientific knowledge and have a definite influence on its implementation in policies and products. Sustainable development too is not only a matter of technology, but also of consumptive behaviour, and hence again of consumer (and producer) values; for instance, our need for mobility relates to the structures of family life.

The perception and reception of scientific and technological advances is not without problems in our present society. People are concerned about the application of increased opportunities; whether such concerns are justified is something which needs to be addressed whilst paying due attention to the social and cultural setting and consequences. The future of Europe as a knowledge society depends not only on the way in which we deal with particular outcomes of research and development, but also on the public acceptance of those outcomes and the attractiveness of science and

technology as such. There appears to be a paradox in the societal appreciation of science: on the one hand there is fear, criticism and sometimes aggression with respect to scientific and technological advances (cloning, modified food, genetic engineering, nuclear energy, pollution); on the other hand there is an unrealistic confidence that science will solve many of our problems (finite fossil energy, water shortages, infectious diseases, global warming, population growth). This paradox, with its two unrealistic extremes, is of great concern and deserves careful attention and analysis. Such tensions do not affect research and invention alone, but also impinge on communication and the social and cultural context that has to provide the proper resources in terms of people, funding and legal arrangements. ALLEA therefore welcomes the proposals mentioned under 'Science and society' (Annex 1, section 2.4 to the Commission's proposal), where this theme is discussed. In order to implement this proposal, a substantial proportion of the budget would have to be allocated to analysis of and communication on such responsibilities. ALLEA welcomes the Policy Briefing of the European Science Foundation on 'Good scientific practice in research and scholarship' (December 2000), and has asked its Standing Committee on Science and Ethics to consider how the academies could contribute to an effective follow-up.

Recommendations regarding the European setting

2. ALLEA recommends that the reasons given for strengthening the European Research Area be supplemented with an observation on the intrinsically transnational character of scientific research.

3. ALLEA recommends that consideration be given to ways of realising greater synergy between funding provided via the Framework Programme and structural funds for research.

4. For the sake of both Europe and European science, and of the countries involved, ALLEA recommends further stimulation of world-wide mobility of researchers, including active participation

by researchers from the New Independent States of Eastern Europe and from developing countries.

5. ALLEA recommends that potential Actions relating to the social and cultural setting of research and development be considered for each Priority Area, and that whenever such Actions are formulated, some funding is dedicated to appropriate contributions from the social sciences and humanities.

2. Priority thematic areas of research

i. Priorities driven by science: genomics, information and material sciences

Three priority areas are substantially inspired by developments in basic science and their technological application in areas of major societal significance. These are genomics and biotechnology for health, information technologies applied for the benefit of businesses and citizens, and nano-technologies and production processes (and products). ALLEA greatly welcomes the emphasis on these three fundamental areas where research and development seem highly relevant for citizens and businesses in Europe. However, as priority areas driven by fundamental research, the scope of the application should not be defined too narrowly. Fundamental research in the field of genomics and biotechnology not only needs to be supported in relation to health, but also in relation to ecosystems and increasing our understanding of plant and animal physiology. The support for information technologies could also address the needs of the research community, particularly by increasing our ability to handle data and complex models in other areas of research such as genomics, climate research, ecology and particle physics.

ii. Priorities driven by social concerns: food safety and sustainability

Two priority areas seem to be strongly justified by the concerns of the general public, namely food safety and sustainable development. These two priority areas are very important, both because of the problems they address and because of their relevance for the attitudes of European citizens towards science and engineering disciplines. Further research and development, drawing on scientific expertise, may help address the problems in a satisfactory way.

However, including these important areas among the priorities creates a risk that different responsibilities may become confused. Research in service of public policy, whether on food safety, environmental issues or other topics, should be funded by the appropriate Directorates or national government departments or agencies that deal with the policy issues in question. At the European level there is a need for increased information exchange between the Directorate-General for Research and the other

Directorates-General in areas connected with policy development, so as to avoid duplication and maintain clarity regarding responsibilities.

In particular with respect to the issue of food safety, where the establishment of a European Food Authority is close at hand and research is also being supported at the national level, funding under the Framework Programme must be carefully monitored so as not to duplicate research being funded and undertaken elsewhere. It may appear questionable whether there is a substantial agenda for research and development that is not dominated by immediate policy needs. There may however be such an agenda, if the field of research is expanded to include more fundamental scientific issues. If we do not want to be unprepared for new challenges in this area, our understanding of virology and related subjects needs to be deepened. Fundamental research on such topics will also be of use to medicine.

