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REPORT BY THE DIRECTOR-GENERAL ON THE CONCLUSIONS AND RECOMMENDATIONS OF THE EXPERT TEAM ON THE OVERALL REVIEW OF MAJOR PROGRAMMES II AND III

SUMMARY

The present document contains the report and recommendations on the review of Major Programmes II (Natural sciences) and III (Social and human sciences) requested by the General Conference, through resolution 2, at its 33rd session.

In line with the resolution, the review was carried out by a team of scientific experts from Member States of all regions, constituted by the Director-General following consultations with the different electoral groups of the Organization, as well as of members of the Secretariat.

Comments by the Director-General on the report are contained in paragraphs 62-73.

Decision proposed: paragraph 74.

A STRATEGIC FRAMEWORK FOR THE FUTURE OF THE SCIENCES IN UNESCO

REPORT TO THE DIRECTOR-GENERAL OF THE OVERALL REVIEW COMMITTEE FOR MAJOR PROGRAMMES II (NATURAL SCIENCES) AND III (SOCIAL AND HUMAN SCIENCES)

I. INTRODUCTION

1. In October 2005, the General Conference at its 33rd session adopted a resolution requesting the Director-General to undertake a review of UNESCO's science programmes in light of the Organization's mandate, country and regional priorities and today's global needs, which would form an integral part of and contribute to programme planning.

2. The Review Committee was appointed in February 2006. In its first "information-gathering" phase the Committee concluded a set of findings, which formed the basis of its vision and strategy for the future of the sciences at UNESCO, developed during its second "forward-looking" phase. The results of the Committee's work to date are contained in this report.

II. BACKGROUND

General Conference resolution

3. This review was initiated by a resolution,¹ adopted by the General Conference at its 33rd session in October 2005, submitted by Denmark, Finland, France, Iceland, Norway, Slovenia, Sweden and the United Kingdom of Great Britain and Northern Ireland. The resolution requested the Director-General to undertake an overall review of Major Programmes II (Natural sciences) and III (Social and human sciences) in the light of the Organization's mandate, country and regional priorities, and today's global needs. In order to undertake the review, the resolution requested the Director-General to set up a team of expert scientific representatives of Member States, inclusive of all regions, working in close partnership with the Secretariat. The resolution further requested the Director-General to submit a report on the conclusions and recommendations of the expert team with a view to integrating the agreed conclusions and recommendations into the Medium-Term Strategy for 2008-2013 (34 C/4) and the Programme and Budget for 2008-2009 (34 C/5).

Composition of the Review Committee

4. In February 2006, following consultations with the electoral groups, the Director-General selected members of the Review Committee, to be chaired by the Deputy Director-General.² Fifteen external experts serving in their personal capacities were appointed, together with the Assistant Directors-General for Natural Sciences (SC), Social and Human Sciences (SHS), the Intergovernmental Oceanographic Commission (IOC) and the Director of the Bureau of Strategic Planning (BSP). The Director of the Internal Oversight Service (IOS) was given an observer status. One of the external members was unable to participate for personal reasons.³

¹ 33 C/Resolution 2.

² As documented in the Director-General's Blue Note: DG/Note/06/14 dated 28 February 2006.

³ The complete list of Committee members is contained in Annex II.

Terms of Reference of the Review Committee

5. Bearing in mind the General Conference resolution and the Director-General's Blue Note, the Review Committee in its first meeting adopted its Terms of Reference,⁴ which gives the Committee's mandate as:

To contribute to the elaboration of a forward-looking strategic framework for the sciences programmes of UNESCO, in the light of three interrelated needs:

- the need for UNESCO to take a forward-looking perspective on prioritization and promote a progressive agenda giving proper emphasis to emerging trends and new priorities;
- the need to reinforce the essential role of the sciences for UNESCO in the fight against poverty, with contributions and benefits to institutional and human capacity-building, education and sustainable development;
- the need to contribute to the production of new forms of knowledge and the implementation of innovative forms of action for resolving problems, given the new complexities of the strategic direction of science at the global level.

Working methods

6. Five formal meetings were held at UNESCO Headquarters between March 2006 and January 2007. During the intersessional periods, the Committee maintained an active communication exchange through electronic mail. All relevant material related to the Committee's work was posted on a dedicated website set up by UNESCO.

7. During its first "information-gathering" phase (March-September 2006) the Committee received extensive briefings from UNESCO staff and held a series of public hearings with representatives of the six UNESCO intergovernmental/international scientific programmes (ISPs) within the two Science Sectors: the Intergovernmental Oceanographic Commission (IOC), the International Basic Sciences Programme (IBSP), the International Hydrological Programme (IHP), the International Geosciences Programme (IGCP), the Man and the Biosphere Programme (MAB), and the Management of Social Transformations Programme (MOST). Presentations were also made on the International Bioethics Committee (IBC) and the Abdus Salam International Centre for Theoretical Physics (ICTP). In addition, scientific experts from the following international and national organizations provided their views on UNESCO's science programmes to the Committee: the International Council for Science (ICSU), the International Social Sciences Research Council (ISSC), the World Academy of Young Scientists (WAYS), the National Research Foundation of South Africa, the Swedish International Development Agency (SIDA), the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Israel Institute of Technology (Technion).

8. During May-July 2006, some Committee members attended the Regional Consultations of National Commissions on draft documents 34 C/4 and 34 C/5 as observers. The Director-General provided an information document on the progress of the Committee and its preliminary findings based on its first phase of work to the 175th session of the Executive Board in September 2006.⁵

9. During its second "forward-looking" phase (October 2006-March 2007) the Committee deliberated its findings and recommendations, to be considered in the process of the preparation of documents 34 C/4 and 34 C/5 and completed its final report to the Director-General.

⁴ The complete text of the Terms of Reference is contained in Annex I.

⁵ Document 175 EX/INF.12

10. In response to the Director-General's request for additional financial contributions to facilitate the work of the Committee and its Secretariat, supplementary support was provided by the Governments of Finland, the United Kingdom and the United States.

