

NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session)



'22 AUG 31 A9 :49

SENATE
S. No. 1241

RECEIVED BY: _____

Introduced by Senator Loren B. Legarda

AN ACT
ESTABLISHING THE SCIENCE FOR CHANGE PROGRAM AND
APPROPRIATING FUNDS, THEREFOR

EXPLANATORY NOTE

Section 10, Article XIV of the 1987 Constitution provides that "Science and technology as essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. xxx"

The proposed measure seeks to institutionalize the Science for Change (S4C) Program of the Department of Science and Technology (DOST), which governs the implementation of new programs and expansion of the existing research and development (R&D) and Human Resource Development (HRD) programs of DOST.

The S4CP shall focus on the Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness which is composed of four (4) programs, namely: (1) Niche Centers in the Regions for Research and Development (NICER) Program, (2) Research and Development Leadership (RDLead) Program, (3) Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program, and (4) Business Innovation through S&T (BIST) for Industry Program.

If implemented, the proposed measure will accelerate science, technology, and innovation (STI) in the country under the auspices of the DOST. The S4C bill also outlines how our R&D investment will help improve the economy and address pressing issues such as global warming, food insecurity, and the pandemic, all of which require a scientific response.

The agenda of the Science for Change program is clear, it enables the nation to be self-sufficient, globally competitive and equipped to harness research and development in search of knowledge-driven solutions and evidence-based responses in resolving the nation's challenges in the face of a global health crisis.

The bill also calls for increased funding for research and development (R&D) in the country. Under Administrative Order No. 018, Series of 2020 issued by the Department of Science and Technology, from 2009 to 2013, the R&D expenditures as a percentage of the GDP increased from 0.11% to 0.14%. In the Philippine Development Plan 2017-2022, the annual targets for R&D expenditure as a percentage of GDP are set at 0.2% in 2017, increasing to 0.5% by 2022. However, these are still far from the global average of 2.04% and the UNESCO recommendation of 1% for developing countries.

Accordingly, the proposed measure seeks to institutionalize DOST's Science for Change Program to address the inadequacies in the field of research and development, such as the lack of funding, shortage of workforce, and weak organizational structure.

In view of the foregoing, the passage of this bill is earnestly sought.



LOREN LEGARDA

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AN ACT
ESTABLISHING THE SCIENCE FOR CHANGE PROGRAM AND
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Be it enacted by the Senate and House of Representatives of the Republic of the Philippines in Congress assembled:

1 Section 1. *Short Title.* - This Act shall be known as the "Science for Change
2 Program."

3 Sec. 2. *Declaration of Policy.* - Pursuant to the State's policy declared under the
4 Constitution that science and technology are essential for national development and
5 progress, and in pursuit of excellence in the field of science, technology, and
6 innovation (STI), the State must accelerate the development of STI in the country by
7 significantly increasing relevant investments, expanding existing STI initiatives,
8 creating new programs, developing of human resources in STI, and by focusing on
9 capacity building of research and development institutions.

10 Sec. 3. *Objectives.* - The objectives of this Act are as follows:

11 1. To achieve a higher standard of STI and contribute to the development of the
12 economy and society;

13 2. To improve the welfare of the nation by prescribing comprehensive and
14 systematic policies for the promotion of STI; and

15 3. To encourage innovation and creativity among Filipinos, develop new
16 products, technologies, and solutions to pressing national problems, and gain
17 a competitive edge in research and development.

18 Sec. 4. *Definition of Terms.* - As used in this Act, the following terms shall mean:

- 1 a. *Harmonized National Research and Development Agenda (HNRDA)* refers to an
2 outcome-based agenda that identifies all the research and development
3 (R&D) programs and projects to be undertaken and funded by the
4 government to support the attainment of the key result areas of the
5 government's development objectives, particularly those aiming to reduce
6 poverty and empower the poor and vulnerable; induce rapid, inclusive, and
7 sustained economic growth; promote the integrity of the environment, and
8 enhance the country's climate change adaptation and mitigation capability.
- 9 b. *High-tech equipment* refers to any equipment using the most advanced and
10 developed machines and methods.
- 11 c. *National Innovation Council (NIC)* refers to the policy advisory body
12 established under Republic Act No. 11293, or the Philippine Innovation Act,
13 mandated to formulate, develop, implement and monitor the country's
14 innovation goals, priorities, and long-term national strategy.
- 15 d. *Publicly-funded technology* refers to any technology, the development or
16 generation of which was funded in part or in full, using government money
17 or resources.
- 18 e. *Research and Development (R&D)* refers to any systematic and creative work
19 undertaken in the physical, natural, mathematical, and applied sciences by
20 using methods to increase the stock of knowledge in these fields to devise
21 new applications.
- 22 f. *Science* refers to the systematic way of acquiring knowledge through
23 observation and experimentation.
- 24 g. *Technology* refers to the practical application of science.
- 25 h. *Innovation* refers to the creation of new ideas that result in developing new
26 or improved products, processes, or services that are then spread or
27 transferred across the market.
- 28 i. *Technology licensing* refers to a mode of technology transfer whereby a
29 licensor such as a technology generator or technology or intellectual
30 property owner, authorizes a licensee to use the technology under specific
31 agreed terms and conditions.

