PERÚ | Presidencia del Consejo de Ministros | Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica

Lima, January 20th of 2020

Carta N° 002-2020-CONCYTEC-P

Dear Sirs,

I wish to refer to your Spotlight article "What should Peru do to improve its science?" ("Peru has promise" in the PDF version) published on 18 December 2019. Regarding the article, I would like to convey my concern about the biased opinions, inconsistencies, and lack of information therein.

The Peruvian government's expenditure on R&D has increased over the last decade. CONCYTEC's expenditure has grown since 2012 and, for the present fiscal year, our estimates are over 200 million soles (USD 64 million), CONCYTEC's highest budget ever (see Figure 1), the majority of it being for funding. Furthermore, current legislation allows our public universities to receive 20% from mining royalties allocated to the region for infrastructure and scientific research.

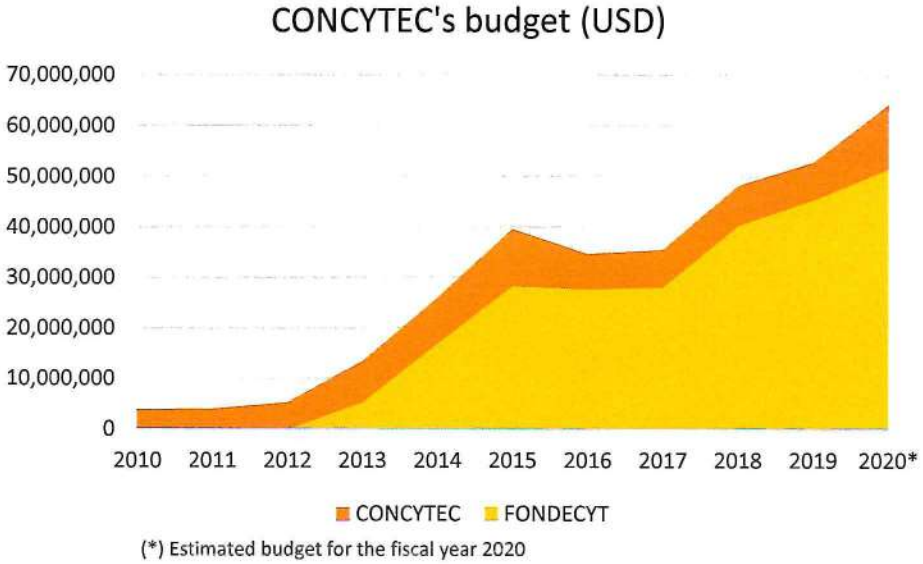

Figure 1. CONCYTEC's budget has increased since 2012, including R&D funding which is included in FONDECYT's budget (Source: Ministry of Economy and Finances. Elaborated by CONCYTEC).

On the other hand, with reference to the initial part of the aforementioned article, I would like to remark that malaria is - as a matter of fact - an important health issue for Peruvian citizens and, as a consequence, it is one of the priority areas funded by CONCYTEC financial sources over the years. An example of this is the case of Mr. Carrasco-Escobar, whose work on malaria has been financed by the CONCYTEC in two occasions (Contract N° 008-2014-FONDECYT and Contract N° 162-2016-FONDECYT).

The claim that Peru has an outdated education system is questionable and the author fails to inform that in 2014 the University Act (No. 30220) was approved by Congress in order to modernize our higher education system. The Act has motivated universities to upgrade their academic standards, including support for more R&D activities and hiring more professors with a researcher profile. As a consequence, there is an increase of scientific production in the past years (see Figure 2).