III. FINDINGS OF THE COMMITTEE

11. During its deliberations, the Committee posed the question – how can UNESCO's science programmes make a significant difference in the twenty-first century? Recognizing the strengths and weaknesses of UNESCO's present strategy, its programmes, and management and administration, the Committee identified the following key findings.

The changing world context and resulting challenges for UNESCO

12. Although the global context has greatly evolved over the past six decades, UNESCO's mandate in science and in all its sectors is at least as relevant today as since its founding. Today, the world faces new challenges as a result of unequal economic development, environmental degradation, demographic evolution, political transformations and globalization. Major threats to natural and human security such as global climate change, emergence and spread of infectious diseases and loss of biological diversity are testing our intellectual capabilities, while humanitarian imperatives and development needs remain as critical as ever. Sustainable solutions, whether at the global, regional or country level, require more advances in scientific knowledge, discoveries and understanding, stronger integration of research and education and identification of practical measures for action.

New trends in science and technology

13. Science and technology have moved forward dramatically, becoming increasingly complex, interdisciplinary and international. New scientific paradigms and conceptual frameworks, and new collaborative approaches are pushing the frontier in all areas of the natural, social and human sciences. Science, technology and innovation are now universally recognized as the drivers of national economic development and as key contributors to poverty reduction, disease prevention and environmental conservation. Sustainability issues have acquired renewed saliency. Thus, it is imperative that UNESCO's science programmes reflect and take advantage of the latest advances in scientific research and new conceptual thinking, as well as technological innovations.

UNESCO has a unique role to play in the sciences within the United Nations in today's world

14. UNESCO has one real comparative advantage within the United Nations system: it is the only agency which, through its mission, can integrate science, education and culture. However, given its limited budget, UNESCO cannot be a funding agency for research or development. It can act as a catalyst for actions performed in collaboration with others, thus providing significant financial leveraging and maximizing the Organization's impact. In this way, it facilitates participation in research, including the development of networks, and in the articulation and application of research results in global, regional and national endeavours. UNESCO's international credibility, special mandate for science within the United Nations system, intellectual reputation, convening power and global presence provide a solid foundation for its crucial roles as facilitator and capacity-builder.

15. In particular, the Organization acts as a facilitator of global, regional and country-level science policy development by improving the base of relevant scientific research knowledge and communicating that knowledge by promoting policy work and participating in formulating policy advice, as well as building country capacity in policy-making, scientific monitoring and benchmarking. This collective activity fits UNESCO's multilateral standing as a United Nations

agency, its cross-disciplinary capability, and its respected global reach to both governments and civil society.

UNESCO needs a new vision and forward-looking strategy with greater impact for its science programmes

16. Given its unique mandate for science, UNESCO should be the leading promoter within the United Nations system for the transformative power of scientific knowledge through fostering dialogue, cooperation, networking and knowledge-sharing with the scientific community, decision-makers and civil society. However, following a series of hearings from scientific experts from both developing and developed countries, the Committee recognizes that UNESCO has over time lost its leadership credibility as an international spokesman for science and that its programmes are now seen by the scientific community as fragmented, over-ambitious, unfocused and lacking a clear vision and scientific strategy.

17. Better priority-setting is needed in UNESCO's science programmes, based on relevance, effectiveness, impact, efficiency and sustainability. For example, UNESCO must enhance its efforts in science education and capacity-building at all levels and create opportunities to integrate education and training with research in its programmes. It is particularly important to strengthen national science systems for higher education and research.

18. The sciences portfolio should be rigorously examined on a continuous and regular basis to determine which activities are marginal, or duplicative of other United Nations or other international organizations whose efforts are more suited to the role. While long-term continuity is essential to aspects of science, it is also valuable to foster new and innovative activities. UNESCO must make strategic choices based on its mandate, a dynamic analysis of its comparative advantage and of emerging challenges and on joint and purposeful action by the United Nations system. Linking UNESCO's objectives in the sciences to the Millennium Development Goals (MDGs) of promoting international peace and of fighting poverty within the 2015 timeline is crucial to gain credibility within the United Nations system. Moreover, UNESCO's work should be considered in the context of the current larger debate on United Nations reform.

Intersectoral coordination and interdisciplinary thinking are lacking and need to be integrated within the existing activities and any new programmes and activities

19. Following extensive briefings from all UNESCO's sectors, the Committee noted a lack of interconnectedness in staffing and budget structure, creating a culture of scientific and sectoral isolation which hinders efforts to promote integrated activities, synergies among the sciences, cross-disciplinary collaboration and a focus on challenges and solutions.

20. For example, aspects of the water cycle are principally in the domain of the Division of Water Sciences within the Natural Sciences Sector. Yet all the global problems linked with water must also be considered from the viewpoint of social and human sciences, education, culture and communication and information – across all UNESCO's sectors.

21. The goals of sustainable development and a better managed environment and the mission of increasing societal research capacity are as dependent upon an understanding of human societies, approaches to risk and reward, cultural and economic influences, and individual and group decision-making, as they are on understanding of the physical world. Thus, neither natural sciences nor social and human sciences can achieve any of UNESCO's goals alone – both aspects are required.

22. At present, the Natural Sciences Sector and the Social and Human Sciences Sector are unsuccessful in building on their combined strengths to address scientific questions of societal and economic importance. UNESCO's science programmes are not planned and structured to integrate these diverse disciplines, even recognizing the differences of methodologies and practices

between the natural and social and human sciences. Thus, UNESCO is faced with an organizational challenge, that is, to foster integrated programme planning and project management with flexibility in budgeting and staffing, both at Headquarters and in the field.

23. The Committee concludes that intersectoral coordination and interdisciplinary action both between the two Science Sectors and across the Organization are at present inadequate and thus require major strengthening.

