

# Communication in environmental science: the need for alternatives to the social media status Quo

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## Introduction

Environmental sciences are, by nature, transdisciplinary. They do not confine themselves to a single field of knowledge but integrate insights from biology, chemistry, geography, sociology, economics, and many other areas to understand and address the complex challenges of the Anthropocene. As a journalist, I had almost twenty years of experience working for TV channels and communications agencies when I turned my career to environmental sciences. However, when I was looking for a new career path, I realized that all this accumulated transdisciplinary knowledge was at risk to remain buried in restrictive scientific publications or technical jargon, distant from the general public and decision-makers. That was a turning point to assume that my experience in communication should be added to my studies in the field of Environmental Sciences to improve scientific communication as it is the bridge that connects academic knowledge to society, turning data into actions and information into awareness.

The environmental crisis we face today—with climate change, biodiversity loss, pollution, and depletion of natural resources—demands urgent collective responses. But how can we mobilize society and influence public policy if scientific discoveries are neither understood nor assimilated by those outside the walls of universities and research institutes? To address this issue, research and environmental conservation projects must have a strategic communication plan to disseminate results and expand the reach of their discoveries. Effective communication is not just an accessory to science; it is an essential tool for environmental conservation.

## The gap between science and society

Decision-makers, such as public managers and business leaders, often lack the time or technical training to comprehend complex studies. Meanwhile, the general public, inundated with contradictory information, may feel confused or skeptical about scientific evidence. In this scenario, scientific communication becomes an indispensable ally, interpreting complex data and transforming it into clear, accessible, and engaging messages. Well-executed scientific communication not only translates information but also integrates knowledge. It connects biologists to economists, geographers to sociologists, and all these experts to the general public.

By communicating the benefits of ecosystem restoration, for example, it is possible to unite ecological data (such as increased biodiversity) with social aspects (such as job creation) and economic factors (such as increased agricultural productivity). This holistic approach not only enriches the understanding of the topic but also facilitates the adoption of integrated and sustainable solutions.

## The power of new communication technologies

We live in an era where communication tools are more accessible and diverse than ever. Digital platforms, social media, and especially

video seemed like they would offer unique opportunities to democratize scientific knowledge. Short videos, documentaries, animations, and even interactive content could transform abstract concepts into visual and emotional narratives, capturing the attention of millions.

Platforms such as YouTube, TikTok, and Instagram are already used by scientists and communicators to explain complex topics like global warming, the importance of ecosystems, and the impacts of plastic pollution. These formats not only inform but also engage, creating an emotional connection with the audience. After all, it is easier to grasp the urgency of protecting the ocean when watching a video showing the impact of plastic on marine life than by reading a technical report on the subject.

However, these platforms and technologies are also utilized by major corporations and political movements to spread misinformation. Companies, in pursuit of increased profits, highlight such content over serious, evidence-based information. Algorithms trap people in a vicious and dangerous cycle. We live in the age of infodemic, where the volume of information is so enormous that there is no longer room or time to verify what is received at the palm of our hands, on a cell phone screen. At a critical juncture for planetary society, with wars and hate speeches gaining momentum and the climate crisis showing its impacts, it is essential to seek innovative communication solutions that present not only different formats but also alternative pathways to get messages to those who need them most. Big Techs have already shown their credentials and washed their hands regarding false information and denial of the severe environmental crisis we are facing. Forming an innovative movement in search of new means and formats of communication is essential.

## The way forward

Investment in training and resources is necessary to have Scientific communication fulfilling its role in environmental conservation. Researchers must be open to being interviewed by journalists and also be equipped to communicate clearly and engagingly, even knowing how to produce short videos talking about your studies and discoveries, for example.. On the other hand, research institutions also should prioritize the dissemination of their studies. Partnerships with professional communicators, such as journalists and video producers, are also crucial to creating quality and impactful content.

Moreover, it is vital that scientific journals and funding agencies recognize dissemination as an integral part of the scientific process, valuing communication efforts as much as academic publications. After all, what good is producing knowledge if it doesn't reach those who need it?

## Conclusion

To address the environmental challenges of our time, we need not only cutting-edge research but also effective communication that brings these discoveries to every corner of society. Environmental science is, by definition, transdisciplinary. And communication is the link that connects it to the world.

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