The possibilities for improving science-policy interfaces in Latin American countries through training programs

Alma Cristal Hernández-Mondragón[1] and Vicente Morales-Salgado[2]

[1] Centro de Investigación y de Estudios Avanzados del IPN, Ciudad de México, México and

[2] Centro de Estudios de Derecho e Investigaciones Parlamentarias, Ciudad de México, México

Abstract

Science-Policy Interfaces training programs have the potential to strengthen collaborations between Academia and Government. This framework demands from policymakers to trust in science and scientists, as well as to recognize their importance in the policymaking processes. On the other hand, from scientists it is required that they know policymaking and its inner workings, as well as appreciate the importance of their participation in this process. Countries from the so-called Global North have instituted training programs and, through them, demonstrate to both parties that a fruitful collaboration is possible. For developing countries, training programs can help to advance on the aforementioned challenges to science and policy communities. Even more, the further reaching objective of SPI training programs is to contribute to the overall society's well-being by informing policymakers through evidence to make more effective, efficient, and sustainable decisions.

Introduction

Science-Policy Interfaces (SPI) have been defined "as social processes which encompass relations between scientists and other actors in the policy process, and which allow for exchanges, co-evolution, and joint construction of knowledge with the aim of enriching decision-making" (Van den Hove, 2007). Alternatively, they can be defined as "the productive exchange of evidence between individuals who can use this information to influence the outcomes of policy decisions on the environment" (United Nations Environment Programme, 2017).

Although they are not straightforward, when collaborations between science and policy communities are successful, they can produce impacts that enhance society's well-being (Hernández-Mondragón, 2022). Nevertheless, obstacles tend to derive from dissimilarities between work in Academia and in public administrations (Allen, 2021).

Regarding SPI as relations, they can be realized commonly through institutional structures like Advisory Committees. Additionally, early career researchers can participate in valuable ways. However, the working in SPI can challenging to them due to little or none existing previous experience outside of Academia.

Moreover, in developing countries certain factors exacerbate the difficulty to achieve successful SPI. For instance, a diminished public trust in scientific communities[1], weak and informal collaboration mechanisms, and poorly established science, technology and innovation (STI) infrastructure.

[11] Survey on the Public Perception of Science and Technology in Mexico 2011 (Enpecyt), prepared by the National Council of Science and Technology (Conacyt) and the National Institute of Statistics and Geography (Inegi). https://www.inegi.org.mx/programas/enpecyt/2011/

The aim of this brief is to lay out training programs for early career researchers as policy options to improve SPI interfaces in developing countries. To achieve this goal, we will examine existing experiences and identify common success factors that can be translated to developing nations. In particular, Latin American countries.

Science and Policy: A broken bridge

Relations between science and policy are dynamical and complex. Studying them has given rise to a wide and rich field. One of its outstanding results is that connections between science and policy communities' seem to be broken (UNEP, 2012) and, thus, concrete actions are needed to bridge them.

In the scientific community, a Ph.D. training seems to be good enough to participate in Academia, but it is insufficient for an adequate involvement in the policymaking process. Scientists looking to participate in the policy arena need to assimilate concepts, structures, procedures, time periods and formalities distinct to those pertaining to Academia. Thus, SPI training programs have been designed to support members of the scientific community, particularly young researchers, to attain knowledge and develop abilities suitable to support public decision-making.

With this in mind, training programs can bridge collaborations between Science and Policy. Although they are far from being sufficient, SPI training programs are a powerful tool to strengthen connections between scientific and policymaking communities.

SPI training programs usually comprise of an intensive series of courses, followed by an immersive experience in a policymaking organization. Examples of such programs include AAAS Science Technology and Policy Fellowships[2], the MITACS Canadian Science Policy program[3], and the California Science and Technology Policy Fellowships[4]. It is remarkable that, in the case of the California Science and Technology Policy Fellowships, it was reported in 2019 that 88% of their former fellows were working in a position related to SPI[5].

An important characteristic of SPI training programs is their immersiveness. This means that the trainees are placed in a decision-making office, under the supervision of a senior officer, to gain first-hand insightful knowledge of the inner workings of policymaking. Trainees help review recommendations, participate in staff meetings, brief supervisors on issues related to their posts, and collaborate with other similar activities.