Improved coordination is needed among the intergovernmental/international science programmes (ISPs) and with other related organizations

24. Although the ISPs give UNESCO identifiable focus and long-term continuity for key global issues, the Committee noted that each one has its respective decision-making body and processes and its respective administrations and in general operates too autonomously in its scientific fields. There is considerable overlap between the ISPs, with other United Nations bodies, and with outside scientific organizations. In the case of the International Hydrological Programme (IHP), for example, there are over 20 bodies working on water issues within the United Nations alone and coordination is insufficient, even given the United Nations-wide coordinating body United Nations-Water. Other programmes, such as the International Geosciences Programme (IGCP), whose endeavours underpin the work of several ISPs, require a better scientific focus and increased emphasis on societal relevance. In another case, the International Basic Sciences Programme (IBSP), which is of strong relevance to UNESCO's capacity-building role, needs a fundamental change of perspective considering its limited internal funding. Furthermore, while the ISPs are effective partnerships between scientists and governments, their semi-independent natures complicate the development of new initiatives and the setting of new priorities more generally in the science programmes. This is particularly difficult in the Natural Sciences Sector, where currently the four environmentally related ISPs (IOC, IHP, MAB and IGCP) together expend over 70% of the regular budget for activities. The IHP alone accounts for about 40% of the regular budget for activities for the sector in the current biennium.⁶

25. Although some joint projects have been initiated, and the ISP Chairs meet at intervals, there are no mechanisms or processes to scrutinize how well the programmes collectively relate to UNESCO's mandate and its role, and to enable more intensive efforts to exploit the potential both for enhancing synergies among them and for more strategic coordination with the related activities across the United Nations system and the outside research community. Moreover, substantial savings can be expected from rationalizing their set of separate administrations.

26. The governing bodies of the ISPs should re-examine their missions, especially in the light of the overlap of their research portfolios and of scientific advancements expanding across previously defined disciplines. Given the open-ended nature of the ISPs, questions of sunset clauses and/or evolution to self-sustaining extrabudgetary funding for the programmes and also for specific projects within these programmes should also be considered.

Modernization of management and administrative and budget transparency need to be addressed, including the introduction of a culture of evaluation and a dynamic decentralization policy

27. The Committee noted that standard operating procedures are not apparent for project management and administration – including, but not limited to selection of projects, budget itemization at the project level, including staff costs, management of activities and accountability of projects, evaluation of and dissemination of results. The criteria for starting or continuing a programme should not be based only on its ability to attract extrabudgetary financing: the application of such funds must be open and relevant to UNESCO's priorities. The Committee concludes that at present UNESCO's science programmes require a uniform level of transparency and adherence to standard procedures across all management and budget activities.

⁶ According to document 33 C/5.

28. UNESCO should also integrate results-based budgeting and specific human resource allocation into the programme planning process. A culture of evaluation is lacking in the Organization. Member States are not provided with a critical evaluation of successful or failing programmes or projects in a timely manner. It is therefore difficult to judge the potential effectiveness of programmes relative to declared aims. Built-in programme monitoring and evaluation, with formulation of meaningful performance indicators and sunset clauses, should be applied throughout to enable decisions about renewing programme funding from one biennial programme and budget cycle to the next.

29. UNESCO needs a dynamic decentralization policy. UNESCO has a large network beyond Headquarters and field offices, which includes the National Commissions, category 1 and 2 institutes and centres, ISP National Committees and the globally distributed operational sites (such as MAB's biosphere reserves and natural World Heritage sites, etc.), UNESCO Chairs with their networks and UNESCO Clubs. The UNESCO wider "family" should work together more coherently. Work carried out away from Headquarters in field offices should be driven by local needs and feed explicitly and concretely into agreed global development goals, policies and standards (e.g. the MDGs) and by the new "One United Nations" approach at the country level. A new challenge for UNESCO in the context of current trends in United Nations reform is to create and maintain a dynamic balance between its operational activities at the national level and its global and normative actions.

UNESCO's science programmes would benefit from greater visibility and public outreach

30. Science communities, academia, the media in its various forms, the public and especially young people, have insufficient information about UNESCO's work in the sciences. UNESCO needs to interact more effectively with these communities, as well as strengthen the participation of leading scientists in its science programmes to raise their visibility. UNESCO's science portfolio needs a new image, a unifying theme – "Access to Scientific Knowledge for All".

31. While the absence of an effective communications strategy involving proactive outreach is a great obstacle to UNESCO's efforts to promote its work in the sciences, striving for visibility cannot be an empty process. The real key to increasing visibility will be the overall strengthening of the relevance and impact of UNESCO's science portfolio. In addition, UNESCO must put the results of its programmes in a format understandable to policy-makers.

32. UNESCO needs to improve its outreach, through an innovative approach to partnerships with other organizations, both within and outside the United Nations, with the aim of increasing programme effectiveness, complementarity and efficiency.⁷ At the international level, these include the International Council for Science (ICSU), the Academy of Sciences for the Developing World (TWAS), the International Social Science Council (ISSC), the International Council for Philosophy and Humanistic Sciences (ICPHS) and the World Academy of Young Scientists (WAYS), among many others. At the regional level, these include the Islamic Educational, Scientific and Cultural Organization (ISESCO), the Arab League Educational, Cultural and Scientific Organization (ALECSO) and the Organization of American States (OAS).

33. UNESCO also needs to interact more closely with its unique network of National Commissions. Some already play a strong role in raising the perception of governments, parliamentarians, private bodies, schools and the general public to UNESCO's work in the sciences, and in helping to promote UNESCO's programme objectives at country level. While scientists are represented in some National Commissions, all National Commissions should recognize the importance of including scientists in their membership, in order for them to be effective partners in matching the needs of Member States in the sciences with UNESCO's

⁷ For example, the United Nations Development Programme's recent Human Development Report *Beyond scarcity: power, poverty and the global water crisis* did not mention UNESCO's science programmes nor its associated ISPs a single time in its 440 pages. The UNDP report does, however, quote UNESCO's Education Sector many times on matters of world literacy levels and educational developments.

programmes and priorities. Better links made from UNESCO's field offices would play a positive role in this effort.

