S4D4C

USING SCIENCE FOR/IN DIPLOMACY FOR ADDRESSING GLOBAL CHALLENGES

Building Better Science Diplomacy for Global Challenges: insights from the COVID-19 crisis

Executive Summary

The COVID-19 pandemic has exposed many weaknesses in the interface between scientific research and international relations. The pandemic, like other global challenges, is both knowledge-intensive, in that it requires engagement with scientific knowledge for effective policymaking, and cross-border, in that it is not solvable by a single country acting alone. It is an example of what the S4D4C project is tasked with helping Europe to understand and address through science diplomacy. Based on a broad range of case study research, the S4D4C project has identified a number of key aspects that matter for science diplomacy. In this policy brief, we address four of those (narratives, interests, values, and interdisciplinarity) and discuss their relevance in the COVID-19 crisis. Drawing on these insights, we offer five policy recommendations for expanding and improving future science diplomacy efforts: (1) Create interactive spaces, (2) Promote bi-directional science and diplomacy fluency, (3) Engage the full spectrum of science, (4) Ensure open and interpretable science for diplomacy, and (5) Exert bold values-based leadership. In combination, these will create a strong foundation for addressing not only the ongoing issues in this crisis but also other global challenges, both known and unexpected.

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Introduction

The COVID-19 pandemic has exposed many weaknesses in the interface between scientific research and international relations. This point of intersection is the focus of science diplomacy, a field that deals with issues that are knowledge-intensive and transnational in that they require science input and are not resolvable by a single country acting alone. Although past global health scares have spurred the strategic institutionalisation of multilateral mechanisms and increased the capabilities of international organisations,[1] it is now apparent that those advances were insufficient. Further, while we are witnessing in this crisis what is arguably the most remarkable scientific mobilisation in history (at the time of writing, there had been nearly 30,000 scientific publications on COVID-19 since the start of 2020),[2] for the most part, the overall global response has emerged in an ad-hoc manner rather than by design. The shortcomings in both preparedness and design exposed by the COVID-19 crisis, demonstrate the need for expanding and improving science diplomacy practices, interfaces, and instruments, as that will be crucial to meeting the next global challenge more effectively.

The S4D4C project – "Using science for/in diplomacy for addressing grand societal challenges"

"In the current political and societal landscape, the needs, stakes and opportunities pertaining to science diplomacy have increased. However, communication between the scientific and diplomatic communities is not straightforward. There is potential for better harnessing European science and science cooperation for European science diplomacy and foreign policy goals, both at EU and EU Member State-level. Not only can new approaches to scientific advice in EU foreign policy benefit from advances in research, but science diplomats can also harness new ways of carrying out research that offer opportunities for foreign policy impact. The overall objective of S4D4C is to support current and future European science diplomacy for the benefit of European capacities, EU foreign policy goals and especially the development of solutions for grand societal challenges. S4D4C has shaped its partnership so that it can effectively address this objective from an academic as well as a practitioners' perspective." (www.s4d4c.eu)

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The COVID-19 pandemic is an example of the type of global challenge which the S4D4C project is tasked with helping Europe to understand and address. In the Madrid Declaration on Science Diplomacy,[3] more than 150 signatories affirmed that: a) science diplomacy is often not fully exploited at all levels of governance, and b) more explicit science diplomacy strategies would allow for more effective alignment of interests and more efficient coordination of resources. This policy brief, therefore, highlights areas that can be more effectively exploited to tackle the pandemic and introduces ideas about what should be included in science diplomacy strategies and coordination efforts for future crises. In this respect, the bilateral and multilateral interactions, both explicit and implicit, that bring knowledge into the policymaking arena and policy alignment across nations at sub-national, national, sub-global, and global levels are critical. These can happen between scientists, science managers, science policymakers, diplomats, officials in foreign, health, science and other ministries, and international organisations.

