



Workshop Report:
Broadening the
scope of science
advice

Engaging knowledge- creators beyond the academy



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Report based on the Global Young Academy – Joint Research Centre – International Network for Government Science Advice workshop ‘Broadening the scope of science advice: Best practices for engaging knowledge creators beyond the academy’ on 28 September 2016 in Brussels, Belgium.

Participants, in alphabetical order: Abhi Veerakumarasivam, Amal Amin, Bart Kolodziejczyk, Connie Nshemereirwe, Dmitry Maslov, Dora Dudas, Francesco Fusaro, Koen Vermeir, Liat Ayalon, Mari-Vaughn Johnson, Moshe Masonta, Muhammad Zaman, Nguyen TK Thanh, Patrizio Antici, Roberta D’Alessandro, Sven Schade.

Convenor: Eva Alisic, Monash University and Global Young Academy

Facilitator: Maggie Dugan, Knowinnovation / Inclusive Innovation

Speakers: Ulla Engelmann, Joint Research Centre; Rees Kassen, University of Ottawa

Rapporteur: Tracey Elliott, independent consultant

The workshop was generously supported by the European Commission’s Joint Research Centre and the International Network for Government Science Advice.

Publishing Date: November 2016

Publisher:

Global Young Academy
Jägerstr. 22/23
10117 Berlin
Germany



Layout: Friederike Aps/ GYA

Media Contact:

media@globalyoungacademy.net
+49 (0)30 20370 - 653

www.globalyoungacademy.net



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The Global Young Academy gratefully acknowledges funding by the Federal Ministry of Education and Research in Germany.

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The strapline for the United Nations' 2030 Agenda for Sustainable Development, otherwise known as the Sustainable Development Goals, is "leave no-one behind". This is set against a growing demand for more democratic, open policymaking, which necessitates opening up the whole process to new voices, ideas and techniques - not just listening to experts from perceived ivory towers of academia or a seemingly restricted group of internal advisors.

Added to this, only a small proportion of the recognised scholarly knowledge available in the "ivory towers" and conventional sources of academia is ever drawn on for science advice (in science academies typically less than 10% of their membership). Fishing from a small pool of know-ledge-creators can reinforce certain types of advice and exclude relevant insight and expertise: more established senior scientists and conventional structures of science do not necessarily represent new and cross-disciplinary perspectives or new and emerging technologies. What is more, it will be new and future generations that are most affected by the decisions that are made today: they should be involved in the processes shaping their own future. And with the rise of citizen science and a growing recognition of the value of indigenous or traditional knowledge, "knowledge creators" are not found exclusively in conventional institutions/communities, such as science academies and universities; they can be found in places we don't necessarily expect.

So how can science advice systems be more inclusive and draw on a more diverse pool of knowledge creators to enrich science advice and better inform policymaking?

Running in parallel with an International Network for Government Science Advice (INGSA) meeting on principles for science advice to policy, 16 early- and mid-career scientists from wide-ranging disciplines, work environments, and countries met in Brussels, Belgium, to discuss how science advice can become more inclusive and more diverse. The Global Young Academy (GYA) convened the workshop, sponsored by the European Commission's Joint Research Centre and INGSA, who were curious to see how young scientists could offer a fresh perspective on how the research community can respond to the increasing

demand for more open policy-making and what barriers remain in the policy-making community that hamper inclusiveness of scientists. The participants identified the following key requirements for a more diverse policy advice community:

1. **Creating a more diverse source/supply of knowledge:** how to (i) access new sources and (ii) encourage, motivate and incentivise “knowledge creators” to apply their knowledge to policy issues. Young scientists can act as intermediaries/bridgers between, established and nascent research communities. The Young Academies (e.g. the Global Young Academy and the National Young Academies) can play a facilitative role in this regard.
2. **Creating a more diverse set of audiences for science policy advice:** not just government advisers but also local communities, schools, and NGO’s can be important ‘advice receivers’. The ultimate aim is not to provide science advice per se, but to support improvements in society; these can be achieved via a variety of routes. Young scientists are community members, are often well versed in current forms of social media communication, and can play a role as interlocutors.
3. **Creating a more diverse advisory system that is navigable and efficient so that advice is timely, practicable and responsive:** by (i) building on existing, established sources and making them more diverse and fit-for-purpose (e.g. science advisers, academies, intermediaries) and (ii) creating new constitutions and/or intermediaries (e.g. advisory boards that include citizen scientists, young scientists, indigenous knowledge holders).
4. **Creating a more diverse advisory system that is quality assured and impact assessed:** it remains important to distinguish between knowledge and opinion, minimise bias and prejudice, and manage the tension between quality and inclusion. The diversity and inclusiveness of science advice should be evaluated in themselves, with metrics that do not involve (or stimulate) the simple ticking of boxes.

