

InterAcademy Council

Annex A

2009 ANNUAL REPORT OF THE IAC EXECUTIVE DIRECTOR

2010 marks the tenth anniversary of the founding of the InterAcademy Council. In May 2000, the scientific academies of the world, meeting in Tokyo, together decided to create the IAC as a means to advise international organizations and national governments on global issues of concern. The creation of IAC had been requested in 1999 by the Secretary-General of the United Nations in order to facilitate the best scientific input into global decision-making. In 2010, the advisory mission of the IAC will have perhaps its most ambitious challenge to date with a formal request from the Secretary-General of the United Nations to review the procedures and processes of the Intergovernmental Panel on Climate Change.

In addition the IAC will launch significant new projects addressing key global challenges. In 2009 the IAC reconstituted the membership of the IAC Board for 2009-2013, revised its Bylaws, and worked with the InterAcademy Panel (IAP) on a wide-ranging set of cooperative goals. Building upon these accomplishments, the objectives for 2010 are to engage more fully government and industrial decision-makers, the scientific and technological community, and the general public; and to secure the required human and financial resources for mobilizing the world's best scientists, engineers, and medical experts.

NEW IAC BOARD AND CO-CHAIRS FOR 2009-2013

A newly constituted IAC Board was convened its first meeting on 23 March 2009. The new Board elected as its Co-Chairs Professor Robbert Dijkgraaf, President, Royal Netherlands Academy of Arts and Sciences, and Professor Lu Yongxiang, President, Chinese Academy of Sciences.:

The IAC Board for 2009-2013 is as follows:

Robbert DIJKGRAAF, Co-Chair
President, Royal Netherlands Academy of Arts and Sciences

LU Yongxiang, Co-Chair
President, Chinese Academy of Sciences

Howard ALPER, Ex Officio Member
Co-Chair, InterAcademy Panel on International Issues

Eduardo CHARREAU, Member
President, Argentina National Academy of Exact, Physical and Natural Sciences

Ralph CICERONE, Member
President, U.S. National Academy of Sciences

Robin CREWE, Member
President, Academy of Science of South Africa

Mohamed H.A. HASSAN, Member
President, African Academy of Sciences

Ichiro KANAZAWA, Member
President, Science Council of Japan

Yücel KANPOLAT, Member
President, Turkish Academy of Sciences

Eduardo Moacyr KRIEGER, Member
Former President, Brazilian Academy of Sciences

Kurt LAMBECK, Member
President, Australian Academy of Science

Sangkot MARZUKI, Member
President, Indonesian Academy of Sciences

Volker ter MEULEN, Member
President, German National Academy of Sciences Leopoldina

Jacob PALIS, Member
President, Academy of Sciences for the Developing World (TWAS)

Martin REES, Member
President, The Royal Society, United Kingdom

Jean SALENÇON, Member
President, Académie des Sciences, France

Guy de THÉ, Ex Officio Member
Co-Chair, InterAcademy Medical Panel

Achiel VAN CAUWENBERGHE, Ex Officio Member

Former President, International Council of Academies of Engineering and Technological Sciences(CAETS)

M. VIJAYAN, Member
President, Indian National Science Academy

Goverdhan MEHTA, Observer
Former President, International Council for Science (ICSU)

Ed NOORT, Observer
Foreign Secretary, Royal Netherlands Academy of Arts and Sciences (KNAW)

Board Election Procedures. The IAC Bylaws required the present IAC Board to elect a new Board for 2009-2013. The IAC Bylaws require the new Board to consist of 5 new members and 10 members that currently serve on the present Board. In addition to these fifteen academies, Board membership also includes ex-officio voting membership from representatives of the InterAcademy Panel (IAP), InterAcademy Medical Panel (IAMP), and International Council of Academies of Engineering and Technological Sciences (CAETS). Official Observers include representatives of the International Council for Science (ICSU) and the IAC host academy, the Royal Netherlands Academy of Arts and Sciences (KNAW).