We focus below on procedural, not substantive issues, not only because we are not medical experts, but more importantly because clear and robust rules and procedures for knowledge exchange, deliberation and decision making are crucial for fighting not only COVID-19 but also other future global hazards.

"The COVID-19 pandemic is an example of the type of global challenge which the S4D4C project is tasked with helping Europe to understand and address"

Insights from the S4D4C cases for COVID-19

The transversal analysis of the S4D4C project's case studies (forthcoming in summer 2020) orients itself on the question, 'What matters for science diplomacy?' and examines a number of key aspects that affect science diplomacy efforts. Here we select four that are of particular relevance to the COVID-19 crisis.

Narratives matter

Creating common narratives facilitates the advancement of collective action, and for knowledge-intensive issues, science has an important role in both shaping the policy narrative and supporting it diplomatically. Common global narratives are relatively rare: in the S4D4C cases,[4] we often found significant variance between national narratives, for example on Zika and cybersecurity, as well as variance between the narratives promoted by policy actors in different national ministries or EU directorate generals. However, with COVID-19, we have witnessed the emergence of a remarkably uniform narrative. The policy solution narrative for the COVID-19 crisis has for now coalesced around a 'containment model', that is, a solution based on scientific modelling in which societies act to control and slow the spread of the virus by 'flattening the curve', something done through 'social distancing' and quarantine. This narrative is especially challenging as it inherently requires coordination and cooperation between countries; it only works if essentially all countries buy into it, and indeed while there are national variations in the implementation of policy reflecting the narrative, there are only a handful of countries (e.g., Sweden) that have not embraced the narrative itself. There is no reason to have expected that a common narrative was inevitable, and we should not underestimate the accomplishment of establishing one.

Science diplomacy played a role in developing the common narrative in a number of ways: first, through international organisations that are diplomatic in nature, e.g., the WHO; and second, through scientists themselves, who have promoted it (in ways often classified as 'science for diplomacy') by urging their peers in other countries to put pressure on their governments to enact social distancing measures.[5] Scientists have also led an effort in policy learning and narrative reframing to promote the use of non-respirator-type face masks by the general public. Building on scientific evidence, they reversed the logic behind why masks should be worn: rather than wearing a mask to protect oneself, one should wear a mask to protect others.[6] The narrative "I protect you, you protect me" was promoted in a short video that went viral on social media and was picked up and promoted by politicians in cross-border dialogues. The European Centre for Disease Prevention and Control (ECDC) has since institutionalized this position in guidelines for the community use of masks.[7]

Science has played a central role in establishing and shaping the policy narratives around COVID-19, but its success has sometimes come in non-traditional policy spaces reliant on social media and the internet. We don't know how many other such efforts simply did not get the time or attention they might have deserved, had more purposefully designed fora been available.

" Science has an important role in shaping the policy narrative "

Interests matter

Global challenges are not the context, nor crises the time, for political conflicts to be played out. While national political interests cannot be ignored or avoided in science diplomacy, they are just one of a number of interests that must be considered and made visible for achieving policymaking results. The S4D4C cases reveal that a unified or unitary interest seldom exists on any level; rather, we find that there is a complex array of competing and cooperating interests of different types (political, scientific, economic, and personal) that operate on different levels and scales. Many of these interests are invisible in policy debates, and a challenge for science diplomacy is to expose them in order to find an optimal balance between cooperation and competition.

Here, we look more specifically at scientific interests and the role they play in addressing the COVID-19 crisis. At a global level, it is essential that scientists have accurate, trustworthy, and common data to work with. In this respect, we have witnessed cooperation in response to COVID-19, beginning with the sharing of the genetic sequence by China,[8] and continuing with data on cases and deaths, some clinical data, and open access publication. The institutionalisation of centralised data collection and information sharing,[9] as described in the S4D4C Zika case, occurred as a response to past epidemics, particularly Zika, Ebola and MERS. Timing matters in a crisis and the shift to open access would likely have been slower and fraught had a pre-existing agreement not been in place. There was also a distinct spill-over effect, leading publishers who had not signed the original agreement to follow suit nevertheless. We take two things from this, one, that effective science diplomacy is needed to set guidelines in advance; once a crisis hits, speed is essential, and there is no time for drawn-out negotiations. Two, that agreements need not be signed onto by all stakeholders, but rather a critical mass should be sought, one that is large enough to create a tipping point that will draw others in as a situation unfolds.

