



Opening the floor for discussion: A perspective on how scholars perceive attitudes to science in policymaking in South Africa

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Policymakers are a vital group with whom scientific research should be communicated, especially when the reason for many research projects is linked to relevance for socio-political and economic management. Science communication has a vital role in transforming research into policy, and a core element of this process is understanding the target group, namely policymakers. Science and policy influence each other deeply, so researchers and policymakers should improve their understanding of each other and of the processes involved in both fields in order to better collaborate. Accordingly, an in-depth understanding of how scholars perceive policymakers is a precondition for scientists to achieve any desired management and policy impacts.

In December 2019, six researchers and one research manager from Stellenbosch University, South Africa, gathered to discuss their understanding of policymakers. The discussion was part of a Science Communication Masterclass hosted by the South African Research Chair in Science Communication and Econnect Communication, Australia. The purpose of the group discussion was to develop a science communication strategy that would enhance the sharing of scientific research outputs with policymakers in South Africa. We explored five questions to help us record our perception of policymakers: (1) Who do we think the policymakers are? (2) How do we think that policymakers perceive research? (3) What concerns do we believe that policymakers have about research? (4) What information do we think policymakers are interested in? (5) What forms of communication do we think policymakers prefer?

This Commentary presents our view on how we think researchers perceive policymakers, as discussed in the Science Communication Masterclass. We hope to initiate a discussion around science communication with policymakers, and improve current practices.

Describing policymakers

The term ‘policymaker’ is widely used to refer to people who have political influence that directly develops or changes policies, regulations, rules and directives. In our discussions, we initially identified policymakers as people employed in government agencies and based our views on those with whom we have regularly interacted. Non-government organisations (NGOs) were later included as ‘policymakers’ owing to their impacts on the actions of some communities and their potential influence on government decision-making. We did not include the private sector in our description of policymakers, because we have limited experience of this scenario, but we acknowledge that the private sector is an important component of decision-making and should be explored further. We also recognise that policymaking is a complex process and that no single individual or group of individuals has absolute control over the drafting, editing, consultation, discussion and adoption of policies.

The group acknowledged that policymakers’ networks are from different sectors (e.g. private, government, NGOs); thus identifying and connecting with a person or department as the access point might be challenging for researchers, as well as to further report the scientific findings or shape the information to the specific public.¹

We bring to this Commentary a range of research experience that broadly encompasses environmental conservation, ethics, health, packaging development, food science, fisheries, and invasive species management. We feel that in our research, we would most likely be communicating with officials in the Ministries of Health and Environment, Forestry and Fisheries. The Commentary is written from our perspective, yet there are likely many unique researcher perspectives in South Africa, so a further discussion on this topic is highly encouraged beyond this Commentary.

The policymaker’s perception of research

University scholars and policymakers typically have different goals and are embedded within very different bureaucratic systems.² Typically, the two groups value different types of information, are subject to differing time frames, and may use distinct ‘languages’. However, there are also many scientists working in science councils and other parastatals, such as the Council for Scientific and Industrial Research (CSIR), South African National Biodiversity Institute (SANBI) and the Medical Research Council (MRC), as well as in government departments, who engage more frequently with policymakers, and in different ways from those experienced by scientists embedded in universities. Recognising these differences, we discussed some of the perceptions that policymakers might have about research and identified several problem areas, the most significant of which are outlined below.

Research can be inaccessible

Policymakers may find primary research material inaccessible. Reasons may be the limitations on (1) the physical availability and accessibility of the primary literature and underlying data (policymakers may not have subscriptions to closed access/paywalled journal articles) and (2) the expertise to interpret and use research outputs to inform their policy-related decision-making³ and (3) the time and resources required to keep up with a burgeoning and continually evolving body of literature. Indeed, policymakers have acknowledged that they often turn to secondary sources of information.^{4,5} Thus, limited access to research may maintain the discovery–delivery gap and hinder the use of relevant research for policymaking.⁶



Research is sometimes not fit for purpose

Moreover, research outputs may differ from expected results and hypotheses, or stray from the project as originally proposed. This may happen as research and knowledge constantly change and evolve, but also because of external influences like unforeseen political, social, and environmental events. These changes in research and context may frustrate policymakers and even result in suspicion and mistrust, especially if research outputs were intended to inform specific policies.