Research on sustainability also underpins policy development and must therefore be complementary to (rather than duplicating or replacing) research commissioned to support policies.

Communication regarding food safety and sustainability, including the question of how our own behaviour may exacerbate problems, is of major importance. It is therefore of prime importance to involve researchers from the social sciences as well in these two priority areas.

iii. Aeronautics and space

One area, aeronautics and space, appears to be of a different nature from the five areas considered so far. European added value is justified mainly in terms of scale. This area has two fairly distinct subdomains, namely aeronautics and space.

Interest in aeronautics is not driven by developments in fundamental sciences (e.g. genomics). Nor do we see sufficient grounds to make aeronautics an area with a higher priority than other areas of public interest such as transport by road or rail, though we acknowledge the importance of transportation, including the aircraft industry, for Europe's competitiveness. A specific civic interest may lie in the desire to reduce the environmental nuisance and impact caused by aeronautics, but that could

be incorporated in the programme on sustainable development, where emissions are also considered. Furthermore, the proposal to study ways of improving the safety of aircraft and the aviation system as a whole appears to focus on a topic area which is too small and narrow and which makes a limited contribution to scientific and public knowledge; this does not warrant the creation of a separate priority area. One possibility would be to incorporate 'aviation safety' in the programme of the Joint Research Centre, which has already announced that the common theme of its activities is public safety (Annex 1, section 1.2.2).

Aeronautics and space were listed together as one priority theme. However, from the perspective of the scientific community, the ties between these too fields are fairly loose. Given the strong position of the European Union in space technology, it could be argued that transnational programmes for data gathering and interpretation of planetary samples are vital to the European scientific community in order to derive the maximum benefit for the space programme. This area of science also attracts a great deal of public interest, and could therefore be harnessed in the interests of science education and public dialogue. This could be articulated explicitly in the Actions.

iv. Governance or quality of life?

The seventh priority area, 'Citizens and governance in the European knowledge-based society', addresses the relationship between citizens and institutions in the emerging European knowledge society. We agree that this is an important and consequential issue.

However, we wonder whether the concentration on 'the functioning of democracy and new forms of governance' is not likely to cause the programme to focus too narrowly on institutional arrangements. In its report 'The Quality of Life in the European Union: A Social Research Agenda' the British Academy has suggested a reformulated 'quality of life' programme, which would also incorporate issues of social and economic participation (poverty, education, ageing, labour markets, social networks and the family, etc.). Such dimensions of the quality of life are deeply affected by the knowledge society. They also have consequences for the appreciation and reception of technological developments and the findings of scientific research, and thus relate to the future of the knowledge society itself. ALLEA would therefore suggest the

development of the priority theme 'Citizens and governance in the European knowledge-based society' along the lines indicated in this 'quality of life' proposal. The label for this priority area might perhaps be modified to read 'Citizens, communities and the quality of life in the European knowledge-based society'. The expanded scope of this priority area should also be reflected in the budgetary allocation.

Within the current formulation of the seventh priority theme, a sub-sub-theme refers to the 'Emergence of new forms of citizenship and identities, forms and impact of cultural diversity in Europe'. This does not appear to receive substantial attention in operational terms in the Actions at the end of 1.1.7. Given the future of Europe as a particular cultural entity, we would suggest developing issues of identity more explicitly as a distinct thematic area (see below).

v. Identity and identities in Europe

Europe is an entity with more dimensions than just the economic and institutional. 'Europe' has not been created out of nothing, nor did it emerge out of a group of unrelated countries and cultures. The idea of a common Europe is based on the vision of a future Europe as a community, the basis of which already existed through a multitude of interactions, agreements and also conflicts over many centuries. The success of a more integrated Europe depends on the emergence of a common vision among its inhabitants, a vision connected with and respectful of its local histories and traditions, a vision that connects cultural variety and can integrate immigrants as well as refugees. Research is needed to discover and investigate unity and multiplicity, contacts and influences concerning history, philosophy, art, literature, language, religion, views of life, and other cultural patterns. Through the analysis of the past and present mosaic of diversity and relatedness we may envisage a future cultural European identity and discern obstacles and opportunities in the complex process towards a European culture that integrates the rich variety of elements which form our European heritage. The economic integration of Europe needs to be accompanied by a process in which the cultural variety is appreciated as a rich resource and is accommodated in a process of integration that does not exclude minorities of various kinds. The need for such a cultural integration with variation, respectful of the cultures of smaller countries and ethic groups, certainly increases with the envisaged

enlargement of the European Union. Song festivals and soccer competitions contribute to the emergence of a European identity, but this process should not be left to the entertainment industry and economic pressures alone. Thus, identity, broadly understood, is an area not only of academic interest but also of great significance to the future of Europe. Cross-cultural studies could be expected to have a genuine 'European added value' as the developments under consideration transcend national boundaries. Multicultural and multilinguistic Europe is a unique field laboratory, in which differences and similarities between various countries or regions can be compared and analysed with respect to their influence on the development of a multi-faceted European civic society.

