

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



23 MAY -3 P 1 :31

**SENATE**  
**S. No. 2119**

RECEIVED BY:

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Introduced by Senator MARK A. VILLAR

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

The Science for Change Program is an existing program of the Department of Science and Technology (DOST) of the Philippine government that aims to enhance scientific and technological capabilities for sustainable development. The program prioritizes research and development (R&D) activities that address societal challenges such as health, food security, disaster risk reduction, climate change adaptation, and energy.

The Science for Change Program was launched in 2018 as a response to the call for stronger science and technology capacities in the country. The program is anchored on the Philippine Development Plan 2017-2022, which highlights the importance of science, technology, and innovation (STI) for inclusive growth and development. The Science for Change program has four flagship programs, namely: Advanced Research and Development of Technologies (ARDENT), Innovation for Social Impact Partnership (ISIP), Collaborative Research and Development to Leverage Philippine Economy (CRADLE), and Climate Change Mitigation and Adaptation through Science and Technology-based Interventions (CLIMATE).

ARDENT aims to foster innovation-led economic growth by funding research projects in emerging technologies such as artificial intelligence, nanotechnology, and biotechnology. ISIP seeks to develop social enterprises that address societal problems while promoting economic development. CRADLE is designed to support industry-academe collaborations in R&D activities that will enhance the competitiveness of Philippine industries. Lastly, CLIMATE focuses on developing S&T-based solutions to climate change-related problems such as flooding, drought, and extreme weather events.

The Science for Change Program also has several enabling mechanisms that support its implementation. These include the Formulation of a National Research and Development Agenda, the Deployment of Research and Development Institutes, and the establishment of the Philippine Council for Industry, Energy, and Emerging

Technology Research and Development (PCIEERD). The PCIEERD is responsible for the management, planning, and implementation of the Science for Change Program.

While the Science for Change Program has made significant strides towards enhancing the Philippines' scientific and technological capabilities, there is a need for legislation to support its implementation. The proposed legislation should address the following concerns:

1. **Funding:** The Science for Change Program is heavily dependent on government funding, which may not be sustainable in the long run. A law providing incentives for private sector investments in R&D activities will help in diversifying funding sources for the program.
2. **Intellectual Property Rights (IPR):** The Science for Change Program involves R&D activities that may lead to the creation of new technologies and inventions. A law that ensures the protection of IPRs will incentivize researchers and companies to invest in R&D activities.
3. **Collaboration:** The Science for Change Program aims to encourage collaboration between industry, academe, and government. A law that mandates the establishment of technology transfer offices in universities and research institutes will facilitate collaborations with the private sector.
4. **Human Resource Development:** The Science for Change Program requires a pipeline of skilled researchers and scientists. A law that provides scholarships, grants, and other incentives for students and researchers will help develop the human resource capacity necessary for the program.

This bill seeks to institutionalize the Science for Change program of the government to address the challenges and concerns for the successful accomplishment of the said program. This bill also expands the coverage of the Science for change program to help address the need of the Philippines, as follows:

- Health sufficiency and responsiveness to Public Health Emergencies;
- Renewable Energy Systems and Bioenergy Technologies;
- Functional Materials for alternative Energy Sources and Energy;
- Conversion and Storage;
- Nuclear Science;
- Biotechnology, nanotechnology and Genomics;
- Climate and Environmental Sciences;
- Nutrition and Food Security and Safety
- Agriculture, Aquaculture and Fisheries Productivity;
- Natural Resource management and Sustainable Development;
- Transport Solutions;
- Industrial or Manufacturing or Mining Productivity;
- Disaster Risk Reduction and Climate Change Adaptation;
- Metrology, Calibration and Standards;
- Technology Transfer or Commercialization;

- Nurturing of Culture of Science; and

New programs are also proposed to be included in the Science for Change, such as:

- Defense and Security Research and Development
- Space Science and Technology
- ICT Development, Electronics and artificial intelligence
- Strengthening of Research and Development
- Science and Technology for the Creative, Tourism and Services Industry
- New and Emerging Technologies

For this purpose, this bill also seeks to create a National Innovation Council and mandates the Department of Science and Technology to formulate a five-year plan for the successful implementation of the provisions proposed under this bill.