5. **Applying all of this locally, nationally, regionally and globally:** while clear and consistent standards across a diverse range of contexts/countries/cultures would be ideal, it is important to acknowledge (and cater for) the large differences between contexts of science advice. While principles and good practice should be shared through the many established avenues (e.g. INGSA, the International Council for Science, UNESCO, OECD, the Inter-AcademyPartnership, the Global Young Academy, National Young Academies, etc.), these should be flexible enough to allow local adaptation and success.

Beyond the headlines: the discussions about inclusive science advice

Exploring how science policy appears to work now and how it could work in a future ideal world, the young scientists observed that countries have different ways of structuring science policy advice but all tend to draw on a small pool of established, conventional institutions/networks, which do not necessarily represent emerging cross-disciplines, cutting-edge, fast-moving science (e.g. the growing field of citizen science) or traditional/indigenous knowledge. They observed the „cut and paste“ of generic policy advice - perhaps especially but not exclusively in low and middle income countries - compared to an organic, context-specific process.

An ideal future scenario would see science advice being perfectly inclusive, with mutual respect and patient communication between all stakeholders; co-design and co-development of policies that are relevant and real; accounting for both established and exploratory science; having a demonstrable impact across a diverse range of beneficiaries; requesters of science advice being not just decision-makers but also local communities; inclusivity of those who give and those who receive advice, with grassroots/bottom up perspectives given more weight than they are today. Accepting the practical challenges of such an ideal world, the participants discussed wide-ranging and complex issues, including the imperative to understand:

- the barriers to inclusion: (i) institutional - how to identify experts sitting outside traditional institutions and „pluralise“ science; (ii) epistemic - how to assure the quality of input; (iii) communication - how to build a common language for policy advice;
- what constitutes legitimate knowledge and how we might value, weight and synthesize different kinds of knowledge;
- how we might expand our notion of quality both institutionally and methodologically in order to accommodate less conventional forms of knowledge;
- the importance of developing processes for co-development and co-design of science advice with various groups of knowledge creators;
- how to build trust between the various actors in knowledge creation and knowledge use, especially for situations in which scientific evidence and public opinion are not aligned;
- how to encourage, incentivise and create mechanisms for scientists and wider knowledge-creators to participate in science advice and become more policy-literate;
- the importance of strengthening institutions that mediate between scientists, policy maker and the public (since not all knowledge creators are or should be good knowledge communicators)
- how to systematise and synthesise increasing volumes of evidence to make it more accessible, intelligible, useable and timely; and ultimately,
- how to evaluate the extent to which science advice has been inclusive.

From the wealth of ideas and concerns discussed throughout the day, the participants identified four priority questions and presented these to the concurrent INGSA meeting on the development of principles for science advice:

1. **What can we do as scientists?** How can we incentivise scientists to engage more with policymakers and become more policy-literate/policy-aware? What do scientists need to know about policy making and the use of scientific advice in a broader decision-making framework that must also account for values, expectations and experience? Do we need knowledge brokers or intermediaries to facilitate, and if so who are they and where are they? How can scientists help policymakers apply a more scientific approach to weighting different forms of evidence relevant to science advice?
2. **How can we bring younger generations into policy advice/insight?** How can we benefit from the capabilities of young scientists as intermediaries between established and future scholars? How might we facilitate this through National Young Academies and the GYA?
3. **How can we promote bottom-up approaches?** How can we promote greater openness in policymaking at local and national levels, and make it common practice? Can scientists work more closely with local communities, as well as their governments, and help develop a feedback loop on policy impact with citizens?
4. **How can we widen the pool of knowledge-creators to help advise policy?** Can we pluralise science and break down the barriers between the presently narrow demographic of science advice and new and emerging disciplines, citizen science, practical and indigenous knowledge? How can we manage the potential tension between inclusion and quality?

Considering how to add value to the „mainstream“ debate on what constitutes robust science advice to policy, the participants expressed doubt about their credibility and legitimacy at the beginning of the workshop. However, the workshop itself illustrated the potential added value of engaging a wider demographic of the research community, bound by the shared desire to help shape policy for societal good.

About the Global Young Academy

The Global Young Academy was founded in 2010 with the vision to be the voice of young scientists around the world. The GYA empowers early-career researchers to lead international, interdisciplinary, and intergenerational dialogue by developing and mobilizing talent from six continents. Its purpose is to promote reason and inclusiveness in global decision-making. Members are chosen for their demonstrated excellence in scientific achievement and commitment to service. Currently there are 200 members and 134 alumni from 70 countries.

The academy is hosted at the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) in cooperation with the German National Academy of Sciences Leopoldina. The GYA has been supported by the IAP: the Global Network of Science Academies and received its seed funding from the Volkswagen Foundation. Since 2014 it has been funded by the German Federal Ministry of Education and Research (BMBF). The GYA has also benefitted from project funding from a variety of donors and partners.



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