During the IAC and IAP Co-chairs appointed an IAC Board Election Committee consisting of the IAC and IAP Co-Chairs, plus four additional persons. The IAC Board Election Committee consisted of Bruce Alberts, Lu Yongxiang, Howard Alper, Chen Zhu, Eduardo Krieger, Goverdhan Mehta, Robbert Dijkgraaf, and Martin Rees.

In accordance with prescribed IAC Rule of Procedure, the IAP was requested to communicate with all IAP academies to ascertain which IAP academies wished to serve on the IAC Board. As a second step, IAP then submitted the list of nominated academies to its members requesting them to indicate their preference for fifteen academies to serve on the Board for 2009-2013. The results of this polling were tabulated, providing a general ranking of preferred academies by the IAP membership. This information was important input for decisionmaking by the Election Committee; however, the Committee was not restricted by the results of this polling in making its decisions. Among the criteria for Committee consideration were the following:

- Balance between developing and industrialized countries;
- Balance between the various regions of the world;
- Participation in other international science organizations; and
- Capacity to actively support the work of IAC

As a result of these inputs and deliberations, the Election committee proposed the following list of 15 academies as members of the IAC Board for 2009-2013:

1. Academy of Sciences for the Developing World (TWAS)
2. African Academy of Sciences

3. Argentina National Academy of Exact, Physical and Natural Sciences
4. Australian Academy of Sciences
5. Brazilian Academy of Sciences
6. Chinese Academy of Sciences
7. Académie des Sciences, France
8. German Academy of Sciences Leopoldina
9. Indian National Science Academy
10. Indonesian Academy of Sciences
11. Science Council of Japan
12. Turkish Academy of Sciences
13. Academy of Sciences of South Africa
14. The Royal Society, United Kingdom
15. United States National Academy of Sciences

The new Board members are as follows:

1. Australian Academy of Sciences
2. Argentina National Academy of Exact, Physical and Natural Sciences
3. German Academy of Sciences Leopoldina
4. Indonesian Academy of Sciences
5. Academy of Sciences of South Africa

In September 2008, the IAC Board members agreed to this slate of academies with a required two-thirds majority vote.

IAP-IAC COOPERATION

The InterAcademy Council Board and InterAcademy Panel (IAP) Executive Committee have agreed upon a Memorandum of Understanding, which specifies a cooperative agenda between the two organizations.

For the near term, IAC and IAP agreed to the following:

1. IAP and IAC will consult each other in the development of strategic plans and actions and they will collaborate in all relevant programmatic activities;
2. The IAP Executive Committee and the IAC Board will meet at least once a year in joint session to discuss all issues of common concern;
3. IAP and IAC will organize, in cooperation with member Academies, joint regional workshops on the implementation of IAC reports;
4. IAP and IAC will participate with joint delegations in international fora, such as the World Economic Forum, the and the STS Forum in Kyoto, as well as in international organizations, such as ICSU;
5. The Co-Chairs of IAP and the Co-Chairs of IAC will keep each other informed of all developments that may be of common interest;

6. The Secretariats of IAP and IAC will cooperate with a view to ensuring the effective implementation of the actions outlined above;
7. IAP and IAC will consult with CAETS and IAMP with a view to including these two organizations in the above actions whenever relevant;

For the medium future, IAC and IAP agreed to the following:

1. IAP and IAC will develop procedures and a mechanism to issue, on a regular basis, common reports on the state of global science and global science policies;
2. IAP and IAC will undertake joint fundraising efforts and establish a common foundation to receive and manage any funds so generated;
3. IAP and IAC will develop a joint logo and other visual materials to convey the message that they have common beliefs, purposes and actions;
4. IAP and IAC will consult with CAETS and IAMP with a view to including these two organizations in the above initiatives whenever relevant.

IAC PROGRAMS

A. United Nations Request to Review the Intergovernmental Panel on Climate Change (IPCC)

United Nations Secretary-General Ban Ki-Moon announced on 10 March 2010 that the InterAcademy Council is requested by the United Nations to undertake a review of the Intergovernmental Panel on Climate Change (IPCC). IAC Co-Chair Robbert Dijkgraaf met with Secretary-General Ban Ki-moon and IPCC Chair Rajendra Pachuri at UN headquarters in New York on 10 March to discuss this request, then held a press conference to make a statement and to answer questions about the IAC from the news media.

