



Credit: Trina Kar

What if we publish and yet they perish?

Unless science-communication is valued as much as journal articles, fundamentally important scientific insights, for example, on climate change, will not reach the people that are most affected, argues Abhishek Kar.

As an early-career researcher in air pollution and climate change, it is often frustrating to see that our painstakingly created research products, such as peer-reviewed publications, are ignored or blatantly misrepresented when they conflict with the views and/or interests of the political regimes around the globe. Paradoxically, it's the focus on peer-reviewed publications that makes us thrive inside academia, that contributes to people suffering from global environmental problems continuing unabated: good science remains safely tucked away in (mostly English-language) academic journals, ignored by policy-makers and powerful corporations alike. If our science is not able to improve the lives of the most vulnerable, one wonders what the real-world impact of 'high-impact' journal articles might be.

The traditional pathway of good science to paper/policy brief to policy action is clearly not working for serious issues such as air pollution and climate change. Hence, I believe that it is past time for us to start engaging with people directly to create bottom-up pressure on policy-makers to enact rigorous science-based policies. I realize that it is a daunting task to get everyday people to care about scientific findings and their real-world implications. While there are amazing examples of a concerned (pro-science) citizenry at one end of the spectrum, we also have vocal conspiracy theorists and an anti-expert mindset at the other end. In between, the vast silent majority of the general population does not engage much with science. Let us call them science-neutral people. They have experienced more frequent extreme weather events fuelled by climate change and breathe increasingly polluted air. Yet, many are often unable to link extreme weather to climate change explicitly, or to connect air pollution to gross corporate misconduct and government inaction. Regardless of the political systems across the world, if this science-neutral population starts caring about these topics, politicians will have to respond. Currently, policymakers get away with largely ignoring or playing down

scientific recommendations on the climate and ecological crisis.

Thankfully, some scientists are actively taking science to this science-neutral segment in the Western world, for example by producing and broadcasting videos that explain their important work to general audiences. Unfortunately, in the non-Western world, where most people do not speak English, there is not enough science outreach. Who is informing and engaging with the general population on these topics in an accessible format in countries such as China, India, Peru and Bangladesh, which are already facing the brunt of climate change, air pollution, contamination and other environmental impacts? One way of engaging with people directly is for scientists to use local languages and to produce not only easy-to-read texts but also other broadcast formats such as videos and podcasts. We must aggressively engage with the science-neutral population in non-Western countries, in their languages, at their time of choosing and in the mediums that they prefer.

By way of self-confession, I have not produced anything in my mother tongue, Bengali, which is spoken by 350 million people, primarily across India and Bangladesh. Should I have? Yes. But unfortunately, with all the time and resource constraints that a graduate student has to face, I prioritized products that were explicitly required to graduate and get a job: research proposals, papers and thesis chapters. To the best of my knowledge, there are not many popular avenues for the exclusively Bengali-speaking population to learn and engage with the science and the implications of the multiple environmental crises, even though they will be immediately affected, with the coastal population across Bangladesh facing the risk of unprecedented sea-level rise in the coming decades.

How do we start this cultural change in the scientific community? I call for reforming the academic system to explicitly value early-career researchers who publish materials for the general public, as a follow-up to publishing research

papers, and provide the necessary support system for the same. There is at least one low-hanging fruit: explicitly valuing science communications. Research grants should call for compulsory budget lines for producing and disseminating such content as research outputs. Major Western universities could tap into their existing networks with partner universities across different (especially developing) countries. Graduate course requirements should mandate students to partner with peers in collaborating institutions to develop at least one non-technical, audio-visual science outreach project. This process would also provide students with an opportunity to work in a multi-cultural environment, network, get creative and move out of their comfort zone of writing academic papers. Academic leadership should also actively support a science-communications agenda by explicitly rewarding science-communications efforts in hiring and promotion, in the same way that peer-reviewed publications are rewarded.

The research community needs to stand up and fight against the policy inaction on grave threats to human well-being by making the science-neutral population aware of the looming environmental threats and the inaction by their respective governments. If we are reluctant to engage with the general public and stick to the safe option of writing unimpeachable, quality science (in English) on environmental problems, we will individually get what we cherish (tenure!), while those who are affected most by these problems will continue on the path of suffering, that is, perish. □

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Published online: 10 October 2019
<https://doi.org/10.1038/s41562-019-0675-6>

Competing interests

The author declares no competing interests.