IV. A NEW VISION

“As a specialized agency of the United Nations, UNESCO contributes to the building of peace, the alleviation of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information.” (Mission statement in the Draft 34 C/4)

34. In formulating its vision and strategy for the sciences in UNESCO, the Committee recognized that:

- UNESCO's multifaceted mandate specifically highlights the role of the sciences, and UNESCO is the only United Nations agency with responsibilities for ethics. In addition, UNESCO is recognized for a number of global lead roles and tasks.
- An important asset of UNESCO is its broad array of functions enabling the Organization to operate in numerous modes: at the global level, through normative, policy, advocacy and monitoring work, as well as operational activities at the country, subregional and regional levels.

- Through its science programmes, UNESCO promotes global research, human and institutional capacity-building, networking, policy research and evidence-based policy debate, monitoring, collecting and disseminating best practices and mobility and exchange of scientific researchers.
- The new trends in United Nations reform offer UNESCO the unprecedented opportunity to be a key contributor in the sciences to the “One United Nations” approach.

“Today, more than ever, science is a vital source of education, intellectual and cultural enrichment. Moreover, when we speak of knowledge economies, we mean today that they are science-based: science leads to technological advances and economic benefits that offer unique opportunities to meet basic human needs, reduce poverty, protect the environment and improve quality of life.” (Director-General Koïchiro Matsuura's address to the Ministerial Round Table on the Basic Sciences, 13 October 2005)

35. The Committee's vision for UNESCO is an organization recognized for its leadership role within the United Nations system, based on a strategic reorientation of its science portfolio towards contributing to poverty reduction and peace, and consisting of a set of well-managed timely programmes, reflecting cutting edge interdisciplinary science, taking maximum advantage of all of its assets, demonstrating its comparative advantages, leading in new ideas, ensuring quality and excellence, attracting the best scientists, and demonstrating to governments that investment in science and technology is vital to human, social and economic progress.

36. A key feature of this vision is the innovative and synergistic way that UNESCO's science portfolio will bring together the natural, social and human sciences in programmes and activities designed to tackle the multidimensional aspects of poverty and conflicts.

37. The world has become more agglomerated and integrated, due to urbanization on the one hand and developments in transportation, communications and media technology on the other hand. Thus the consequences of conflicts or disasters are more visible and affect a larger number of people. The responses required are towards greater preparedness in order to reduce vulnerability and more rapid and effective actions to face conflicts and disasters.

38. In the Committee's vision, UNESCO, through its science programmes, will contribute to poverty reduction and peace by increasing opportunities and access to knowledge and basic services through appropriate technologies, leading to better living standards, especially for traditionally excluded segments of the population. The science programmes will target on benefiting society and empowering people through human and institutional capacity-building and education at all levels.

39. A further key objective of UNESCO's science portfolio will be dialogue and integration of mainstream science with traditional, local and indigenous sciences of diverse cultures to enrich the overall perspectives and approaches in its programmes with diversity, sustainability and distributive justice.

40. The future UNESCO science portfolio will benefit from a flexible and efficient Organization, operating under rigorous principles of evaluation, management and budget transparency, capable of adapting to new global challenges, taking full advantage of all its sectoral expertise and with optimal cooperation between the Secretariat and UNESCO's extended family, especially the National Commissions.

V. RECOMMENDATIONS FOR A NEW STRATEGY

41. In response to the main findings elaborated above, the Committee proposes the following nine sets of recommendations for UNESCO's science portfolio which are detailed below:

- Policy advice towards capacity-building needs strengthening.
- Programmes must address new scientific paradigms and "cutting edge" research.
- Interdisciplinary and intersectoral activities need major strengthening.
- Science education should be a high priority.
- The ISPs need better coordination and synergy.
- Outreach and partnerships need improvement.
- Rigorous and transparent selection, assessment and evaluation of programmes and projects are required.
- UNESCO's leadership must be enhanced through new global initiatives.
- A Science Advisory Committee is required.

RECOMMENDATION 1

Policy advice towards capacity-building needs strengthening

42. The Committee recommends that:

- UNESCO should strengthen its science policy work by using its access to governments to encourage and help plan the direction of resources to capacity-building in the sciences, through the establishment of science and technology infrastructure and research, development and innovation capacity, demonstrating to governments that investment in science and technology is vital to human, social and economic progress. In addition, bringing scientists the means and opportunities to work in their home countries on locally

important research and development and to build meaningful international partnerships is a central aspect of reducing brain drain.

RECOMMENDATION 2

Programmes must address new scientific paradigms and incorporate “cutting edge” research

43. The Committee recommends that:

- UNESCO should be “forward-looking” and be aware of “emerging areas” of science (such as nanotechnology, science intelligence, knowledge economy, etc.). UNESCO science programmes should convene the required meetings and debates in order to be better prepared to identify emerging ideas.
- Programmes should incorporate “cutting edge” scientific research and knowledge through partnerships with scientific organizations such as ICSU and TWAS.
- UNESCO should further emphasize new scientific paradigms, such as socio-ecological resilience, vulnerability and adaptive management of the environment.
- UNESCO should at the same time ensure that diverse knowledge systems are taken into consideration in designing and managing its programmes.
- UNESCO should examine its inscribed sites (507 biosphere reserves in 102 countries, 162 natural World Heritage sites, etc.) to determine the appropriateness of making them more available for coordinated global monitoring of climate change, biodiversity loss and sustainable development.

RECOMMENDATION 3

Interdisciplinary and intersectoral activities need major strengthening

44. The Committee recommends that:

- UNESCO should assign an important priority to promoting intersectorality and interdisciplinarity in documents 34 C/4 and 34 C/5. UNESCO should develop overarching objectives to integrate the sciences (natural, social and human), as well as to integrate the sciences with education, culture and communication and information.
- UNESCO’s programmes and projects should be developed from a problem-based perspective, applying interdisciplinarity and cross-sectoral approaches as needed.
- All the science programmes should have components of both natural sciences and social and human sciences. They should also include elements of education and training, culture and communication and information, building on UNESCO’s comparative advantage within the United Nations system.
- The ethical dimension and values should be incorporated in all programmes.