The IAC Co-Chairs have received formal letters from Secretary-General Ban Ki-Moon and IPCC Chair Pachauri requesting IAC to review the IPCC. IAC is requested to conduct an independent review of the IPCC process and the procedures by which it prepares its assessments of climate change. IAC is asked to establish a panel of experts from relevant fields to conduct the review and to present recommendations on possible revisions of IPCC procedures. In addition, the IAC panel of experts is asked to recommend measures and actions to strengthen the IPCC's capacity to respond to future challenges and ensure the ongoing quality of its reports. A final report is requested by 31 August 2010 in order for IAC recommendations to be available for the October meeting of IPCC to launch the 5th IPCC Assessment process.

B. Global Water Challenges

The InterAcademy Panel has sponsored a program of activities devoted to issues related to water resources. The Brazilian Academy of Sciences serves as lead academy for this IAP Water Research and Management Program. This program has sponsored workshops in several countries focusing on regional water challenges. Major topics include science-based solutions for mitigating major sources of pollution in streams, rivers, and lakes; and improving access to safe drinking water. In support of the IAP Water Research and Management Program, in 2009

the IAC Board began a process to launch an in-depth science-based advisory study on policies for addressing critical needs related to water resources.

An Asian regional workshop on sustainable water challenges was convened in Beijing in 21-22 November 2009, co-sponsored by the Chinese Academy of Sciences and the InterAcademy Council. A follow-up meeting was convened to consider a scope, plan of work, and potential funding for a new IAC study on critical water issues.

Based on the results of the Beijing workshop report, an IAC Organizing Group was convened in Amsterdam during 21-23 February 2010 to develop a report and a prospectus to the IAC Co-Chairs, to be submitted to the IAC Board for consideration. The Organizing Group included the following persons:

Marcel J.F. STIVE, Co-Chair

Chair Coastal Engineering
Director of Water Research Centre Delft
Department of Hydraulic Engineering,
Faculty of Civil Engineering and Geosciences, Delft University of Technology

Jun XIA, Co-Chair

President, International Water Resources Association (IWRA)
Director & Leading Professor, Key Lab. of Water Cycle & Related Surface Processes,
Chinese Academy of Sciences (CAS)
Director, Center for Water Resources Research, CAS

Asit K. BISWAS

President and Distinguished Visiting Professor
Third World Centre for Water Management, Mexico, and
Institute of Water Policy, Lee Kuan Yew School of Public Policy, Singapore

Ngai Weng CHAN

President Water Watch Penang (WWP)
Board Member of IWRA, Professor of Water Resources
Universiti Sains Malaysia, School of Humanities

Qingyun DUAN

Professor and Chief Scientist, College of Global Change and Earth System Sciences
Director, Earth System Modeling Laboratory
Beijing Normal University
E-mail: qyduan@bnu.edu.cn

Paulo de GÓES

Head of the International Office, Brazilian Academy of Sciences
Associate Director, InterAcademy Council (IAC)

Rivka KFIR

CEO
Water Research Commission, South Africa

Kalanithy VAIRAVAMOORTHY
Chair of Water Engineering
Department of Civil Engineering, School of Engineering
University of Birmingham

Upon IAC Board authorization of this project, the IAP would be requested to (a) formally request responses from IAP, IAMP, and CAETS member academies regarding the study prospectus and nominations for study panel members and (b) develop the necessary financial resources through formal proposals to prospective funders.

C. Disease Surveillance Project

An Asian Regional Workshop was convened in Beijing in 21-22 November 2009 to continue the intellectual process leading to an IAC-IAMP study on improving global surveillance of infectious diseases. The IAC, IAMP, and collaborating international organizations will engage in ongoing consultation throughout the project. Next steps are to request nominations for panel members from IAP, IAMP, and CAETS academies and to secure funding for the project. After nominations are received, a proposed slate of study panel members will be presented to the IAC Board for approval. The study would be composed of experts in public health, laboratory science, epidemiology, informatics, infectious diseases, health technologies, and health economics, among other fields.