Some of the quintessential examples of science diplomacy are about scientific cooperation between countries

The S4D4C case research

The project studied nine cases, categorised by their primary driving force.

Diplomacy challenges – Foreign policy driven cases:
- Science diplomacy and infectious diseases: Between national and European narratives
- Water diplomacy and its future in the national, regional and European environments
- Cyber security: Mapping the role of science diplomacy in the cyber field

Science opportunities – Science driven cases:
- The science and diplomacy of global challenges: Food security in EU-Africa relations
- International dimensions of the EU's FET Flagships: Large scale strategic research investments as a site of de-facto science diplomacy
- Open Science Diplomacy

Coordination options – European instrument driven cases:
- SESAME – An international research infrastructure in the Middle East
- Joint international research programming as a case of science diplomacy
- Science advice in the European Union: Crafting collective understanding of transnational issues

To access the case studies please visit:
https://www.s4d4c.eu/s4d4c-cases/

otherwise at conflict, such as the USA and USSR during the Cold War. From this perspective, we find many examples within the current COVID-19 crisis of cooperation, even between historical enemies; however, there are still political conflicts that are interfering with global cooperation and knowledge sharing. Taiwan appears to have been one of the most successful examples of preparedness for COVID-19, but China has blocked its inclusion in the WHO, which limits the ability of other countries to learn from its positive example.

Science itself is deeply competitive and driven by a race to discover new knowledge, create a breakthrough, or disprove a past theory. The *interest in sharing* discussed above is complemented by an *interest in withholding* for reasons of personal reputation, data ownership, protection of privacy, and the potential for future exploitation as intellectual property. In the quest for medical resolutions, both cures and vaccines, we have seen cooperation and competition working complementarily. Much of the medical research being conducted is transnational, made up of teams of scientists cooperating among themselves and competing with other teams. At the time of writing, the WHO listed 125 candidates for vaccines.[10] Attacking the problem on multiple fronts simultaneously increases the likelihood of finding a solution, but in the past, this has often been characterized by policymakers as wasteful; moving forward, this approach should be re-evaluated and taken into account for future science funding policy. The race for a vaccine also highlights the different interests embedded in the various type of actors that compete in science. There are both corporate and academic research groups involved in this effort, and depending on which type succeeds, there will be different consequences for whether the vaccine is treated as a public good or a private one, and for how it is produced, sold and distributed. This is a critical next phase issue for science diplomacy.

Values matter

At the intersection of science and foreign policy, we find two sets of values that require resolution in policymaking. Politically, values go deeper than narratives or interests and form constitutive elements of policy choices, and scientifically, they are central to ensuring the trustworthiness of scientific results. Science diplomacy's challenge is to avoid being drawn into false trade-offs, but rather seeking solutions that bring both scientific and societal values together. In S4D4C research, we distinguished between scientific values and European values. Scientific values, building on Robert Merton's classic work,[11] include: communalism, universalism, disinterestedness, organised scepticism, and

we also add: precaution, openness, and responsibility; European values come from the academic discourse on Normative Power Europe:[12] peace, liberty, democracy, human rights, the rule of law, social solidarity, anti-discrimination, sustainable development, and good governance. Both scientific and European values have been relevant in the policy approach to COVID-19.