RECOMMENDATION 4

Science education should be a high priority

45. At the 2005 General Conference's High-Level Ministerial Round Table on the Basic Sciences, Ministers called for greater emphasis on science education as an integral part of capacity-building and recognized the "symbiotic relationship between scientific research and higher education".

46. The Committee recommends that:

- UNESCO should increase efforts to assist countries to develop their national science systems, to strengthen university education in the sciences, particularly through the integration of research and education, and to improve the quality of science teaching, including through e-learning. In all of these endeavours, UNESCO category 1 and 2 centres, Chairs and associated university networks are important assets. Closer coordination with the United Nations University (UNU) is also recommended.
- UNESCO should play a major role in strengthening science education in the basic and applied sciences, and the social and human sciences worldwide in order to attract young people into science and scientific careers. All types of media (e-learning, including through lectures by leading scientists broadcast through the electronic media, museums, exhibitions, etc.) should be utilized.
- The science programmes should focus on young researchers, helping to prepare future leaders in science and technology.

RECOMMENDATION 5

The ISPs need better coordination and synergy

47. The Committee recommends that:

- The ISPs should be reoriented to exhibit a problem-based perspective and to reflect their contributions to peace, poverty reduction, sustainable development and the dialogue among civilizations.
- The ISPs should be evaluated periodically to ensure that they incorporate state-of-the-art scientific research and knowledge in their activities, prevent intellectual overlap with other activities, promote coordination and develop cross-cutting activities across their programmes, with other relevant United Nations entities and with other relevant national and international organizations, and leverage resources through appropriate partnerships.
- Better coordination and cooperation is needed among the ISPs, as well as with other United Nations programmes.
- Given the open-ended nature of the ISPs, questions of sunset clauses and/or evolution to self-sustaining extrabudgetary funding for the programmes and also for specific projects within these programmes should also be considered.
- The various administrative structures of the ISPs should be reviewed to consider the appropriateness of their merging to achieve better coordination and budgetary efficiency.
- Better cooperation is needed between the ISP National Committees and between these Committees and the UNESCO National Commissions.

RECOMMENDATION 6

Outreach and partnerships need improvement

48. The Committee recommends that:

- UNESCO should make better use of its existing partnerships within the UNESCO family (field offices, National Commissions, category 1 and 2 centres and institutes, National Committees of the ISPs, Chairs, UNITWIN networks and Clubs) and the United Nations family.
- Scientists should be represented in all National Commissions for UNESCO, thereby strengthening their ability to be effective partners.
- Outreach and communication strategies should be integrated in all the science programmes, reporting to the public on their results and impacts.
- UNESCO should strengthen key partnerships with leading organizations (e.g. relevant United Nations entities, research and development institutions, funding agencies, research councils, space agencies, NGOs, etc.) in order to implement joint programmes.
- UNESCO should consider establishing a “UNESCO science for peace prize”.

RECOMMENDATION 7

Rigorous and transparent selection, assessment and evaluation of programmes and projects are required

Programme/Project selection:

49. The Committee recommends:

- Screening procedures to ensure that all approved activities are relevant to UNESCO’s Medium-Term Strategy and overarching objectives as defined by the Member States.
- All programmes to demonstrate UNESCO’s unique contribution/comparative advantage.
- UNESCO to initiate programmes in key areas and exit as soon as other organizations take the lead.
- External and independent review for selecting programmes and category 1 and 2 institutes and centres.

Assessment:

50. The Committee recommends:

- All programmes to be assessed on a continuous and regular basis to determine:
 1. existing areas that should be continued and developed further;
 2. existing areas, which have become either less relevant or overlapping, and which should therefore be phased out or passed on to other bodies; and
 3. new forms of knowledge and innovative forms of action, in recognition of new trends and emerging priorities.

51. Such an assessment will lead to a science portfolio for UNESCO which is easily distinguishable from other United Nations agencies, and based on UNESCO's strategic priorities and competencies, as well as appropriate new challenges. This portfolio should be coordinated with and take full advantage of partnerships with other United Nations entities and international scientific bodies with a view towards leveraging resources and improving efficiency and effectiveness.

52. During its "information-gathering" phase, the Committee noted the imbalance in funding in the science programmes in favour of water-related activities. Therefore, the Committee recommends that:

- Water-related activities should focus more on policy research and capacity-building.
- UNESCO should take a more comprehensive approach in its environmental programmes, integrating social, cultural and educational perspectives and covering issues such as energy conservation, biodiversity, natural resources management, climate change, etc.

Monitoring and evaluation

53. The Committee recommends that:

- Monitoring and evaluation should be built into all its programmes and conducted at pre-determined intervals by diverse and independent scientific experts using meaningful performance indicators.
- Evaluations should use a well-defined set of criteria (to include, at minimum, the United Nations criteria of relevance, efficiency, effectiveness and sustainability, as well as feasibility, impact and progress towards goals) against an appropriate and realistic set of metrics and benchmarks.

RECOMMENDATION 8

UNESCO's leadership must be enhanced through new global initiatives

54. The Committee recommends that UNESCO should:

- Organize and convene on a regular basis a forum of ministers of science, technology and higher education to promote dialogue and to better understand the science policy issues UNESCO should address, particularly in developing countries. Special attention must be paid to both the format for these meetings and follow-up by UNESCO to ensure maximum value for the time invested by the participants.
- Provide a forum for scientists to inform UNESCO on new and emerging areas of the sciences and to bring together scientists with opposing views on important contemporary scientific issues to debate their positions.
- Perform a "global watch" function in order to be capable of monitoring critical emerging ethical and societal issues.
- Monitor science and technology indicators at the global level, benefiting from the capabilities of the UNESCO Institute for Statistics (UIS).