D. Follow-up to IAC Energy Report

On 22 October, 2007, the InterAcademy Council released *Lighting the Way: Toward a Sustainable Energy Future*. This report was commissioned by the Governments of Brazil and China. During 2008, copies of the report have been distributed to relevant international organizations, as well as to all scientific, engineering, and medical academies throughout the world for dissemination to academic, governmental, and industrial leaders in their nations. The IAC is providing copies of the report to the general public as requested.

As a crucial next step following the release of *Lighting the Way*, a series of regional workshops of scientists and technologists began during 2008-2009 by multinational associations of scientific and technological academies in the Americas, Europe, Africa, Asia, and the Middle East. The purpose of these conferences are (1) to develop a common agenda among scientific organizations for ongoing engagement in issues related to the needed transitions to sustainable energy resources and utilization and (2) to promote an action agenda by individual scientific organizations for engaging their own memberships and governments in efforts for achieving a sustainable energy future.

NASIC Workshop. The Network of Academies of Sciences in the countries of the Organization of Islamic Conference (NASIC) will host a Workshop on "Alternate Sources of Energy: Prospects and Options" based on the recommendations of the IAC Study *Lighting the Way: Toward a*

Sustainable Energy Future. The workshop will be organized by the Pakistan Academy of Sciences in October 2010.

NASAC Workshop. The Network of African Science Academies (NASAC) sponsored an IAP/IAC Regional Workshop on the Recommendations of the IAC report, "Lighting the Way Toward a Sustainable Energy Future", focusing on *Jatropha curcas*-derived biofuel as a renewable energy source, took place from 22-23 February 2010, in Nairobi, Kenya, hosted by the African Academy of Sciences (AAS). The aims of the workshop were to:

- inform participants of the key recommendations made in the IAC Report;
- discuss best practices for agronomical, agro-biotechnological, and business-related issues in biofuel production;
- increase awareness on various government policies that may lead to investing in the commercial exploitation of *Jatropha* bio-diesel in African countries; and
- explore strategies that academies can employ to advise African governments to promote production of renewable energy through bio-fuels obtained from non-food sources such as *Jatropha curcas*.

IANAS Workshop. The Interamerican Network of Academies of Sciences (IANAS), with the support of IAP and in partnership with the National Academy of Exact, Physical and Natural Sciences of Argentina and the Argentinean Ministry of Science, Technology and Productive Innovation, organized the IANAS Workshop "Toward a Sustainable Energy Future", which was held at the headquarters of the Argentinean Center of Engineers, in Buenos Aires, on 30-31 October 2008. The main objective of this workshop was to present to key stakeholders in Latin America and the Caribbean region the conclusions and recommendations of the IAC Report "Lighting the Way: Toward a Sustainable Energy Future", to review the energy-related issues and challenges for the Americas, and discuss the strategies and mechanisms needed for regional implementation of the actions needed to effect a transition to a more sustainable way of life. The workshop brought together 130 high-level experts from 15 different countries, covering North America, Central America, South America and the Caribbean region.

AASA Workshop. The Association of the Academies of Science in Asia (AASA) organized an international workshop on "Sustainable Energy Development in Asia" from 17-18 November 2008 in Beijing, China, hosted by the Chinese Academy of Sciences (CAS) as part of the AASA' "Sustainable Development in Asia" project. The event was organized by AASA and CAS, hosted by Institute of Electrical Engineering of CAS and sponsored by IAP. Participants included 26 representatives of 10 member academies and two observers. Participants shared information about the energy situation in their own country and addressed the common challenges in Asia in line with the recommendations from the IAC Report "Lighting the Way: Toward a Sustainable Energy Future" (2007). Recommendations were also made on how to prepare a consultative report on sustainable energy development in Asia.