The Science for Change Program in the Philippines is a critical initiative that seeks to enhance scientific and technological capabilities for sustainable development. The program has made significant strides towards addressing societal challenges such as health, food security, disaster risk reduction, climate change adaptation, and energy. Thus, the need for a law to support its implementation is critical for its success. A law that supports the Science for Change Program will help create an innovation-led economy that addresses societal challenges while promoting economic growth and development.

In view hereof, immediate passage of this bill is earnestly sought.



**MARK A. VILLAR**

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*Be it enacted by the Senate and House of Representatives 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.* – Article XIV of the Philippine Constitution  
4 recognizes that “science and technology are essential for national development and  
5 progress.” It declares that “the State shall give priority to research and development,  
6 invention, innovation, and their utilization; and to science and technology education,  
7 invention, and service”. Likewise, the State “shall support indigenous, appropriate,  
8 and self-reliant scientific and technological capabilities, and their application to the  
9 country’s productive systems and national life.”

10 Towards these ends and in pursuit of excellence in the field of science,  
11 technology and innovation (STI), the State needs to accelerate the development of  
12 STI in the country through a massive increase in investment, expansion of existing  
13 STI initiatives, creation of new programs, development of human resources in STI,  
14 and capacity building of research and development institutions.

15 Sec. 3. *Objectives.* – The objectives of this Act are as follows:

- 1 (a) To achieve a higher standard of science, technology and innovation (STI)  
2 and contribute to the development of the economy and society;  
3 (b) To improve the welfare of the nation by prescribing comprehensive and  
4 systematic policies for the promotion of STI; and  
5 (c) To encourage innovation and creativity among Filipinos, and come up with  
6 products, technologies and solutions to pressing national problems, and  
7 gain a competitive edge in the field of research and development.

8 Sec. 4. *Definition of Terms.* – As used in this Act, the following terms shall  
9 mean:

10 (a) *Harmonized National Research and Development Agenda (HNRDA)* refers  
11 to an outcome-based agenda which identifies all the research and development  
12 (R&D) programs and projects to be undertaken and funded by the government  
13 to support the attainment of the key result areas of the government's  
14 development objectives, particularly those that aim to reduce poverty and  
15 empower the poor and vulnerable; induce rapid, inclusive, and sustained  
16 economic growth; promote the integrity of the environment, and enhance the  
17 country's climate change adaptation and mitigation capability.

18 (b) *High-tech equipment*– refers to any equipment using the most advanced  
19 and developed machines and methods;

20 (c) *National Innovation Council (NIC)* – refers to the policy advisory body,  
21 established by virtue of Republic Act No. 11293, or the Philippine Innovation  
22 Act, mandated to formulate, develop, implement and monitor the country's  
23 innovation goals, priorities, and long-term national strategy;

24 (d) *Publicly-funded technology* – refers to any technology the development or  
25 generation of which was funded, in part or in full, using government money  
26 or resources;

27 (e) *Research and Development (R&D)* – refers to any systematic and creative  
28 work undertaken in the physical, natural, mathematical, and applied  
29 sciences by using methods in order increases the stock of knowledge in  
30 these fields to devise new applications;

1 (f) *Science* – refers to the systematic way of acquiring knowledge through  
2 observation and experimentation;

3 (g) *Technology* — refers to the practical application of science;

4 (h) *Innovation* – refers to the creation of new ideas that results to the  
5 development of new or improved products, processes, or services which are  
6 then spread or transferred across the market;

7 (i) *Technology licensing* – refers to a mode of technology transfer whereby a  
8 licensor such as a technology generator or technology or intellectual  
9 property owner, authorizes a licensee to use the technology under certain  
10 agreed terms and conditions.