RECOMMENDATION 9

A science advisory committee is required

55. The Committee recommends:

- The establishment of an overarching scientific advisory committee, which would meet at regular intervals and report to the Director-General.

56. The mandate of the committee shall include:

- Monitoring implementation of the Review Committee's recommendations as considered by the Executive Board and adopted by the General Conference.
- Providing advice to the science programmes, in order to enhance intersectoral cooperation and to improve efficiency and effectiveness.
- Ensuring interdisciplinarity and exploitation of synergies among the ISPs and strategic coordination with other United Nations activities.
- Supervising the evaluation of current programmes and recommending future directions.
- Advising the Director-General on appropriate organizational, budgetary and staff mechanisms to enhance linkages and to integrate the natural, social and human sciences in UNESCO.

57. The committee should consist of a group of recognized and independent scientific experts appointed by the Director-General in consultation with Member States and reflecting a broad diversity in the areas of scientific expertise, experience in international research and education and geographic distribution from both developing and developed countries. Members should serve for fixed terms, staggered to ensure that the committee membership is renewed on a rotating basis.

VI. CONCLUDING REMARKS

58. The Committee presents this report to the Director-General for his consideration, on the understanding that he will share its content with the Executive Board at its 176th session.

59. After its report has been considered by the Executive Board, the Committee is willing to continue to offer its advice to the Director-General until final deliberation of the report at the 34th session of the General Conference.

60. The Committee did not discuss in depth the issue of changing the current organizational structure for the sciences, as this issue was understood by some as being within the prerogative of the Director-General. However, two alternatives to the current structure (of two sectors) were put forward during the course of the Committee's debates. No consensus was reached by the Committee on these proposals.

61. The two alternatives put forward were:

- Maintaining Major Programmes II and III as separately led programmatic thrusts under a single UNESCO Science Sector and directorship.
- Merging Major Programmes II and III into a single science programme in a single UNESCO Science Sector.

THE DIRECTOR-GENERAL'S COMMENTS ON THE REPORT

62. The Director-General found this report to be very useful and reviewed the findings and recommendations with great attention. He expresses his sincere thanks to the Overall Review Committee for providing important views, many of which have been integrated in the process of drafting documents 34 C/4 and 34 C/5. His comments on the recommendations are as follows.

63. Regarding Recommendation 1, the Director-General fully supports the view that UNESCO should strengthen its science policy work using its access to governments to encourage and help plan the direction of resources to capacity-building in the sciences. He notes that this issue is specifically addressed in draft document 34 C/4 in overarching objective 2 (“Mobilizing sciences knowledge and policy for sustainable development”) and strategic programme objective 4 (“Fostering policies and capacity-building in science, technology and innovation, with special emphasis on the basic sciences and energy”).

64. The Director-General also agrees with Recommendation 2, that UNESCO’s science programmes must address new scientific paradigms and incorporate “cutting edge” research and points out that this language is contained in overarching objective 2. Regarding the detailed recommendation on the use of UNESCO inscribed sites for coordinated global monitoring of climate change, biodiversity loss and sustainable development, the Director-General notes that this is addressed in strategic programme objective 3 (“Leveraging scientific knowledge for the benefit of the environment and the management of natural resources”).

65. As to Recommendation 3, that interdisciplinary and intersectoral activities require major strengthening, the Director-General welcomes this view, noting that draft document 34 C/4 emphasizes a broadened intersectoral and interdisciplinary engagement as an integral part of the programming process. He also points out that overarching objective 2 states that “All programmes will integrate interdisciplinary approaches, drawing on contributions from all of UNESCO’s fields of competence”.

66. Recommendation 4, that science education should be a high priority, the Director-General finds particularly important. He notes that science education is specifically addressed in strategic programme objective 2 (“Fostering quality education for all – from access to success in the pursuit of sustainable development”) and strategic programme objective 4. The Director-General further observes, as an important example of UNESCO’s ongoing activities in science education, that the UNESCO-IHE is the premier postgraduate institution in the world in water education and is very active in expanding water education activities in developing countries.

67. Regarding Recommendation 5, that the intergovernmental and international programmes (ISPs) need better coordination and synergy, the Director-General observes that this issue requires the special endorsement of the General Conference. The detailed recommendation on the need for improved cooperation with other United Nations programmes is already included in strategic programme objective 3. However, the Director-General does not concur with the Committee’s findings that there is overlap and insufficient coordination on freshwater issues within the United Nations system, since the International Hydrological Programme is the only science programme within the United Nations system dealing with freshwater issues and closely interacts with the United Nations-wide coordinating body United Nations-Water.

68. The Director-General welcomes Recommendation 6 on the need for improved outreach and partnerships, noting that draft document 34 C/4 already highlights this issue in the sections called “Constituencies, Partners and Partnerships” and “Visibility and Public Information”. He also agrees with the specific recommendation (to the attention of Member States) that scientists should be represented in all National Commissions of UNESCO, thereby strengthening their ability to be effective partners. However, the Director-General considers that the specific recommendation to establish a UNESCO science for peace prize is not necessary for the time being, in view of the numerous existing UNESCO science prizes, which need to be further streamlined. He notes that

the important UNESCO-L'Oréal Awards for Women in Science give high visibility to the Organization. He further notes that the Executive Board at its 171st session approved a new strategy and criteria for the establishment of UNESCO prizes, which stresses in particular the need for extrabudgetary funding for all UNESCO prizes.

69. The Director-General agrees with Recommendation 7, “Rigorous and transparent selection, assessment and evaluation of programmes and projects are required” and points out that this recommendation is largely in line with draft document 34 C/4 in its section dealing with “Managing for Impact”. However, with regard to the Committee’s observation on “the imbalance in funding of science programmes in favour of water-related activities”, the Director-General wishes to draw attention to the fact that the additional financial resources accorded to water-related activities are a direct result of UNESCO’s decision to establish principal priorities for each Major Programme, starting with document 31 C/5, in view of UNESCO’s limited resources and the need for improving the focus of UNESCO’s actions. “Water and associated ecosystems” has been approved as the principal priority for Major Programme II (Natural Sciences) for the last three biennia, thereby strengthening UNESCO’s role and visibility within the United Nations system.