As an immediate result, a gain-gain scenario is established. On the one hand, policymaking organizations procure highly specialized staff, while fellows, on the other hand, acquire professional experience to open up new career paths.

Efforts in Latin America

Despite significant challenges in the region, such as reduced funding for scientific research, a gap between scientists and decision-makers, and unfavorable public perception towards both, Academia and Government, there is a growing awareness of the importance of an effective interface between science and policy that may lead to higher interest to develop SPI in Latin America.

[2] AAAS S&T Fellowship (stpf-aaas.org)
[3] Canadian Science Policy Fellowship | Mitacs
[4] CST S&T Policy Fellowship - California Council on Science & Technology (CCST)
[5] https://ccst.us/ccst-science-fellows-program/our-fellows/

In 2019, the Secretariat of Education, Science, Technology, and Innovation (SECTEI) in Mexico City launched a one-year program (that extended to two) called "Science-Policy Interface Fellowships in Mexico City's Government"[6]. The program's objective was to engage early career researchers with several ministries of the local government, to act as scientific liaisons and help make evidence-informed decisions. Requirements to participate included holding a Ph.D., earned within the previous 5 years, residing in Mexico City, and supporting documents, including a letter of intent.

Mexico City's program also requested from trainees' full-time availability and completion of a mandatory training course prior to commencing the fellowship. While, according to an external expert panel, the program was successful it was not renewed due to political considerations.

In 2022, the government of Panama launched the "Program of Stays in Science, Technology, and Politics"[7] with similar objectives as Mexico City's fellowships. However, as far as the authors' knowledge, no assessment has been published and no new call has been issued.

Latin American efforts on SPI are comparatively incipient and further experiences are still needed. However, lessons from the Global North, as well as from the only two immersive programs that the region has undertaken, can orient further endeavors.

Policy recommendations

In the light of the previous considerations, some recommendations are at hand regarding the implementation of SPI training programs in Latin America. We describe them in what follows.

SPI programs can greatly help strengthen the relationship between scientists and policy-makers, enabling collaboration and mutual understanding. These programs should be embedded in the larger STI ecosystem of each country or region with the aim to serve society as a whole in an organic manner. To achieve this goal, we suggest a gradual and systematic approach that considers the following:

1. Include the promotion of a closer relation between science and society in the national development plan, or similar document. A particular note should be added regarding the importance of SPI to achieve this goal.
2. Look for the involvement of key policymakers and other stakeholders from early stages of the project. This helps convey the value of having specialized staff. Support can also come from national as well as international organizations dedicated to promoting SPI, such as the national Association for the Advancement of Science or the International Network of Governmental Science Advice (INGSA).
3. Choose a host institution willing to divert some of its existing resources or collaborate to procure new ones to fit the coordination of the training program. It is rarely seen that a new organization is created with the sole objective of hosting SPI training programs. Common host institutions are non-governmental organizations, universities, or science ministries.

[6] https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/1b05555e80ae67da0b2ddb9d9ca31616.pdf

[7] https://www.senacyt.gob.pa/programa-de-estancias-en-ciencia-tecnologia-y-politicas/

4. Ensuring financing is a delicate task. However, keep in mind that usually the greatest expenses come from paying stipends to fellows and salaries to staff. Other resources may be attained through agreements with relevant stakeholders, mainly the decision-making office where trainees are placed in.
5. For the initial courses consider including topics on Science-Policy Interface (SPI), public policy, writing of policy briefs and other evidence-based documents, as well as important soft skills.
6. Regarding the length of the training of PhD holders, two years seem to be adequate for incipient efforts.
7. Regular meetings with fellows and supervising officers for coordination, assessment and steering are highly encouraged.
8. In a further effort, universities, higher education institutions and even research centers can integrate SPI content into their curricula to enhance promotion and readiness, creating a holistic approach for the entire STI ecosystem, beyond training programs.

Conclusions

Developing countries face challenges like poverty, inequality, crime, diseases, draughts, pollution, climate change, and others. They require that Science and Policy communities work together to design sound strategies to solve such problems. SPI training programs can bridge collaborations between Science and Policy by demonstrating to both parties that a fruitful collaboration is possible while developing highly specialized human resources.

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