

## LAWS FOR SCIENCE, TECHNOLOGY AND INNOVATION IN LATIN AMERICA

In most Latin American Countries there are legal instruments regarding science, technology and innovation (STI). In general, they coincide in their goals: to foster, develop and consolidate scientific research, technological development and innovation, in order to contribute to increment the educational, cultural, social and economic resources of the country, as well as sustainable development. To achieve this, policies are outlined, and structures, plans and activities are defined. Some of the laws or by-laws refer to the structuring of National STI Systems. It is evident that the existence of a legal framework and specific juridical instruments is of help in the organization and development of any sphere or social activity. In this sense an STI law facilitates the formulation of public policies and to set in motion programs, projects and activities necessary for progress in STI and its social appropriation.

According to the *UNESCO Science Report: Towards 2030*, from 2015, the number of published articles increased 90% in Latin America between 2005 and 2014, more rapidly so in Colombia (244%), Peru (134%) and Brazil (118%), and for Venezuela it indicates a 28% decline. All these countries have STI laws. However, Chile, which has no law about this matter, shows very positive and increasing indicators for 2014, such as are the number of scientific publications (350) and processed patents (187) per million inhabitants. For Venezuela, where the Organic Law for Science, Technology and Innovation (LOCTI) exists since 2005, the mentioned parameters have decreased to 26 and 12, respectively.

In Venezuela, the LOCTI took effect in 2005 and its implementation generated an important impact in some autonomous universities and enterprises, research links were established and new management schemes appeared. The law considers monetary contributions from the business sector and the amounts collected between 2006 and 2008, according to official information, was 2 to 3% of the gross internal product, similar or higher figures to the STI investments made by countries such as Korea and Singapur (3%), USA (2.8%), China (2%), (Brazil (1,5%) and Chile (1%). Despite the important funds earmarked in Venezuela for STI, scientific productivity, expressed in the number of annual publications in refereed and indexed journals, has declined sharply since

2008, reaching in 2012 about one thousand publications, as that registered in 1997.

Reforms were made to LOCTI in 2010 and in 2014, which have been the object of multiple criticisms from the side of academic, entrepreneurship and political sectors. Criticism is aimed to the absence of mechanisms for the articulation of state-academy-enterprise; the lack of clarity in the administration of funds and accountability; centralization of resources; discretionality regarding the projects to be financed and confusing definitions about intellectual property, among others.

The situation of institutional, economic, social and political crisis of the country requires of substantial measures and changes. The situation is propitious to bet on a new LOCTI that really be at the service of all of society. A law that allows to boost national productivity, rescue the STI capacities of the universities and research centers and of enterprises and governmental organisms, and foster the state-academy-enterprise relationships. The scientific and technological community, the business sector and in general the Venezuelan society expects that the current National Assembly carries on a reform of the LOCTI that serves to respond to the challenges of the present and facilitates the participation in the society of sustainable knowledge.

Laws should be fair and applicable in order to consciously commit all citizens in virtue that they arrange the common good and are enacted by legitimate authorities according to distributive justice. It is then fundamental that a STI law consider the definition of national priorities without ideological bias, the active participation of the subjects of the law with appropriate incentives, the public transparency of the financial contributions and their management, as well as the establishment of the responsible entities, their organizational structure and their functions. We are in need of laws and norms that facilitate the construction of a scientific, technological and innovational culture in our region, in order to have citizens of knowledge.

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