An erosion of mutual trust or respect can deeply affect the ability of different groups to work together and may inhibit collaboration.^{2,7} The importance of personal contact between researchers and policymakers has been highlighted by Innvaer et al.⁸ and Von der Heyden et al.⁹ Personal trust and respectful contact are important enabling factors for the transformation of research into policy and may build lasting connections.

Research can take time

Whether commissioned or not, research often takes a long time and there are often notable time lags between project conception and completion. These factors are of concern to policymakers, who require evidence to support urgent decisions.³ Policymaking is directly allied to the fluctuations of society and therefore must move more quickly than research. It is also, often, urgent. By the time that research findings are ready to be used in policy, the specific issue may no longer be a priority.⁹ If the research information is already published or in the public domain before the policymaker requires the output, then more time may be needed even if no new data are required, as publications may need to be interpreted and aligned with the policy decision-making process.

Research can be expensive

Budget limitations were identified as a major concern to policymakers when considering the expense of accessing published research or of commissioning research to address policy questions. When incorporating research into decision-making, policymakers may be concerned about the high cost involved, especially as the outputs (e.g. publications) may not be readily accessible to them or to their constituencies. Researchers, therefore, should supply cost–benefit or cost-effectiveness comparisons to motivate research support. By clearly defining the benefits of research for policy change, researchers can demonstrate that the research is fit-for-purpose, therefore reducing the perceived financial risk to policymakers.

The research message is often complex

Statistical methods underpinning research findings are often based on estimates, *p*-values, confidence intervals, and other metrics unfamiliar to non-specialists, and the key benefits and limitations of the methods may be poorly presented. Communication of uncertainty is another essential part of scientific discourse, as researchers attempt to characterise and quantify uncertainty (e.g. assumptions) in publications and presentations.¹⁰ The complexity in the discourse around research results, as well as inaccurate communication of uncertainty and study assumptions can result in policymakers receiving wrong or even perverse messages about research findings.^{6,9}

In order to support decision-making, policymakers may require research findings to be communicated by summaries in less technical formats, for example, policy briefs. This can present a challenge to researchers, who are seldom trained to present their methods or findings in such formats. However, this task is important for researchers to master if they are to communicate effectively with policymakers.^{11,12}

Scalability and relevance

The scalability of research results may also concern policymakers. We understand scalability to be the suitability or adaptability of findings to settings other than the specific one studied. In fields such as health and environmental monitoring, the results of site-specific or demographic-specific studies may not apply to a wider domain beyond the original study area. Given that we argue that policymaking is wide-scale decision-making, we believe that policymakers may well have concerns over whether research projects can be generalised to a broader area.

Policymakers are also impacted by the extent to which researchers involve stakeholders who might be affected by the policy changes. At first, we argued that a high level of stakeholder involvement was a high priority for policymakers. However, where links between research and stakeholders are unclear, policymakers might question the relevance of the research for large-scale policy change. Ideally, co-production of knowledge should be undertaken to ensure that the outcomes are relevant and useful for all role players.¹³⁻¹⁵

What information do policymakers want from researchers?

Policymakers usually want research outcomes that are practical and can be applied directly in policy formulation. Evidence-based research and results are used to defend a policy change or an action. From the point of view of a researcher, the interaction between researcher and policymaker may be (1) passive – the policymaker wants to design a project or needs the help of an expert and contacts the researcher for information, or (2) active – the researcher contacts a policymaker who is in a position to use their work.¹¹ The communication approach and its outcome might be different, depending on the situation that led to the interaction. In passive interactions, we anticipate that policymakers are already well informed about the research, and it is the communication itself that may present challenges.

When a researcher actively approaches a policymaker, there is a need for detailed explanation of the implications of the research and how it might guide or support policymaking. However, the policymaker may question the validity of the research, as well as its applicability to a wider scenario or context. To have the best results with proactive approaches, researchers need to be clear about what they want to achieve, produce strong evidence therefor, and emphasise the validity of the research findings, as well as the applicability to the wider policy landscape. Finally, based on the cost (time and money) and the scale of potential impacts of amending existing policies, we believe that policymakers place substantial value on how well research results align with existing policy and the political context and address shortcomings that may have been identified in current policy. Research is unlikely to influence policy if the required changes are not feasible in the short term.

