

The science-policy interface

How do we ensure the effective role of science in public policy-making? This well-worn, long-standing question reflects the fact that the answer is not simple. Later this month in Brussels, scientists and policy-makers will convene at the International Network for Government Science Advice (INGSA) Forum to consider the most promising ways forward.

Scientists are often perplexed by the apparent failure of their evidence to affect policy. Despite years of accumulated evidence for anthropogenic climate change, policy-makers have been slow to react. The public health community is frustrated that few countries have adopted effective measures to address obesity. In these and other cases, evidence is often contested, and the policy responses are incremental at best. But policy-makers, too, are vexed by scientists' ability to identify problems, yet frequent inability to place their work in the context of timely and feasible policy solutions.

Often forgotten is that policy-making is messy. Although a tidy, analytically driven cycle of policy-making might seem logical to scientists trained in the tradition of hypothesis generation and testing, policy-making is instead a networked process in which scientific evidence is only one of many inputs. The notion of "evidence" comes in multiple forms. Public opinion polls and anecdotes are often considered "evidence" for a certain course of action. Policy decisions involve balancing empirical data with other arguments.

The place of science is distinguished from other policy inputs by its relative objectivity obtained through formal processes designed to limit bias in data collection and analysis. Much scientific and societal debate emerges because of different views on evaluating the sufficiency of evidence on which to draw conclusions. Moreover, the issues for which scientific input is most needed by policy-makers are the very ones for which the science is often the most complex, multidisciplinary, and incomplete. In the absence of easily digestible scientific evidence, Wiki-

pedia can become a policy analyst's best friend. And with the new lure of big data promising policy-relevant revelations, the need to ensure that policy-makers avoid analytical pitfalls is pressing.

Providing scientific advice to government takes place within an ecosystem. It is a combination of actors who are both internal and external to government, with advice that is formal and informal. All of this comes in many guises and is conditioned by context. For instance, there will be different mechanisms for regulatory advice, program development, and cabinet-level decision-making. The latter often occur as informal conversations and brainstorming at opportune moments. National emergencies, by contrast, require instant scientific input through formal channels linked closely to crisis management and risk communication. For more slow-burning policy questions, internal advisors can ensure the integrity of science while those from outside government—such as academies—are a critical source of analysis and commentary.

But does such an ecosystem not risk becoming a cacophony of complicated claims for the policy-maker? One way forward is to establish principles that underpin effective science advisory mechanisms across all these dimensions and to build capacity on both the supply and demand sides of advisory processes. INGSA is dedicated to doing exactly this. The network brings together advisers, policy-makers, and scholars from more than 70 countries, with the goal of improving knowledge and practice at the interface of science and public policy. With the science-intensive United Nations Sustainable Development Goals, climate change, and other global challenges now part of many countries' policy discourse, the INGSA Forum will facilitate much-needed dialogue. Although the place of scientific evidence in policy-making is neither straightforward nor guaranteed, our commitment to it has never been more important.

—Peter Gluckman



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