1 Sec. 5. *Science for Change Program (S4CP) and Utilization Policy Framework.* – The
2 formulation of the S4CP is anchored on the Harmonized National R&D Agenda
3 (HNRDA), which shall be regularly updated based on the needs of the time.

4 a. To achieve the objectives of this Act, the following Science and Technology
5 (S&T) programs of the DOST shall be expanded:

- 6 1. Health self-sufficiency and responsiveness to public health emergencies;
- 7 2. Renewable energy systems & bioenergy technologies;
- 8 3. Functional materials for alternative energy sources and energy conversion
9 and storage;
- 10 4. Nuclear science for energy, health, agriculture, and industry;
- 11 5. Biotechnology, nanotechnology, and genomics;
- 12 6. Climate and environment sciences;
- 13 7. Nutrition and food security and safety;
- 14 8. Agriculture, aquaculture, and fisheries productivity;
- 15 9. Natural resource management and sustainable development;
- 16 10. Transport solutions;
- 17 11. Industrial, manufacturing, or mining productivity;
- 18 12. Disaster risk reduction and climate change adaptation;
- 19 13. Science and Technology (services for the production sector);
- 20 14. Metrology, calibration, and standards;
- 21 15. Technology transfer or commercialization;
- 22 16. Human resource development for science, technology, and innovation;
- 23 and
- 24 17. Nurturing a culture of science.

25 b. The Science for Change Program shall also include the following new
26 programs:

- 27 1. Defense and security research and development;
- 28 2. Space science and technology;
- 29 3. ICT development, electronics, and artificial intelligence;
- 30 4. Strengthening of research & development and science & technology services
31 in the regions through infrastructure and human resource development;
- 32 5. S&T for the creative, tourism, and services industry; and

1 6. New and emerging technologies.

2 Sec. 6. *Major Strategies of the Science for Change Program.* – The S4CP shall focus
3 on the Accelerated R&D Program for Capacity Building of Research and
4 Development Institutions and Industrial Competitiveness which is
5 composed of four (4) programs, namely:

6 a. *Niche Centers in the Regions for R&D (NICER).* - The NICER Program shall be
7 implemented to address the region’s discrepancies in access to R&D
8 funding. Through the program, grants shall be provided to qualified
9 higher education institutions (HEIs) in the regions so they can undertake
10 quality research directed to promote regional development with their
11 existing capabilities and resources. A proposed NICER should be a unique
12 and collaborative project between HEIs and must be duly endorsed by the
13 Regional Development Council (RDC).

14 b. *R&D Leadership Program (RDLead).* - The RDLead program shall be
15 implemented to help develop and strengthen further the research
16 capabilities of the academe, research, and development institutions (RDIs),
17 and other government line agencies nationwide. To this end, RDLeaders
18 who are local S&T experts with strong leadership and innovative policy
19 proficiencies shall be engaged to train, direct, and support R&D goals.
20 Academic institutions, RDIs, and other agencies may engage the services of
21 an RDLeader through a screening and evaluation process conducted by the
22 National Research Council of the Philippines (NRCP) based on their
23 respective needs and specifications. The NRCP shall be the implementing
24 agency of the RDLead Program.

25 c. *Collaborative R&D to Leverage the Economy (CRADLE) for RDIs and Industry.* -
26 The CRADLE Program shall be implemented to promote technological
27 advancement and innovation in local companies and to support the growth
28 of the Philippine innovation ecosystem. Through the program, the academe
29 or RDI, in partnership with a Filipino company, shall undertake research
30 and development to improve the company’s products, processes, and
31 services to become more competitive in their respective industries. To
32 ensure that the market commercially utilizes research outputs from the

1 academe, beneficiary companies under this program must provide at least
2 twenty percent (20%) counterpart funding and commit to adopting the
3 technology their R & D Partner shall develop.