What form of communication do policymakers prefer?

We also attempted to identify the forms of communication that policymakers might prefer. The amount of information that can be transferred in a communication interaction is limited, and policymakers receive substantial amounts of information every day from different sources.⁹ A study from the USA showed that by far the largest part of any information given to a policymaker is not assimilated or even accessed.¹⁶ The key to effective research communication with policymakers, therefore, is to provide policy-specific (relevant) information free from unnecessary embellishments.

In our experience, the most productive interactions with policymakers are based in personal communication between researcher and policymaker, rather than in broadcast methods such as emails, reports or brochures. Face-to-face interactions such as discussion sessions, telephone calls, or feedback workshops are the most effective and preferred. However, formal written communications, such as reports and policy or media briefs, are often effective in facilitating discussion when they follow or are combined with personal interaction.

For researchers, personal communication with policymakers takes time and effort, and may be more feasible when a researcher has a working knowledge of the policymakers in their field. When there is no prior knowledge of the key players, then some form of relationship-building must first take place. Similarly, if policymakers can identify the key researchers who are generating evidence related to their policy, they may find it easier to approach the researcher to establish a communication channel.

Globally, there have been various attempts to bridge the communication gap between researchers and policymakers, such as the 'Science meets Parliament' initiative in Australia.^{17,18} At these gatherings, practising scientists and Members of Parliament discuss mutually agreed priorities. Two positive outcomes include: (1) opening channels of communication between scientists and politicians, and (2) building a cohort of scientists who are comfortable engaging with politicians and the policymaking processes.¹⁷

Whether or not policymakers hold scientific qualifications, they are expected to understand the often-complex policies they draft and approve as well as the supporting evidence. Similarly, researchers typically do not have policy experience and often struggle to engage with the official processes that are involved. Policymakers and researchers/

scholars often have different backgrounds and expertise, increasing the challenges in communication between them. Accordingly, we believe that the implementation of a 'Science meets Parliament' or similar initiative in South Africa might involve a broad range of policymakers, including political representatives and senior staff of government departments who meet face-to-face with researchers. We believe that such action might start to close the communication gap between these important groups and begin to form a community of practice for evidence-based policymaking in South Africa.

Figure 1 summarises this discussion and provides a visual interpretation of our perceptions of policymakers. We aim to encourage follow-up discussions with policymakers and researchers alike.

