Social appropriation of science in Peru

Nemesio Espinoza, Universidad Nacional Mayor de San Marcos, Peru

Science and technology provides competitive advantages for building sustained economic and social development of countries, ergo, human development, which essentially means to provide the population higher levels of quality of life. Although science, technology and innovation can be used to cause damage, for example, in military technology, promoting human development is inherent to them. There can be no human development without scientific development, without scientists and researchers. The prosperous countries in the world are countries that have kept pace with scientific and technological advance.

It is with these considerations that we locate the role of the Social Appropriation of Science and Technology. This has acquired great importance in the world because it is the transmission belt between producers and consumers of science and therefore is an absolutely necessary medium to promote the development of societies in the world. The Social Appropriation of Science and Technology is a system of interrelated activities of popularisation of science, technology and innovation, created in order to promote and strengthen the scientific culture of societies. The Social Appropriation of Science and Technology—mission is to popularise science and technology, turning science— that seems highly specialised and complex — into popular science, so technology and innovation become part of the everyday life, a necessary condition for the steady advance of science and technology, which leads to the progress of humanity.

Without resorting to semantic and etymological discussion of the terms involved, the category Social Appropriation of Science and Technology has acquired a rich synonymy. It is known as Popular Science, Popularisation of Science, Scientific Literacy, Science Outreach, Dissemination of Science, Public Understanding of Science, Scientific Journalism, Socio-Diffusion of Science, Scientific Cultural Action, Public Understanding of Science, Public Communication of Science and Technology, etc.

For a country to develop, or achieve gradual and sustained improvement of the quality of life of its population, not only requires the active participation of elite producers of science, technology and innovation and the scientific community, but needs the active participation of the entire society. The Social Appropriation of Science leading to the creation of conditions for the popularisation or massification of science and technology as part of national scientific culture is an absolutely necessary condition to promote the development of societies of the 21st century and third millennium.

In the context of Latin America and the Caribbean region countries such as Brazil, Mexico, Argentina and Chile without detracting the great efforts being made in other countries have been promoting for decades scientific and technological development, giving an important place to Social Appropriation of Science and Technology, elevating it to the level of the promotion of active public participation in science (Public Engagement with Science). In consequence these countries now have significant levels of economic and social development. Still,
Latin America remains a poor region because it has a low scientific production and has not yet given to Scientific Research and the Social Appropriation of Science the importance that it deserves.

In the case of Peru, the scientific culture and the development of science, technology and innovation are just beginning, because the scientific research and the Public Communication of Science, or Social Appropriation of Science and Technology, are relegated to less important planes. Peruvian universities, instead of playing a leading role, abjure their essential mission of scientific production and Social Appropriation of Science and Technology.

Peru shows itself to be a merely a receiver of science originated in the global scientific large blocks (US, European Union and certain parts of Asia), and Peruvian universities simply transmitters (sounding boards) of foreign knowledge. We cannot avoid saying that Social Appropriation of Science is still embryonic. These conditions result in ties of dependency that preclude the country to insert in a globalized world and take part in a sustained manner in the society of knowledge and information.

Our hypothesis is that, even though Peru has some important initiatives for the Social Appropriation of Science and Technology, it has not yet established as an integrated national system that is part of the Peruvian scientific culture. It is even unfamiliar for the Peruvian University, from which the Social Appropriation of Science should emerge. The gradual institutionalisation of the Social Appropriation of Science in Peru is a sustained way to promote science, technology and innovation, and with them the country’s development.

The Peruvian population in general should not be alien to the great achievements of scientific research and scientific elites, but, on the contrary, should interpret and admire them, participating more actively in promoting science and scientific research, and thus contribute to the sustained construction of the scientific culture of Peru. This has to be achieved through the process of systematising the Social Appropriation of Science and Technology. Today the development of any country in the planet runs at the pace of science and technology, as is shown by countries in Europe, Asia, North America, Brazil, Mexico, Chile. While Israel invests 4.5% of GDP in Research and Development; Finland, 3.8%; Japan, 3.0%; Korea, 2.7%; United States, 2.54%; Brazil, 1.04%; Chile, 0.57% and Mexico, 0.39%, Peru invests less than 0.11%. This testifies how science and technology are not priorities for state policy and, therefore, a national scientific culture is still incipient.

On the other hand, science and technology does not appear from scratch, but as a consequence of scientific research. In a country like Peru, which downplays science, scientific research is still incipient and prevents the production of science, technology and innovation in terms of the performance and quality that is demanded today. In this context, the universities again acquire importance because, by their nature, they are essentially centres for research and dissemination of science. But in Peru, the universities generally are highly oriented to the professions and the matters of scientific research are not a priority.

In Peru there are efforts and initiatives on the Social Appropriation of Science and Technology, however, these are not yet well connected at national level and remain outside the University. We can mention the Programme for the Popularization of Science, of CONCYTEC (National Council for Science and Technology, Peru), led by its Office of Updating and Strengthening of Science that “articulates the work of various institutions (ministries, universities, research institutes, media, NGOs, businesses, arts and cultural centres) that are related with the gen-
eration and promotion of knowledge”. We can also find School Science and Technology Fair Programmes, museums, and, though still in insignificant scales, scientific journalism. There is, the Network of Journalists and Science communicators in Peru. But still, there is not an institutionalised national system of Social Appropriation of Science and Technology.

Making science and technology priorities of the national policy of Peru is a necessary condition to promote a sustainable development in the country. We need scientific research, a national system of Social Appropriation of Science and that the universities assume their leading roles as producers and disseminators of science.