11 *Sec. 5. Science for Change Program (S4CP) and Utilization Policy Framework.*

12 – The formulation of the S4CP is anchored on the HNRDA which shall be regularly  
13 updated based on the needs of the time.

14 a) In order to achieve the objectives of this Act, the following science and  
15 technology (S&T) programs of the DOST shall be expanded:

16 1) Health Self Sufficiency and Responsiveness to Public Health Emergencies

17 2) Renewable Energy Systems & Bioenergy Technologies

18 3) Functional Materials for Alternative Energy Sources and Energy

19 4) Conversion and Storage

20 5) Nuclear Science for Energy, Health, Agriculture and Industry

21 6) Biotechnology, Nanotechnology, and Genomics

22 7) Climate and Environment Sciences

23 8) Nutrition and Food Security and Safety

24 9) Agriculture, Aquaculture and Fisheries Productivity

25 10) Natural Resource Management and Sustainable Development

26 11) Transport Solutions

27 12) Industrial or Manufacturing or Mining Productivity

28 13) Disaster Risk Reduction and Climate Change Adaptation

29 14) Science and Technology (Services for the Production Sector)

30 15) Metrology, Calibration and Standards

31 16) Technology Transfer or Commercialization

1 17) Human Resource Development for Science Technology and Innovation

2 18) Nurturing a Culture of Science

3  
4 b) The following new programs shall also be included in the Science for Change

5 Program:

6 1) Defense and Security Research and Development

7 2) Space Science and Technology

8 3) ICT Development, Electronics and Artificial Intelligence

9 4) Strengthening of Research & Development and Science & Technology  
10 Services in the Regions through Infrastructure and Human Resource  
11 Development

12 5) S&T for the Creative, Tourism, and Services Industry

13 6) New and Emerging Technologies

14 *Sec. 7. Major Strategies of the Science for Change Program.* – The S4CP shall  
15 focus on the Accelerated R&D Program for Capacity Building of Research and  
16 Development Institutions and Industrial Competitiveness which is composed of four  
17 (4) programs namely:

18 a) **Niche Centers in the Regions for R&D (NICER).** The NICER Program  
19 shall be implemented to address the discrepancy in access to R&D funding  
20 among the regions. Through the programs, qualified higher education  
21 institutions (HEIs) in the regions shall be provided with grants so they can  
22 undertake quality research directed at promoting regional development with  
23 their existing capabilities and resources. A proposed NICER should be a unique  
24 and collaborative project between HEIs, and must be duly endorsed by the  
25 Regional Development Council (RDC).

26 b.) **R&D Leadership Program (RDLead).** The RDLead program shall be  
27 implemented to help develop and strengthen further the research capabilities  
28 of the academe, research and development institutions (RDIs), and other  
29 government line agencies nationwide. To this end, RDLeaders who are local  
30 S&T experts with strong leadership and innovative policy proficiencies shall be  
31 engaged to train, direct, and support R&D goals. Academic institutions RDIs,

1 and other agencies may engage the services of an RDLeader through a  
2 screening and evaluation process to be conducted by the National Research  
3 Council of the Philippines (NCRP) based on their respective needs and  
4 specifications. The NRCP shall be the implementing agency of the RDLead  
5 Program.

6 **c.) Collaborative R&D to Leverage the Economy (CRADLE) for RDIs**  
7 **and Industry.** The CRADLE Program shall be implemented to promote  
8 technological advancement and innovation in local companies and to support  
9 the growth of the Philippine innovation ecosystem. Through the program, the  
10 academe or RDI in partnership with a Filipino company, shall undertake  
11 research and development to improve the company's products, processes, and  
12 services to become more competitive in their respective industries. To ensure  
13 that research outputs from the academe are commercially utilized by the  
14 market, beneficiary-companies under this program must provide at least twenty  
15 percent (20%) counterpart funding and commit to adopt the technology that  
16 shall be developed by their R&D Partner.