70. The Director-General fully supports Recommendation 8, that UNESCO’s leadership in the sciences must be enhanced through four new global initiatives. Regarding the regular Forum of Ministers of Science, Technology and Higher Education, the Director-General notes that such a forum was held during the 33rd session of the General Conference and another is planned for the 34th session of the General Conference. The detailed recommendation on UNESCO performing a global watch function in order to be capable of monitoring critical emerging ethical and societal issues is fully addressed in strategic programme objective 8 (“Monitoring critical and emerging ethical and societal issues”).

71. The Director-General has carefully examined Recommendation 9 on the establishment of a scientific advisory council and considers that this issue requires a more comprehensive analysis, taking into account the prerogatives of UNESCO’s governing bodies, the mandates of the Scientific Boards of the ISP Councils and Committees and the responsibilities of the Internal Oversight Service (IOS) for evaluation of UNESCO’s programmes. However, in order to strengthen intersectorality and interdisciplinary activities, the Director-General will establish a task force within the Secretariat under his authority.

72. The Director-General takes note of the options put forward by the Committee (without consensus) for structural changes in the science sectors. He also observes that, in his capacity of chief administrative officer of the Organization, any structural changes to the sectors are fully within the prerogative of the Director-General.

73. The Director-General takes responsibility to ensure that the recommendations in this report which are approved by the Executive Board and the General Conference receive due attention.

PROPOSED DRAFT DECISION

74. The Executive Board may wish to consider the following draft decision:

The Executive Board,

1. Recalling 33 C/Resolution 2, concerning the review of Major Programmes II (Natural sciences) and III (Social and human sciences),
2. Having examined document 176 EX/7 and its annexes,
3. Expressing appreciation to the Overall Review Committee for its comprehensive report,
4. Taking note of the Director-General’s comments on the report,

5. Recommends to the General Conference at its 34th session that it approve the broad thrusts of the Committee's Recommendations 1-8, bearing in mind that the Director-General (i) does not concur that UNESCO should establish a science for peace prize at present (para. 68) and (ii) considers that Recommendation 9 requires further analysis (para. 71).

ANNEX I

TERMS OF REFERENCE OF THE OVERALL REVIEW COMMITTEE

The Terms of Reference adopted at the Committee's first meeting from 13 to 15 March 2006 are as follows.

1. PURPOSE

The purpose of the creation of the Review Committee is to carry out an overall review of UNESCO's Major Programme II (Natural sciences) and Major Programme III (Social and human sciences) against the background of the Organization's mandate, country and regional priorities and today's global needs, which would form an integral part of the preparation of the Draft Medium-Term Strategy for 2008-2013 (34 C/4) and the Draft Programme and Budget for 2008-2009 (34 C/5) and contribute to programme planning.

2. MANDATE

Overall objective: contribute to the elaboration of a forward-looking strategic framework for the science programmes of UNESCO, in the light of three interrelated needs:

- the need for UNESCO to take a forward-looking perspective on prioritization and promote a progressive agenda giving proper emphasis to emerging trends and new priorities;
- the need to reinforce the essential role of the sciences for UNESCO in the fight against poverty, with contributions and benefits to institutional and human capacity-building, education and sustainable development;
- the need to contribute to the production of new forms of knowledge and the implementation of innovative forms of action for resolving problems, given the new complexities of the strategic direction of science at the global level.

Achieving the overall objective through specific assessments and reflections

- Assessment of the relevance, strengths and impact of the two UNESCO science programmes in the light of its core competencies and its programmatic priorities in relation to the international development goals expressed in particular in the Millennium Declaration and the Millennium Development Goals, the 2005 World Summit Outcome document, the Budapest World Science Conference and the World Summit on Sustainable Development and its follow-up as well as United Nations inter-agency arrangements, plans and action.

In that framework, the review should focus on:

- (a) the role and relevance of the intergovernmental mechanisms set up within the two science programmes, in particular the role of the five established international scientific programmes and the newly established IBSP, the ICB, the ICBG – as well as COMEST;
- (b) the role and added value of other established mechanisms such as the category 1 and 2 UNESCO institutes and centres, UNESCO Chairs and cooperation with different academic/scientific and non-governmental organizations which have received and continue to receive UNESCO support, including through framework agreements or direct contributions;

- (c) assessment of the role of Major Programmes II and III in enhancing intersectorality.
- Assessment of UNESCO's current role and comparative advantage in the global science community and, in that context, of the division of labour and tasks in relation to other relevant intergovernmental and non-governmental organizations.
 - Forward-looking assessment of UNESCO's role in responding to emerging and future trends and challenges in the sciences.
 - Identify future core competencies for UNESCO in the science area, including linkages between SC and SHS aimed at complementarity and harmonization as well as partnerships and coordination with other entities of the United Nations system – in particular, in the area of human rights, with the Office of the High Commissioner for Human Rights – and other intergovernmental organizations, scientific bodies, non-governmental organizations, national governments and the private sector; in that context, reflect on the interface between the social and human sciences and the natural sciences.

Contribution to programme planning: due consideration shall be given to the following elements:

- UNESCO's General Conference at its 33rd session has laid out the general framework both for the Director-General's consultation process on the Organization's Medium-Term Strategy for 2007-2013 (34 C/4) and the future structure of that document, on the basis of debates in all General Conference commissions on the preparation of document 34 C/4;
- in 2004-2005, UNESCO's General Conference and Executive Board have approved resolutions and decisions covering a wide array of issues relating to the two science programmes of the Organization which will have a bearing, in different ways, on the next programme planning exercise on documents 34 C/4 and 34 C/5;
- ongoing developments within the United Nations system reflected in United Nations General Assembly resolutions and recent relevant international reports and initiatives;
- in March 2006, the Director-General will launch the consultation process for documents 34 C/4 and 34 C/5 with a questionnaire to UNESCO's Member States, National Commissions, other agencies of the United Nations system, IGOs and NGOs having official relations with UNESCO, to be followed by a series of regional consultations with National Commissions during the period May-July 2006, all of which will provide input for the Director-General's preliminary proposals to be submitted to the Executive Board at its 2006 autumn session.