When considering the containment narrative of COVID-19, there is evidence of the embeddedness of European values, in particular human rights, solidarity, and the intrinsic value of human life, which were given priority over economic interests. On the other hand, implementing the containment narrative can suggest a trade-off between these values and norms that are authoritarian and threaten the values of liberty, democracy, the rule of law, human rights, and privacy. On a general political level, the emergency powers taken by European governments did not represent a break from the democratic and the rule of law values (with one exception).[13] More concerning were the tools for implementing a containment strategy that requires surveillance measures (tracking and tracing individuals) that potentially threaten privacy. Since passing its GDPR legislation, the EU has been a global champion for the protection of individual privacy, and we commend the way the EU has continued in this crisis to promote win-win solutions that allow for tracing without sacrificing privacy, both directly in software development and by issuing guidelines for data protection in apps that track the virus.[14] On the other hand, the values of liberty and free speech are both political and also essential to the scientific values of openness, disinterestedness (i.e., not having a political stake), and universalism. Here we find examples where the values have not been defended as rigorously: for example, China's silencing of the first doctors to report the outbreak and vetting of publications by Chinese researchers prior to publication,[15] censoring of statements mentioning the virus' origin in China,[16] and along with Russia, using social media to create misleading narratives.[17]

The values of science and society are also challenged by the need to find a long-term medical solution as quickly as possible. In this instance, the values of good governance and scepticism, precaution, and responsibility go together. These values are highly salient in clinical trials and the approval of medicines and vaccines, but they are also relevant in many other areas of science diplomacy. We wrote above about the value of a common global narrative; here, we emphasise scepticism, i.e., that any such narrative should be constantly tested and challenged by science. This is particularly true in our current situation since we know remarkably little about COVID-19. While there has been a great amount of expert opinion, which has undoubtedly provided sound guidance, much of that has been based on assumptions and hypotheses, rather than the sort of empirical evidence that is at the heart of good governance and evidence-based policymaking. Things as basic as the case fatality rate or percentage of the population that has been exposed to the virus are still highly contested. There are questions about the accuracy of data, the standards for compiling certain metrics, i.e., how COVID-19 deaths are counted, as well as issues of randomness and representativeness in sampling. Retractions[18] resulting from rushed and poor techniques in both production and review, as well as scientific malpractice, most visible in the double scandal around hydroxychloroquine, highlight the difficulty of reconciling scientific values and logics with those of business, politics, and the inherent pressures of the crisis itself. While there is a political and public imperative to provide information quickly, great care must be taken to maintain the critical and deliberate processes of science that serve to ensure quality and accuracy.

Multi-disciplinarity matters

The COVID-19 crisis has exposed the interconnectedness of all branches of science when dealing with global challenges. There is no one-dimensional solution to complex problems on a global level, but a multi-disciplinary and interdisciplinary approach increases the likelihood of finding solutions. In our S4D4C research on food security, the need for both social and technical solutions was readily apparent, for example, as farmers in Africa need not only the technical know-how and technology but also

the confidence and social conditions to support changing their practices. This points to the need for a systems-based approach which includes not only natural science, life sciences, and engineering, but also the social sciences and humanities.

The section of the S4D4C transversal analysis on disciplinarity looks more narrowly at the importance of the social sciences and humanities (SSH).Our casework found that, in general, the fields of SSH are often pushed to the fringes for the purposes of science diplomacy. Despite their relevance, for example, in water security and infectious diseases, these disciplines are often treated as complementary and are relegated to areas of soft skills rather than being viewed as contributors of critical knowledge. In addressing COVID-19, there are numerous examples of how SSH fields have been and can be engaged in the crisis.[19] The WHO includes the social sciences and ethics as two of the nine priority areas for research in its "Coordinated global research roadmap".[20] However, in terms of an actual role in science diplomacy, the evidence is still limited as to what extent input from all of these disciplines has been sought and used by governments in their international relations activities.

"While there is a political and public imperative to provide information quickly, great care must be taken to maintain the critical and deliberate processes of science that serve to ensure quality and accuracy"

Policy Recommendations

Building on the insights above, we provide five policy recommendations for engaging science diplomacy more effectively in global challenges.