4 d. *Business Innovation through S&T (BIST) for Industry.* - The BIST Program shall
5 be implemented by the DOST to provide financial assistance to Filipino
6 private companies for the acquisition of strategic and relevant technologies
7 so they can undertake their R&D activities. The financial assistance shall be
8 used solely for the purchase of high-tech equipment or to secure technology
9 licensing or patent rights and shall be refunded to the DOST without
10 interest.

11 *Sec. 7. Formulation and Submission of the Science for Change Program (S4CP) Plan.*

12 - The DOST shall formulate the five-year S4CP Plan in coordination with other
13 relevant government agencies, including state universities and colleges, and
14 representatives from the private sector undertaking R&D. The Secretary of DOST shall
15 submit to the President, for approval, the Science for Change Program Plan within
16 ninety (90) days from the effectivity of this Act.

17 A successor S4CP Plan shall be formulated and submitted to the President for
18 approval at least three (3) months prior to the expiration of the existing S4CP Plan.

19 *Sec. 8. S4CP Program Management Office (PMO).* - The Project Management
20 Office for the Science for Change Program (PMO-S4CP) shall be created and placed
21 under the supervision of the Office of the Secretary of the DOST. The PMO shall
22 ensure the effective and efficient implementation of the Science for Change Programs.
23 In addition, it shall perform coordinating and Secretariat functions and promote the
24 various S4CP programs. The Secretary of the DOST shall formulate the staffing
25 pattern of the PMO in coordination with the Department of Budget and Management
26 (DBM) and in accordance with the rules and regulations of the Civil Service
27 Commission.

28 *Sec. 9. The Harmonized National R&D Agenda.* - The DOST shall, in consultation
29 with government research institutions and other agencies concerned, formulate a
30 Harmonized National R&D Agenda (HNRDA) and a program for technology
31 adoption for the government in accordance with the priorities of the Philippine
32 Development Plan.

1 The proposed HNRDA shall be submitted to the National Innovation Council
2 for approval. The DOST shall certify that all the publicly funded R&D projects form
3 part of the HNRDA and are included under the annual General Appropriations Act.

4 The DOST shall submit to the DBM, the Speaker of the House of
5 Representatives, and the President of the Senate of the Philippines, either in printed
6 form or by electronic document, a copy of the approved HNRDA. The Secretary of
7 Science and Technology and the agency's web administrator or an equivalent officer
8 shall ensure that the approved HNRDA is posted on the agency's website.

9 Sec. 10. *Mandatory Adoption of Publicly-Funded Technologies.* - All publicly-
10 funded and generated technologies, whenever feasible and practicable, shall be
11 utilized by all government entities or instrumentalities. All national
12 government agencies, government-owned and controlled corporations, state
13 universities and colleges, and local government units conducting science and
14 technology development projects shall adopt publicly-funded technologies.

15 Sec. 11. *Science for Change Program Fund (S4CPF).* - All donations, contributions,
16 grants, bequests, or gifts, in cash or in kind, for the S4CP shall be placed into a fund to
17 be known as the Science for Change Program Fund: *Provided, That,* acceptance of
18 grants, bequests, contributions, and donations from foreign governments shall be
19 subject to the approval of the President of the Philippines, upon recommendation of
20 the Secretary of the DOST and the Secretary of the Department of Foreign Affairs.

21 Sec. 12. *Appropriations.* - The initial amount for the implementation of this Act
22 shall be charged against the current year's appropriations of the DOST. Thereafter,
23 such funds as may be required for the implementation of this Act shall be included in
24 the annual General Appropriations Act.

25 Sec. 13. *Annual Report.* - The DOST shall submit an annual report on
26 the implementation of the S4CP to the Office of the President and the Committee on
27 Science and Technology of the House of Representatives and the Senate.

28 Sec. 14. *Implementing Rules and Regulations.* - Within one hundred eighty (180)
29 days from the effectivity of this Act, the DOST shall formulate rules and regulations
30 for its effective implementation.

1 Sec. 15. *Separability Clause.* – If any part or provision of this Act is
2 declared invalid or unconstitutional, the remaining parts or provisions not affected
3 shall remain in full force and effect.

4 Sec. 16. *Effectivity.* – This Act shall take effect fifteen (15) days after its
5 publication in the *Official Gazette* or in a newspaper of general circulation.

Approved,