3. COMPOSITION

The review will be carried out by a Review Committee involving the participation of a broad multidisciplinary team of scientific experts from Member States, inclusive of all regions, appropriate intergovernmental and international non-governmental organizations, and senior Secretariat officials, working in close partnership with all involved sectors and offices of the Secretariat. The Review Committee will be chaired by the Deputy Director-General of UNESCO.

The Review Committee will be composed of 15 experts and five senior officials from the UNESCO Secretariat.

A. UNESCO Secretariat

The following UNESCO Secretariat members will be members of the Review Committee: DDG (Chairperson of the Review Committee), ADG/SC, ADG/SHS, ADG/IOC and DIR/BSP. DIR/IOS will attend as Observer.

Other UNESCO Secretariat members would be called upon to assist fully the Review Committee, providing promptly available information and documentation that may be required on all relevant issues such as programming, evaluation, staff, structure, etc., relating to the two major programmes on which the Review Committee may seek information, data or documentation.

B. Experts

Fifteen high-level experts have been appointed by the Director-General on the basis of consultations with Member States (through electoral groups), including experts on natural sciences, social and human sciences, science policy and social development issues, with a view to ensuring both a global coverage and a holistic approach.

4. WORKING METHODS

The Review Committee, on the basis of its calendar of work, is expected to carry out the review work through different modalities, including plenary meetings at Headquarters; establishment of thematic subgroups; hearings of high-level experts, decision-makers or representatives of major intergovernmental and non-governmental as well as regional organizations; consultation through questionnaires on specific issues, to be addressed to key national, regional and international stakeholders; commissioning of specific mapping studies, using to the largest extent possible the most cost-efficient means and networking facilities. Available documentation, data and information will be collected and provided by the UNESCO Secretariat, institutional counterparts, specialists, etc.

The working methods will be reviewed and agreed upon by the Review Committee.

The Review Committee will be assisted in its work by an ad hoc secretariat. The Secretary of the Review Committee (at Director level) will be assisted by staff members from UNESCO.

ANNEX II

LIST OF COMMITTEE MEMBERS

EXTERNAL MEMBERS

Ms Fatma Attia (Egypt)

Expertise: Hydrology
Professor Emeritus, National Water Research Centre
Director of the Water Boards Project

Mr Jean Audouze (France)

Expertise: Astrophysics
Astrophysicist and Research Director at the Paris Astrophysics Institute, Centre National de la Recherche Scientifique – CNRS, Paris, France
Vice-President, French National Commission for UNESCO

Mr Rachid Benmokhtar Benabdellah (Morocco)

Expertise: Aeronautical Engineering
President, University Al Akhawayn, Ifrane, Morocco
President, National Observatory of Human Development

Mr Alexander Boksenberg (United Kingdom)

Expertise: Physical Sciences, Engineering, Astronomy
Honorary Professor of Experimental Astronomy, University of Cambridge, United Kingdom
Chairperson, U.K. National Commission for UNESCO and Chairperson of its Natural Sciences Committee

Mr Ian Bryceson (Norway)

Expertise: Marine and Coastal Ecology; Socio-Ecological Resilience and Vulnerability
Professor, Department of International and Development Studies, Norwegian University of Life Sciences

Mr Marco Gandásegui (Panama)

Expertise: Sociology
Professor, University of Panama, Panama City
Fellow, Centro de Estudios Latinoamericanos (CELA), Panama

Mr Ping Huang (China)

Expertise: Sociology
Director-General, Bureau for International Cooperation, Chinese Academy of Social Sciences (CASS), Beijing, People's Republic of China

Mr Ashok Jhunjunwala (India)

Expertise: Electrical Engineering
Professor, Department of Electrical Engineering, Indian Institute of Technology (IIT), Chennai, India
Member, Prime Minister's Scientific Advisory Board

Mr Babacar Kante (Senegal)

Expertise: Public Law
Professor, Public Law and Political Sciences, Gaston Berger University, Saint-Louis, Senegal

Ms Romyana Mihneva (Bulgaria)

Expertise: History and Culture of Early Modern Europe and the Balkans (fiftieth-eightieth centuries)
Professor, Department of History and European Studies, Varna Free University

Ms Kathie Olsen (United States of America)

Expertise: Neuroscience
Deputy Director, U.S. National Science Foundation, Washington D.C., United States of America

Mr Rem Petrov (Russian Federation)

Expertise: Immunology
Adviser, Russian Academy of Sciences

Mr Luis Alberto Quevedo (Argentina)

Expertise: Sociology
Director of the “Communications” Programme of the Facultad Latinoamericana de Ciencias Sociales (FLACSO)
Permanent Associate Professor of Political Science, Sociology Degree Course, University of Buenos Aires (UBA)

Mr Shinichi Yamamoto (Japan)

Expertise: Economics/Higher Education
Professor, Research Institute for Higher Education, Hiroshima University, Japan

INTERNAL MEMBERS

Mr Marcio Barbosa, Deputy Director-General of UNESCO and Chair of the Committee

Mr Walter Erdelen, Assistant Director-General for Natural Sciences (SC)

Mr Patricio Bernal, Assistant Director-General, Intergovernmental Oceanographic Commission (IOC)

Mr Pierre Sané, Assistant Director-General for Social and Human Sciences (SHS)

Mr Hans D’Orville, Director, Bureau of Strategic Planning (BSP)

OBSERVER

Mr John Parsons, Director, Internal Oversight Service (IOS)