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Academies of Science as Key Instruments of Science Diplomacy

Mohamed Hassan, Volker ter Meulen, Peter F. McGrath, and Robin Fears

ACADEMIES of science are typically independent organizations that commit to the role of advancing science and evidence in policy making. By definition, they are merit based, with members selected from among the leading scientific minds within a country or region. As such, they are viewed at home and abroad as places where scientific excellence across disciplines is represented.

In addition to their honorific roles, academies are vital civil society institutions that have the credibility to inform the public and policy makers about problems and potential solutions. Their credibility comes not only from the scientific excellence of their members but also from their freedom from vested political and commercial interests. Indeed, although many academies were established by national governments and tasked with serving their countries by bringing scientific perspectives to bear on national and international issues, among other things, they were also constituted as independent bodies.

Mohamed Hassan is the co-chair of IAP, the global network of science academies.

Volker ter Meulen is the co-chair of IAP, the global network of science academies.

Peter F. McGrath is the coordinator of IAP, the global network of science academies.

Robin Fears is the director of the Biosciences Programme at the European Academies Science Advisory Council.

Just as each academy has the potential to represent an authoritative voice nationally, the unified voice of academies can have a great impact at the international level. For example, IAP—the global network of science academies, which is based in Trieste, Italy, provides a platform that allows its 107 member academies to work together across national borders and to contribute to global policy debates. IAP reports and recommendations, prepared by leading scientists from the global community and robustly peer reviewed by others, are extremely important and credible sources of policy advice. And with their connections to national governments, as well as the United Nations (UN) and other international bodies, IAP's member academies can bring this advice directly to the world's decision makers.

Indeed, whereas about twenty countries have dedicated high-level science advisors (a recent meeting in New Zealand brought most of them together for the first time[1]), academies of science can be found in most of the world's countries, with parts of Africa and the Middle East being the main exceptions. In addition, IAP has four affiliated regional networks covering Europe, Africa, the Asia-Pacific region, and the Americas,[2] while academies such as The World Academy of Sciences (TWAS) and the African Academy of Sciences draw their membership from a range of countries. Capitalizing on this collated experience from the regions enables IAP to construct and analyze a very diverse evidence base that, when combined with the examination of differing regional perspectives and policy needs, creates a rich and authoritative resource with which to inform global policy options.

Since IAP was founded in 1993, academies around the world have become more active and effective in working together when pursuing their mission of service to society. Indeed, it was an informal association of fifty-eight academies that attended the inaugural Population Summit of the World's Science Academies in New Delhi, India, in October 1993. In 2000, IAP developed a more formal structure following the Transition to Sustainability in the 21st Century conference held in Tokyo, Japan. Both these meetings ended with participating academies endorsing a policy-relevant statement on the conference's key themes. It was also in Tokyo that the decision was made to formalize the structure of IAP and to transfer the secretariat from the Royal Society in London to TWAS in Trieste. Since then, academies have built a collective track record of addressing global issues by providing objective, evidence-based opinions on science-based issues of critical importance to society.

IAP has promoted science diplomacy by forming effective global and regional networks and facilitating academies to act jointly to address critical issues of global and regional importance.

IAP also releases timely and authoritative statements on critical issues to advise on and affect policy. Recently, for example, IAP and its member academies released statements concerning the emerging field of synthetic biology. IAP called for the encouragement and support of responsible research and innovation in the field and cautioned against stifling research by imposing excessive restrictions. IAP also recommended a broad dialogue on synthetic biology among scientists,

social scientists, nongovernmental organizations, and international organizations, such as the Convention on Biological Diversity. Likewise, in partnership with the InterAcademy Medical Panel (IAMP; also based in Trieste), in 2013, IAP urged governments to take seriously the threat of antimicrobial resistance, offering a coordinated series of ten recommendations including those for both extending the life of current drugs and for seeking new active substances.[3]

By convening experts from diverse fields and different countries at regional or global workshops, IAP and its affiliated networks can quickly react to policy issues that will likely have effects across international boundaries. One such example is the recent workshop convened by the Nicaraguan Academy of Sciences, in partnership with the InterAmerican Network of Academies of Sciences, where participants discussed potential impacts of the proposed Nicaragua Grand Canal that will link the Atlantic and Pacific Oceans. Concerns raised by participants during the workshop were shared with the Nicaraguan government, the Chinese company building the canal, and the public.[4]

And when two leading academies, the United Kingdom's Royal Society and the U.S. National Academy of Sciences, came together to publish a report on the evidence for climate change,[5] the IAP network—through the Mexican Academy of Sciences—stepped in to translate it into Spanish and to present it to the 2nd World Summit of Legislators, which convened in Mexico in June 2014.

Now, as international attention is turning from the Millennium Development Goals to the Sustainable Development Goals, IAP is also evolving. A new umbrella organization is emerging that brings IAP closer together with IAMP and the InterAcademy Council (IAC). This InterAcademy Partnership will expand the range, resources, and scope of the inter-academy network by linking to dedicated medical academies and leveraging IAC's experience working with the World Bank, the Intergovernmental Panel on Climate Change, and other international bodies.

The new InterAcademy Partnership will continue to engage its member academies by organizing global and regional workshops and conferences to address common challenges and to build multidisciplinary "science bridges" between nations. It will continue to produce evidence-based statements and reports examining major priorities for sustainable development, and it will provide independent and authoritative advice to national governments and intergovernmental organizations, including the UN, on critical science-based issues. It will also use the expertise of its leading members to assist in building the capacity of its less-experienced and ne west members, thus strengthening their ability to take on an advisory role in their own nations and to contribute to global discussions.

Thus, extending the strengths of IAP, IAC, and IAMP, the new InterAcademy Partnership will provide a collective mechanism and voice for science academies to continue their crucial roles as providers of evidence-based policy and advice, including in the international arena of science diplomacy. **SD**

Endnotes

1. International Network for Government Science Advice, "Science Advice to Governments" (conference, Auckland, New Zealand, August 28–29, 2014), http://www.globalscienceadvice.org/archive-2014-conference.
2. These include the European Academies Science Advisory Council, the Network of African Science Academies, the Association of Academies and Societies of Sciences in Asia, and the InterAmerican Network of Academies of Sciences.
3. For a listing of all IAP Statements, visit http://www.interacademies.net/10878.aspx.
4. Jorge A. Huete-Perez, Axel Meyer, and Pedro J. Alvarez, "Rethink the Nicaragua Canal," Science 347, no. 6220 (January 23, 2015): 355, http://www.sciencemag.org/content/347/6220/355.summary.
5. The Royal Society and the U.S. National Academy of Sciences, Climate Change: Evidence & Causes, February 27, 2014, https://royalsociety.org/policy/projects/climate-evidence-causes.