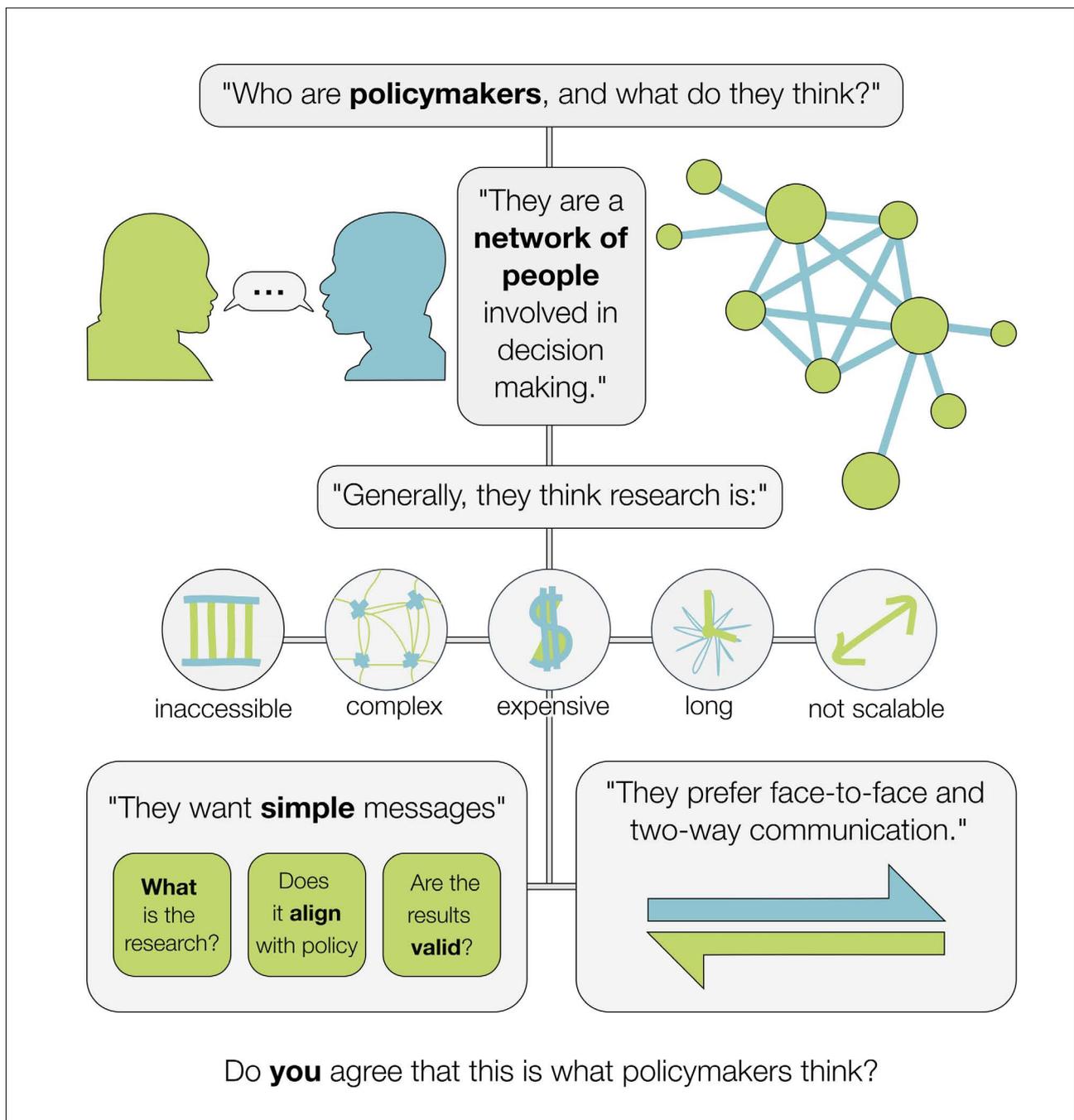


Figure 1: A researcher's perception of policymakers based on discussions held between seven researchers/research managers who met at the Science Communication Masterclass hosted at Stellenbosch University in December 2019.



Conclusions

After defining policymakers and understanding their thinking and their needs, several factors emerged that could hinder effective communication between them and researchers. Only by identifying these hurdles and finding effective measures to address them will we ensure that both groups can effectively achieve their goals.

A major gap we identified in our discussion was that researchers' perception of policymakers may well not represent the opinions and perspectives of policymakers themselves. Science communication is not a one-way transfer of knowledge, but may take many different directions, and policymakers will have their own contributions and experiences to share about researchers. Policymakers should be included in any future discussions to identify how they and researchers can become better connected. It would also be useful to outline exactly what researchers need from policymakers in order to ensure their research outputs are relevant and accessible, to define reciprocally who researchers are, and how researchers could be communicated with more effectively.

Future research needs to untangle the interactions between researcher perceptions of how policies are formulated and changed in practice. Furthermore, policymakers' perspectives should be explored in more detail and be compared to researcher perceptions before any conclusive statements can be made about science communication planning with policymakers. The formation of a more effective dialogue between policymakers and scientists should be addressed urgently to ensure that better understanding is created.

We recommend that an annual, formal interaction between researchers and government officials be facilitated through a 'Science meets Parliament' or similar initiative. Similar events in, Australia^{17,18}, Canada¹⁹ and the European Union have encouraged better translation of science into policy.

Finally, it is important to bear in mind that a person's perception may be mistaken, biased or context-dependent when considering different fields and research arenas. Ultimately, by expanding this discussion and exploring the interactions between perceptions and policy change, we will be better able to identify major areas where researcher–policymaker communication would be improved. We aim to stimulate debate around the ideas discussed here and encourage solutions to how the research–policy community might work together more effectively.

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Competing interests

We declare that there are no competing interests.