1. Create interactive spaces

"Interactive spaces" for science diplomacy are needed. In S4D4C Policy Brief of January 2020,[21] we argued that, due to the complexity of global challenges, the internal diversity of science, and the reconciliatory logics of diplomacy, effective science diplomacy practices will rely on actors who are literate in both domains. What is needed is to create and foster appropriate fora in which they can engage each other. These "interactive spaces" will enable actors: (a) to discuss, learn and reflect jointly on the stakes in their respective domains, (b) to access relevant science-based knowledge infrastructures and experts, and (c) to suggest forms of organising the intended science diplomacy activity. Science diplomacy efforts should aim to create and institutionalise these spaces at all levels of government and make them accessible to a broad range of stakeholders.

2. Promote bi-directional science and diplomacy fluency

There is a need for people who are fluent in the languages of both science and diplomacy. Making the most of interactive spaces calls for an enhanced ability to communicate between science and diplomacy. There is a need to invest resources in training scientists on how to communicate with policymakers, and vice versa, in training policymakers how to better interact with scientists to ensure that expertise and scientific evidence are smoothly and effectively brought into all levels of international diplomacy. Both types of actor need to recognise the complex nature of the other's field and not mistakenly depict it as uniform or unified: scientists need to understand the multiplicity of viable political solutions, and politicians, the contestation and divergency of scientific views. Further, we reiterate here

the suggestion in our recent policy report, "Calling for a Systemic Change: Towards a European Union Science Diplomacy for Addressing Global Challenges",[22] that a career path for a unique type of professional be established, that of the professional knowledge broker, whose role would be to facilitate translation across boundaries between both fields and nations.

3. Engage the full spectrum of science

When facing global challenges, the full range of science is needed. COVID-19 has shown us the importance of non-pharmaceutical interventions and provided the social sciences with an opportunity to show their value. In general, global challenges have social, not only technical aspects, and these are critical for understanding the complex nature of the problems and their solutions. For this reason, it is essential that the social sciences and humanities be fully and systematically incorporated into both the 'interactive spaces' mentioned above as well as institutionalized in funding programmes, knowledge hubs, policy advice systems, and other types of consultations, policymaking activities, and instruments of science diplomacy.

4. Ensure open and interpretable science for diplomacy

A broad and diverse range of stakeholders needs access to quality knowledge that they can interpret effectively. COVID-19 has shown us the value of open science but also the challenges of establishing useful interfaces by which to make that knowledge available. The EU is already a leader in the area of open science, but it should use the COVID-19 pandemic to work towards further institutionalisation of open science as a global default. Ensuring that open knowledge is taken up and put to use requires better interfaces. Global dashboards and knowledge hubs could be much richer in both the breadth and depth of the data they share. Further, new types of

interfaces designed to facilitate cross-governmental and cross-disciplinary understanding are needed. The amount of scientific information on COVID-19 makes it impracticable for an individual, much less every policymaker, medical professional, or scientist who requires information, to engage with all but a small portion of the knowledge base. What is needed are tools that go beyond search and allow for a meta-level of evaluation, translation, and sensemaking for the wide range of actors that demand knowledge-based action and decision-making.

5. Exert bold values-based leadership

Leadership in promoting the values of a liberal world order and the values of science is needed. The EU and its member states should cleave to their values through the crisis. Globally, the EU has influence as a norm setter. The promotion of a Normative Power Europe expresses the idea that Europe is a global champion of a set of values that are at the heart of the post-World War II liberal world order that has brought peace and prosperity both to Europe and the world. Europe has an opportunity in this regard, both to show that the crisis can be managed without resorting to authoritarian measures or abandoning privacy or responsible research practices. The crisis can be a springboard for improving multilateral action, social solidarity, and an invigorated focus on global challenges.

"The crisis can be a springboard for improving multilateral action, social solidarity and an invigorated focus on global challenges"

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