PAASE keen to accelerate Philippine development

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The Philippine-American Academy of Science and Engineering (PAASE) is a nonprofit organization composed of scientists and engineers of Philippine descent who have distinguished themselves in scholarly and research-related activities. It was founded and incorporated in the US State of Indiana on April 23, 1980, by a group of US-based Filipino-American scientists and engineers (PAASE website).

Forty-two years later, PAASE has matured and continues to develop in step with the dynamic growth of science, technology, and innovation (STI) responsible for the progress of developed and emerging economies. PAASE is eager to make an impact on our country's development to catch up with its Asean peers.

PAASE has been actively promoting STI in the country, facilitating collaboration among Filipino scientists and engineers in research and development (R&D), and supporting efforts that advance STI in the regions.

A number of PAASE members have produced path-breaking inventions with or patents pending. To cite a few salient examples: (i) 3D printing and additive manufacturing; smart coatings and films; (ii) bioreactors for production of high-value crops; vertical farming growing structures and nutrient delivery systems; (iii) bioactive foods from food waste; pairing bacteria with human milk for infant nutrition; (iv) artificial skin for treating chronic wounds (bed sores and diabetic ulcers); dura replacement implant patch for brain after tumor resection; and (v) conopeptides from venomous snails for neuropathic and cancer pains; renieramycin M from blue marine sponge and doxorubicin for breast cancer.

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A select group of PAASE members got together virtually in late February to early March 2022 for a week of pro-science activism: "Toward Building a Robust Post-COVID STI Ecosystem for PH"—resulting in a set of 10-point agenda:

Strengthen human capital development in early childhood years; enhance science, technology, engineering, and mathematics (STEM) education at the secondary level; increase Ph.D.s and raise R&D productivity in regional higher education institutions; and intensify government-academe-industry linkages.

Foster social capital to enable multistakeholder partnerships for STI across sectors and communities; and modify the "National Science and Technology Advisory Council" by adding industry, academe, and nongovernment representatives.

Promote STI in the regions, support regional institutions, and recognize the potential of regional STI ecosystems; establish interregional outreach programs; and conduct dialogues on STI for agriculture and industry with local governments and communities.

Build R1 universities that strengthen cooperation among students, faculty, and research staff, as well as university-industry partnerships; and advocate for resources to set up at least one R1 university in each region.

Advance internationalization of STI and R&D; enhance partnerships with foreign academic institutions; foster a system of exchange of local and foreign science and technology (S&T) experts; and tap multilateral institutions to support transnational S&T initiatives.

Advocate for increased S&T/R&D budget to more than 0.5 percent of GDP in one to two years and higher still thereafter; and leverage funding from corporations and donors.

Remove structural and institutional barriers to S&T and R&D; craft standardized hiring guidelines for new recruits and to

reward research performance; and support continuing faculty development and training programs.
Develop and implement evidence-based STI and STEM policies and programs, making them inclusive (e.g., adequate resources for teaching STEM in poor areas); and adopt STEM program models that have been proven effective.

Develop a robust STI-related data infrastructure; strengthen institutional, regional, and national level data collection and sharing system; use data for S&T policy planning and financial decision-making; and create grants and publication opportunities for research on S&T programs.

Strengthen the social impact of STI in agriculture and industry; raise the socioeconomic condition, and reduce poverty in the provinces and local communities, thereby improving the health and well-being of individuals and families, and empowering marginalized sectors.

To the extent that PAASE can effectively tackle the forgoing agenda, especially with the support of the public and private sectors and society at large, it can make a substantial impact on the country's development to be at par sooner with its Asean peers. President Marcos Jr. was recently quoted as saying that he is a "frustrated scientist," i.e., wanting to be a scientist but prevented by circumstances. If so, he should be expected to assiduously support PAASE's agenda and programs for the country's sake.

Ernesto M. Pernia is also a PAASE member (since 2005) and Director on the Board (2008-2013). Gratefully acknowledged are the inputs of PAASE president Mariano Sto. Domingo and scientists-engineers Rigoberto Advincula, Joel Cuello, Carlito Lebrilla, Gonzalo Serafica, Baldomero Olivera, and Gisela P. Concepcion.