References

1. Farquharson K. A different kind of snowball: Identifying key policymakers. *Int J Soc Res Meth.* 2005;8(4):345–353. <https://doi.org/10.1080/1364557042000203116>
2. Choi BC, Pang T, Lin V, Puska P, Sherman G, Goddard M, et al. Can scientists and policy makers work together? *J Epidemiol Community Health.* 2005;59(8):632–637. <http://dx.doi.org/10.1136/jech.2004.031765>
3. Von der Heyden S, Lukey P, Celliers L, Prochazka K, Lombard AT. Science to policy – Reflections on the South African reality. *S Afr J Sci.* 2016;112(11/12), Art. #a0183. <http://dx.doi.org/10.17159/sajs.2016/a0183>
4. Lukey P. Triggering informed action. Paper presented at: The First United Nations World Data Forum; 2017 January 15–18; Cape Town, South Africa.
5. Paine CG, Sadan M. Use of evidence in policy making in South Africa: An exploratory study of attitudes of senior government officials. *Afr Eval J.* 2015;3(1), Art. #145. <http://dx.doi.org/10.4102/aej.v3i1.145>
6. Kerner JF Integrating research, practice, and policy: What we see depends on where we stand. *J Public Health Manag Pract.* 2008;14(2):193–198. <https://doi.org/10.1097/01.phh.0000311899.11197.db>
7. Isenberg P. The current drought exposes – not creates – long-standing water problems: Can policy-makers and scientists learn from this? *San Franc Estuary Watershed Sci.* 2014;12(2), Art. #2. <https://doi.org/10.15447/sfews.2014v12iss2art2>
8. Innvaer S, Vist G, Trommald M, Oxman, A. Health policy-makers' perceptions of their use of evidence: A systematic review. *J Health Serv Res Policy.* 2002;7:239–244. <https://doi.org/10.1258/135581902320432778>
9. Brownson RC, Royer C, Ewing R, McBride T.D. Researchers and policymakers: Travelers in parallel universes. *Am J Prev Med.* 2006;30(2):164–172. <https://doi.org/10.1016/j.amepre.2005.10.004>
10. Fischhoff B, Davis AL. Communicating scientific uncertainty. *Proc Natl Acad Sci USA.* 2014;111(4):13664–13671. <https://doi.org/10.1073/pnas.1317504111>
11. Choi BCK, Gupta A, Ward B. Good thinking: Six ways to bridge the gap between scientists and policy makers. *J Epidemiol Community Health.* 2009;63(3):179–180. <http://dx.doi.org/10.1136/jech.2008.082636>
12. Mwenesi HA. Communities, policy-makers and scientists: A critical partnership for malaria elimination. *Malar J.* 2012;11(1), Art. #14. <https://doi.org/10.1186/1475-2875-11-S1-014>
13. Schlesinger WH. Translational ecology. *Science.* 2010;329(1):609. <https://doi.org/10.1126/science.1195624>
14. Norström AV, Cvitanovic C, Löf MF, West S, Wyborn C, Balvanera P, et al. Principles for knowledge co-production in sustainability research. *Nat Sustain.* 2020;3:182–190. <https://doi.org/10.1038/s41893-019-0448-2>
15. Enquist CA, Jackson ST, Garfin GM, Davis FW, Gerber LR, Littell JA, et al. Foundations of translational ecology. *Front Ecol Environ.* 2017;15(1):541–550. <https://doi.org/10.1002/fee.1733>
16. Sorian R, Baugh T. Power of information: Closing the gap between research and policy when it comes to conveying complex information to busy policy-makers, a picture is truly worth a thousand words. *Health Aff.* 2002;21(2):264–273. <http://dx.doi.org/10.1377/hlthaff.21.2.264>
17. Gascoigne T. Science meets parliament in Canberra. *Eos.* 2001;82(1):515–516. <https://doi.org/10.1029/01E000309>
18. Gascoigne TH. Science meets the parliament: Australian case study. Paper presented at: Conference on Communicating European Research; 2005 November 14–15; Brussels, Belgium.
19. Zhao J, Azad M, Bertrand EM, Burton C, Crooks VA, Dawson J, et al. Canadian science meets parliament: Building relationships between scientists and policymakers. *Sci Public Policy.* 2020;47(2):298. <https://doi.org/10.1093/scipol/scz062>