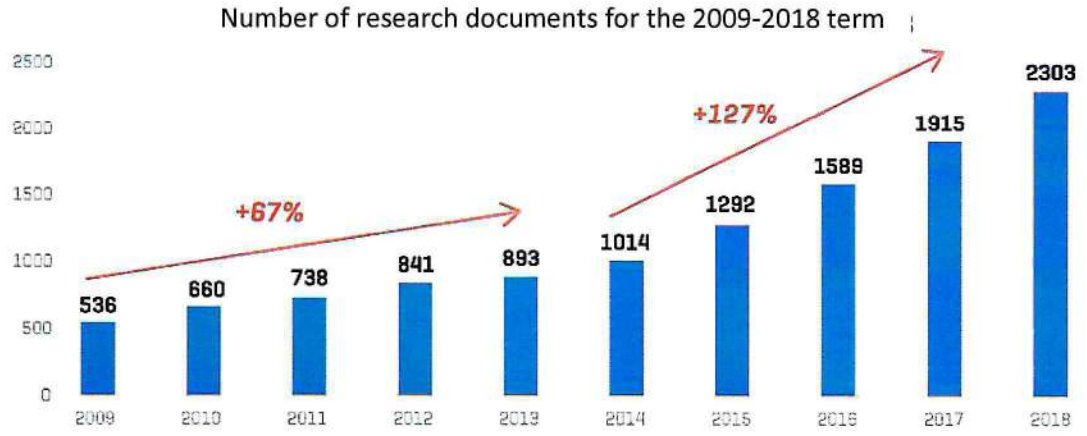

Figure 2. Peru's higher education system is moving forward, especially regarding research. In the past five years, Peru's scientific production from universities has doubled the annual growth rate compared to the previous five-year term (Source: Scopus 2009-2018. Elaborated by SUNEDU).

The Spotlight article states that only 20% of Peru's international collaboration are led by Peruvians, but its own figure on page S66 shows how the number of Peruvian corresponding authors is increasing. Scimago evidences that our international collaboration for publications reached 58.58% in 2018, its lowest point since 2001. Accordingly, the Spotlight article also shows that Peru's scientific output and research led by local scientists has increased rapidly, but there is no mention or discussion of it within the text. Compared to countries such as Argentina, Brazil, Colombia and Mexico, which have values below 50%, international collaboration in Peru may seem high. However, international collaboration has positive effects on science because it favors more publications and capacity building (The fourth age of research, Nature 497, 557-560; 2013). For countries such as the United States, China and the UK, which have the highest number of publications according to Scimago, the current trend is to increase international collaboration, the UK reaching 56.04%. A 2018 report by Elsevier commissioned by CONCYTEC informed that Peru's field-weighted citation impact within the period 2013-2017 was above the world's average, even after removing hyper-authored papers, indicating a great impact of Peru's research.

Brain drain is an issue not only in Peru, but in many developing countries and even in European and North American countries, as published in your magazine (Scientists have most impact when they're free to move, Nature 550, 29-31; 2017). The Elsevier report mentioned above also analyzed international mobility of active researchers that had an affiliation with a Peruvian institution within the 1996-2018 term, a total of 3850 active researchers. The majority (74.8%) were migratory researchers, that is, they published with an affiliation in a Peruvian and a foreign institution. Out of the 862 active researchers that left the country, only 188 left permanently, a group characterized by their highest field-weighted citation impact.

The government recognizes that it is important to make Peru more attractive for highly qualified scientists. In this connection, I should like to mention that CONCYTEC, in a recent call as part of a World Bank project, has incorporated 181 Peruvian and foreign researchers into Peruvian institutions, 50% of them Peruvian researchers. The problem of brain drain is not new for a developing country, but there are governmental efforts led by CONCYTEC to face this challenge and take a qualitative leap in our research institutions to be able to provide solutions to the various needs of our society.

In May 2019, Congress approved the Promotion of the Development of the Scientific Researcher Act (No. 30948). The Act aims at attracting and retaining Peruvian and foreign highly specialized scientists to strengthen our competitiveness and sustainable development. This is a new mechanism that will be implemented by the government through CONCYTEC in order to incorporate researchers into our research institutions.

In conclusion, even though we recognize that we have to continue increasing our budget devoted to R&D, the claim that there is a total lack of government support to improve science in Peru is misleading. CONCYTEC's budget, together with that of other investment agencies and bilateral collaboration to finance R&D in several sectors, i.e., capacity building, agriculture, fishing and aquaculture, as well as in innovation, has risen over the years. Furthermore, Peruvian higher education system is undergoing a reform, although it will take some time to see its impact.

For another upcoming special issue of the magazine about a country, I kindly suggest, to the independent journalists you engage, insisting that the information is also given by the people responsible for the sector, and not just by a few users, without making a deep research and analysis about the updated data available.

I would appreciate your thoughtful consideration in publishing this letter, to provide the scientific community with the real situation of Peru R&D information.

Sincerely,

Dra. Fabiola León-Velarde Servetto
Presidenta
Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica
CONCYTEC