17 **d) Business Innovation through S&T (BIST) for Industry.** The BIST  
18 Program shall be implemented by the DOST to provide financial assistance to  
19 Filipino private companies for the acquisition of strategic and relevant  
20 technologies so they can undertake their R&D activities. The financial  
21 assistance shall be used solely for the purchase of high tech equipment or to  
22 secure technology licensing or patent rights and shall be refunded to the DOST  
23 without interest.

24 *Sec. 7. Formulation and Submission of the Science for Change Program (S4CP)*  
25 *Plan.* – The DOST shall formulate the five-year S4CP Plan in coordination with other  
26 relevant government agencies, including state universities and colleges, and  
27 representatives from the private sector undertaking R&D. The Secretary of DOST shall  
28 submit to the President, for approval, the Science for Change Program Plan within  
29 ninety (90) days from the effectivity of this Act.



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

3 *Sec. 8. S4CP Program Management Office (PMO).* – The Project Management  
4 Office for the Science for Change Program (PMO-S4CP) shall be created and placed  
5 under the supervisions of the Office of the Secretary of the DOST. The PMO shall  
6 ensure the effective and efficient implementation of the Science for Change Programs.  
7 It shall perform coordinating and Secretariat functions and promote the various S4CP  
8 programs. The Secretary of the DOST shall formulate the staffing pattern of the PMO  
9 in coordination with the Department of Budget and Management and in accordance  
10 with rules and regulations of the Civil Service Commission.

11 *Sec. 9. The Harmonized National R&D Agenda* – The DOST shall, in consultation  
12 with government research institutions and other agencies concerned, formulate a  
13 HNRDA and a program for technology adoption for the government in accordance with  
14 the priorities of the Philippine Development Plan. The proposed HNRDA shall be  
15 submitted to the National Innovation Council for approval. The DOST shall certify that  
16 all the publicly funded R&A projects form part of the HNRDA and included in our  
17 Harmonized National R&D Agenda under the annual General Appropriations Act.”

18 The DOST shall submit to the Department of Budget and Management, the  
19 Speaker of the House of Representatives, and the President of the Senate of the  
20 Philippines, either in printed form or by electronic document, a copy of the approved  
21 HNRDA. The Secretary of Science and Technology and the agency’s web administrator  
22 or an equivalent officer shall ensure that the approved HNRDA is posted on the  
23 agency’s website.

24 *Sec.10. Mandatory Adoption of Publicly-Funded Technologies.* – All publicly-  
25 funded and generated technologies whenever feasible and practicable shall be utilized  
26 by all government entities or instrumentalities. All national government agencies  
27 government -owned and-controlled corporations, state universities and colleges, and  
28 local government units conducting science and technology development projects shall  
29 adopt publicly-funded technologies.

1           Sec. 11. *Science for Change Program Fund (S4CPF)*. – All donations,  
2 contributions, grants, bequests, or gifts, in case or in kind, for the S4CP shall be placed  
3 into a fund to be known as the Science for Change Program Fund: *Provided, That,*  
4 acceptance of grants, bequests, contributions, and donations from foreign  
5 governments shall be subject to the approval of the President of the Philippines, upon  
6 recommendation of the Secretary of the DOST and the Secretary of the Department  
7 of Foreign Affairs.

8           Sec. 12. *Appropriations*. – The initial amount for the implementation of this Act  
9 shall be charged against the current year’s appropriations of the DOST. Thereafter,  
10 such funds as may be required for the implementation of this Act shall be included in  
11 the Annual General Appropriations Act.

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

15           Sec. 14. *Implementing Rules and Regulations*. – Within One hundred eighty  
16 (180) days from the effectivity of this Act, the DOST shall formulate rules and  
17 regulations for its effective implementation.

18           Sec. 15. *Separability Clause*. – If any part or provision of this Act is held  
19 unconstitutional or invalid, other parts or provisions hereof which are not affected shall  
20 continue to remain in full force and effect.

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

*Approved.*