Recommendations regarding priority areas

5. ALLEA recommends that the fields of application in the three priority areas that are driven by scientific developments (genomics, material sciences and information technology) should not be defined too narrowly, so as to allow for the exploration of these insights and skills in other areas as well.
   - Genomics and related subjects are not only to be developed in relation to human health, but also for the understanding they will provide of other organisms, and hence of ecosystems.
   - Information technologies are not only to be developed for immediate commercial and consumer purposes, but also to address the need on the part of the scientific community to deal with large and complex collections of data and models.

6. ALLEA recommends that with respect to sustainability and food safety a clear distinction be made between research driven by immediate policy interests and research and development of a more general nature (e.g. virology), and that funding under the Framework Programme be carefully monitored in this respect.

7. ALLEA recommends that the research area 'Aeronautics and space' be focused on space research, and that its budget be adjusted to reflect this change of scope, and that for aeronautics issues of safety and of environmental concern be dealt with under the appropriate headings (for environmental issues, the appropriate Framework area, and for safety the Joint Research Centre; see section 1.2.2 of Annex 1 to the proposal).

8. ALLEA recommends expanding the scope of the area 'Citizens and governance in the European knowledge-based society' to 'Citizens, communities and quality of life in the European knowledge-based society', and that the envisaged Actions be reformulated accordingly.

9. ALLEA recommends the addition of a priority area 'Identity and identities in Europe', which would address the past and present mosaic of diversity and interactions, so as to support the emergence of a multi-faceted Europe.

3. Processes, procedures and other aspects of the proposal

i. Processes and procedures

ALLEA calls for a careful review of processes and procedures to ensure that they combine simplicity, efficiency and accessibility with quality. Improvement and maintenance of the quality of research depends on good evaluation mechanisms, clear and fair criteria for evaluation, and an acceptable review system. Although in this respect some improvement can be observed in recent Framework procedures, the review process still comes in for a fair amount of criticism.

The procedures for applying for support from the European Union for research projects should be made as straightforward as possible. The forms that researchers have to fill in ought to be simple and their number should be kept to a minimum. In the experience of many scientists, the administrative burden associated with applications for research funding was too great in previous programmes.

With respect to the Joint Research Centre (1.2.2), we are in favour of paying serious attention to - if not implementing fully - the recommendations made in the report of a review panel chaired by Davignon on the work of the JRC. In general, ALLEA favours the allocation of substantial funds for research on the basis of open and competitive tenders or calls for proposals, with effective and thorough peer review of those proposals.

Some concern may arise regarding the availability of highly qualified peers who are willing to contribute to evaluations. The burden for referees should be kept as manageable as possible. ALLEA considers the European Science Foundation (ESF) to be a valuable and important resource that could be utilised in the processes of evaluating research proposals and maintaining networks between centres of excellence. Furthermore, several academies of sciences have a considerable amount of expertise and experience in peer reviewing, quality assessment and the identification of centres of excellence within their national settings; ALLEA is prepared to offer its

assistance in drawing on these experiences for the assessment of European centres of excellence.

ALLEA welcomes greater freedom and flexibility for research centres in implementing joint research activities. This freedom should include the possibility of involving other partners, defining and implementing small-scale projects on a competitive basis, and adapting their research programmes to meet changing needs. Lack of this freedom was a source of concern and criticism in previous Framework Programmes. Once projects have been accepted on the basis of an agreed budget, the ability to shift money between categories enhances the freedom, responsibility and autonomy of the research groups involved and thereby decentralises responsibilities, increases efficiency and makes the best possible outcome more likely.

