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INTERACADEMY COUNCIL REPORT RECOMMENDS FUNDAMENTAL REFORM OF IPCC MANAGEMENT STRUCTURE

UNITED NATIONS — The process used by the Intergovernmental Panel on Climate Change to produce its periodic assessment reports has been successful overall, but IPCC needs to fundamentally reform its management structure and strengthen its procedures to handle ever larger and increasingly complex climate assessments as well as the more intense public scrutiny coming from a world grappling with how best to respond to climate change, says a new report from the InterAcademy Council (IAC), an Amsterdam-based organization of the world's science academies.

"Operating under the public microscope the way IPCC does requires strong leadership, the continued and enthusiastic participation of distinguished scientists, an ability to adapt, and a commitment to openness if the value of these assessments to society is to be maintained," said Harold T. Shapiro, president emeritus and professor of economics and public affairs at Princeton University in the United States and chair of the committee that wrote the report. Roseanne Diab, executive officer of the Academy of Science of South Africa and professor emeritus of environmental sciences and honorary senior research associate at the University of KwaZulu-Natal in Durban, served as vice chair of the committee, which included experts from several countries and a variety of disciplines.

The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to inform policy decisions through periodic assessments of what is known about the physical scientific aspects of climate change, its global and regional impacts, and options for adaptation and mitigation. Representatives of 194 participating governments make up the Panel, which sets the scope of the assessments, elects the Bureau that oversees them, and approves the Summaries for Policymakers that accompany the massive assessment reports themselves, which are prepared by thousands of scientists who volunteer for three Working Groups.

These assessment reports have gained IPCC much respect including a share of the 2007 Nobel Peace Prize. However, amid an increasingly intense public debate about the science of climate change and costs of curbing it, IPCC has come under closer scrutiny, and controversies have erupted over its perceived impartiality toward climate policy and the accuracy of its reports. This prompted U.N. Secretary-General Ban Ki-moon and IPCC chair Rajendra K. Pachauri to issue a letter on March 10 this year requesting that the IAC review IPCC and recommend ways to strengthen the processes and procedures by which future assessments are prepared.

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The IAC report makes several recommendations to fortify IPCC's management structure, including establishing an executive committee to act on the Panel's behalf and ensure that an ongoing decision-making capability is maintained. To enhance its credibility and independence, the executive committee should include individuals from outside the IPCC or even outside the climate science community. IPCC also should appoint an executive director — with the status of a senior scientist equal to that of the Working Group co-chairs — to lead the Secretariat, handle day-to-day operations, and speak on behalf of the organization. The current position of the IPCC secretary does not carry a level of autonomy or responsibility equivalent to that of executive directors at other organizations, the IAC committee found.

The part-time nature and fixed term of the IPCC chair's position has many advantages, the committee said, but the current limit of two six-year terms is too long. The IPCC chair and the proposed executive director, as well as the Working Group co-chairs, should be limited to the term of one assessment in order to maintain a variety of perspectives and fresh approach to each assessment. Formal qualifications for the chair and all other Bureau members need to be developed, as should a rigorous conflict-of-interest policy to be applied to senior IPCC leadership and all authors, review editors, and staff responsible for report content, the committee added.

Given that the IAC report was prompted in part by the revelation of errors in the last assessment, the committee examined IPCC's review process as well. It concluded that the process is thorough, but stronger enforcement of existing IPCC review procedures could minimize the number of errors. To that end, IPCC should encourage review editors to fully exercise their authority to ensure that all review comments are adequately considered. Review editors should also ensure that genuine controversies are reflected in the report and be satisfied that due consideration was given to properly documented alternative views. Lead authors should explicitly document that the full range of thoughtful scientific views has been considered.

The use of so-called gray literature from unpublished or non-peer-reviewed sources has been controversial, although often such sources of information and data are relevant and appropriate for inclusion in the assessment reports. Problems occur because authors do not follow IPCC's guidelines for evaluating such sources and because the guidelines themselves are too vague, the committee said. It recommended that these guidelines be made more specific — including adding guidelines on what types of literature are unacceptable — and strictly enforced to ensure that unpublished and non-peer-reviewed literature is appropriately flagged.

The committee also called for more consistency in how the Working Groups characterize uncertainty. In the last assessment, each Working Group used a different variation of IPCC's uncertainty guidelines, and the committee found that the guidance is not always followed. The Working Group II report, for example, contains some statements that were assigned high confidence but for which there is little evidence. In future assessments, all Working Groups should qualify their understanding of a topic by describing the amount of evidence available and the degree of agreement among experts; this is known as the level of understanding scale. And all Working Groups should use a probability scale to quantify the

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likelihood of a particular event occurring, but only when there is sufficient evidence to do so.

IPCC's slow and inadequate response to revelations of errors in the last assessment, as well as complaints that its leaders have gone beyond IPCC's mandate to be "policy relevant, not policy prescriptive" in their public comments, have made communications a critical issue. The IAC report recommends that IPCC complete and implement a communications strategy now in development. The strategy should emphasize transparency and include a plan for rapid but thoughtful response to crises. The relevance of the assessments to stakeholders also needs to be considered, which may require more derivative products that are carefully crafted to ensure consistency with the underlying assessments. Guidelines are also needed on who can speak on behalf of IPCC and how to do so while remaining within the bounds of IPCC reports and mandates.

The IAC committee credited IPCC with having proved its adaptability, and urged it to be even more creative in maintaining flexibility in the character and structure of assessments, including possibly releasing the Working Group I report, which examines the physical scientific aspects of climate change, a few years ahead so the other Working Groups can take advantage of the results.

The committee emphasized that in the end the quality of the assessment process and results depends on the quality of the leadership at all levels: "It is only by engaging the energy and expertise of a large cadre of distinguished scholars as well as the thoughtful participation of government representatives that high standards are maintained and that truly authoritative assessments continue to be produced." It also stressed that because intense scrutiny from policymakers and the public is likely to continue, IPCC needs to be as transparent as possible in detailing its processes, particularly its criteria for selecting participants and the type of scientific and technical information to be assessed.

The committee's report was informed by public meetings where presentations were made by IPCC and U.N. officials as well as experts with different perspectives of IPCC processes and procedures. The committee also gathered input from experts and groups via interviews and a widely circulated questionnaire that was posted on the web so the public could comment.

The IAC report is expected to be considered at the 32nd Plenary Session of the IPCC in Busan, South Korea, Oct. 11-14. The report was sponsored by the United Nations Environment Programme. A committee roster follows. The report is available online at http://reviewipcc.interacademycouncil.net/.

Founded in 2000, the IAC was created to mobilize top scientists and engineers around the world to provide evidence-based advice to international bodies such as the United Nations and World Bank — including preparing expert, peer-reviewed studies upon request. It is co-chaired by Robbert Dijkgraaf, president of the Royal Netherlands Academy of Arts and Sciences, and Lu Yongxiang, president of the Chinese Academy of Sciences. The IAC Secretariat is hosted by the Royal Netherlands Academy of Arts and Sciences in Amsterdam.

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