

Quo vadis, Mexican science?

Last week, my colleagues and I went to the Palacio Nacional in Mexico City to deliver a petition signed by over 11,000 researchers in protest of the government's dismantling of science. One year ago, Mexico elected Andrés Manuel López Obrador as its new president. Many researchers voted for him, attracted by a campaign pledge to end corruption and violence and to promote science and education. Sadly, his actions have made things worse for science (see the News story on page 305). This cannot go on. Addressing poverty and corruption are not in opposition to social and economic investment in science and technology.

Over the past 50 years, Mexican science has grown to become a major Latin American scientific power, second only to Brazil in terms of peer-reviewed academic publications. The scientific system is formed by the Universidad Nacional Autónoma de México, the Universidad Autónoma Metropolitana, the Center for Research and Advanced Studies (CINVESTAV), and research teams associated with Mexico's National Institutes of Health. It also includes 27 research centers (CPIs) that are financed by the National Council of Science and Technology (CONACYT), the only federal agency that funds research. The CPIs comprise a decentralized network of institutions committed to regional issues and engaged in education and outreach activities.

Two months ago, López Obrador signed a memorandum to cut funding for all research centers supported by CONACYT by 30 to 50%. The CONACYT budget overall was cut by 12%. Thus, basic and applied research across disciplines—from physics, electronics, and energy to ecology, geology, and disease—are poised to quickly deteriorate. Researchers' salaries have been slashed and medical insurance has been terminated, and those with nonpermanent positions have been fired. Some CPIs are now without resources to pay water and electricity bills.

This rapid chipping away of the scientific enterprise is touted as enabling financial stability for the govern-

ment and assisting the poor. However, these measures will translate into a range of threats—from increased food insecurity to compromised national security. For example, the cuts will affect monitoring of seismic activity, epidemic surveillance, and biodiversity research. Moreover, in an unprecedented move, Elena Álvarez-Buylla, the new head of CONACYT, attempted to suppress peer-review committees and advisory boards by trying to change the science and technology law in ways that would give her direct control of the top research institutes. This is a direct assault on academic freedom. Álvarez-Buylla's own views against transgenic crops is a threat to sustainable agricultural advancements that Mexico needs. Her opposition to "hegemonic rational Western science" could extinguish international collaborations, alienate investors in science and technology, and fuel a brain drain from Mexico.

Budget cuts hamper education by affecting undergraduate schooling, limiting facility upgrades, and hindering the recruitment of early-career researchers back to the country. Without improving the education system, Mexico will never develop the high-skill workforce needed to compete with the rest of the world.

The path forward must include a steady increase in the proportion of gross domestic product invested in science. This would support higher education and exchange programs, enhance gender equality, and promote research areas neglected by developed countries. Scientific excellence requires reinforcing the role of peer-review committees, scientific societies, and academies in defining national policies that guarantee growth beyond the 6-year presidential term.

The president's penchant for discrediting the academic community is rapidly stoking a dangerous anti-intellectual atmosphere. The question of "Quo vadis, Mexican science?" must be answered by all citizens of Mexico who want to rescue their country from decay.

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