ii. Profits and patents: Legal and fiscal conditions

It is essential that theoretical scientific knowledge is translated into practice quickly in Europe, and any measure to foster this translation is to be welcomed. A faster, simpler and less cumbersome patenting system is a clear case in point. Providing funding for the results of basic research to be implemented in technological applications can also be defended. The involvement of industry and especially of small and medium-sized enterprises is to be encouraged, though we have to be realistic about the role of research in such enterprises. Support need not be channelled only through the Framework Programmes: successful innovation requires a satisfactory fiscal environment as well as appropriate legal mechanisms (again, the European patenting system is a relevant point), both of which lie outside the scope of the Framework itself, though not of the European institutions. It is our view, however, that at the European level - just as at the national level - public money ought not to be used too much for financing industrial development and growth, unless the development of publicly accessible scientific and technological knowledge is the primary and pre-defined objective.

iii. Human Resources

There are also concerns about our ability to attract enough young people to pursue training and careers in the relevant disciplines. What is it about the public image of science and technology that keeps many bright young people from pursuing studies

and careers in these fields? The close connection between and interdependence of research and education (no good science education without high-quality research, and no future for research without well-trained and interested young graduates) implies that the European Research Area needs a European Educational Area. This would include the promotion of science at primary and secondary schools, raising interest in science among students of the next generation, and improving the career opportunities and prospects of (young) scientists.

It is also desirable for the sake of the research itself as well as for its public image to seek to increase the participation of women in science and engineering by creating conditions that remove some of the difficulties women currently face.

iv. *Characteristics of research groups*

In the proposals there is a tendency to concentrate support on large and powerful research groups. While this is probably efficient and laudable, ALLEA would like to draw attention to the risk that this concentration leads to the neglect of small, but brilliant pockets of researchers. Some top-class research is being carried out by small or very small groups of excellent scholars and scientists. The size of the research group also depends on the nature of the project to be financed: some projects fare best if carried out by small groups, whereas others require major resources and thus tend to warrant a greater concentration of funds in fewer and larger groups. Thus, in the implementation of the Framework Programme, attention needs to be given to mechanisms that allow small laboratories and research groups, sometimes operating in a modest academic environment, and small businesses a reasonable chance at participating in integrated projects and networks of excellence.

ALLEA supports the proposal to foster the integration and cooperation of larger research facilities through the creation of virtual networks of excellence, rather than through the actual geographical concentration of these research groups, which would require considerable extra funding for buildings, physical infrastructures, etc. We favour 'institutes without walls', with an emphasis on collaboration.

v. European data banks

The new Programme allows for some of the costs associated with European research infrastructures to be met. This is of interest for research not only in the natural sciences but also in the humanities and social sciences. ALLEA greatly welcomes the support provided for the building and maintaining of European data banks in the technical and natural sciences (patents, technical and scientific resources), the life sciences (gene banks, medical records, diseases) and the social sciences and humanities (Eurosurvey, European Value Studies, Eurobarometer). Not only the collection of data but also the longitudinal maintenance of such systems and their continued accessibility to all, and in particular to scientists and scholars, generate an important and stimulating infrastructure for unique European research.

vi. Other aspects of the proposal

ALLEA recognises the wisdom of reserving a substantial part of the budget for 'anticipating the EU's scientific and technological needs'; this budget can be dedicated to particularly promising areas that may emerge in the years to come.

We wonder whether the terms 'structuring' and 'strengthening the foundations' of the European Research Area will be sufficiently clear to readers and potential partners in the implementation of this Programme. We would therefore suggest that these activities be integrated in a single category, facilitating and furthering the development of the European Research Area.

Recommendations

10. ALLEA recommends that application procedures be made as straightforward as possible.
11. ALLEA considers the European Science Foundation to be a valuable resource in evaluating research proposals and forming networks of excellence.
12. ALLEA suggests that positive consideration be given to implementing the recommendations of the Davignon review panel of the Joint Research Centre.

13. ALLEA calls upon the European Institutions to arrange for a faster and simpler European patent system.

14. ALLEA calls upon the European Institutions to consider fiscal mechanisms that support research and development.

15. ALLEA recommends that in section 2.2 (Human Resources) of Annex 1 specific Actions aimed at increasing the participation of women be formulated, based on reports already available. One Action might be, as suggested by the Royal Society (London), to lift age restrictions on fellowship programmes.

16. ALLEA recommends that in section 2.2 (Human Resources) of Annex 1 specific Actions aimed at the careers of younger scientists and scholars be formulated, such as providing them with support for longer periods, including a fellowship when returning from research carried out elsewhere.

17. ALLEA recommends that in the formation of networks of excellence and application procedures for integrated projects, care be taken that procedures do not disadvantage smaller research groups or businesses.

18. ALLEA endorses as a key priority the support for building and maintaining data banks and similar infrastructures for research, accessible to scientists and scholars.

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