E. Disease Surveillance Project

The InterAcademy Council, in partnership with the InterAcademy Medical Panel, agreed at its January 2008 meeting to undertake an independent, evidence-based policy study to make

recommendations for further development of global surveillance capabilities for addressing emerging zoonotic diseases, such as avian influenza and SARS. Such a study would include the appropriate roles for present and future participants; coordination and reporting mechanisms; the required human, scientific and technological capacities; and the related costs to improve the world's disease surveillance capability.

During 1-2 May 2008, an Organizing Group met in Paris at the Académie Nationale de Médecine to discuss a prospectus for an IAC-IAMP policy study on the topic of “Improving Global Surveillance of Emerging Infectious Diseases.” Participants included the following: Guy de Thé (IAMP Co-Chair, Pasteur Institute), Anthony Mbewu (IAMP Co-Chair, Medical Council of South Africa), Ximena Aguilera (Pan American Health Organization), Andrea Ammon (European Centre for Disease Prevention and Control), David R. Challoner (former IAMP Co-Chair, University of Florida), Yves Charpak (Pasteur Institute), Fu Gao (Chinese Academy of Sciences), Jörg Hacker (Robert Koch-Institute, Berlin), David Heymann (World Health Organization), Patrick W. Kelley (U.S. Institute of Medicine), Mark S. Smolinski (Google.Org), John P. Campbell (IAC). The meeting was chaired by Dr. David Challoner.

F. Women for Science

As a follow-up in 2009 to the IAC report *Women for Science*, conferences and symposia were convened and sponsored by partner organizations. The purpose of these workshops were to be (1) to develop a common agenda among academies for promoting the full participation of women in scientific and technological fields, and (2) to develop an action agenda for individual academies to contribute to this effort. Participants included representatives of academies of sciences, engineering, and medicine.

NASIC Conference. NASIC International Conference on Gender Participation in the Development of Science, Dhaka, 14 -15 November 2009, hosted by the Bangladesh Academy of Sciences. Participants from Malaysia, India, Pakistan and Uganda as well as nearly 300 women scientists from Bangladesh attended and discussed the status of women in science education at primary, secondary and higher level in different countries and region and ways to improve methods of science education, and the building of scientific careers. Break-out sessions took place and a number of recommendations were made at the close of the Conference.

IANAS Symposium. The IANAS “**Women for Science Symposium**” was hosted by the Mexican Academy of Sciences in Mexico City on April 20-21, 2009. The symposium was organized with the support of IAP, the Mexican National Council on Science and Technology (CONACYT) and ICSU's Regional Office for Latin America and the Caribbean (ICSU-LAC). In line with the recommendations of the IAC Study *Women for Science* the aim of the workshop was to evaluate the reasons behind the regional low representation of women in science and engineering considered as a major hindrance to regional capacity building in science and technology. Discussions focused on the analysis - through a regional perspective - of political, legislative and

cultural factors limiting and/or encouraging the access of women to science and technology; successful experiences favoring gender equity in research and development; and the elaboration of a set of actionable recommendations to be addressed to the Science and Engineering Academies in the region aiming inclusion and gender mainstreaming in the Americas. The workshop included 31 participants from 16 countries from academia, government, international organizations and the private sector, from the North America, Central America, South America and the Caribbean region.

THE IAC SECRETARIAT

The IAC Secretariat is hosted by the Royal Netherlands Academy of Arts and Sciences in Amsterdam. The IAC continues to be located at the Royal Netherlands Academy of Arts and Sciences (KNAW) in Amsterdam under the current agreement between the IAC and the KNAW. The IAC Co-Chairs look forward to an even stronger partnership between the KNAW and the IAC in the next years. **John P. Campbell** continues to serve as IAC Executive Director. **Paulo de Goes** serves as IAC Associate Director. **Albert Koers**, former IAC Executive Director, will continue as IAC General Counsel until 1 April 2010, when he assumes the position of Interim Executive Director of the InterAcademy Panel. **Anne Muller** serves as IAC Program Coordinator. The IAC continues to employ consultants, serving as needed for professional staffing of studies and publication development.

John P. Campbell
IAC Executive Director
18 March 2010