

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City, Metro Manila

NINETEENTH CONGRESS
First Regular Session

HOUSE BILL No. 5616



Introduced by Representative **CARLITO S. MARQUEZ**

EXPLANATORY NOTE

It is stated in Article II Section 17 of the Constitution that “the State shall give priority to science, technology and innovation to foster patriotism and nationalism, accelerate social progress, and promote total human liberation and development.”

In addition, the United Nations Educational, Scientific and Cultural Organization (UNESCO) recommends that developing countries should have at least one percent (1%) of gross domestic product (GDP) expenditure on research and development to make significant advances in Science, Technology and Innovation (STI) which will result in the acceleration of the country’s progress. On top of that, there should be at least three hundred eighty (380) Researches, Scientists and Engineers per million populations.

UNESCO also states that “creating knowledge and understanding through Science equips us to find solutions to today’s acute economic, social and environmental challenges and to achieving sustainable development and greener societies.” As the country experience the risks and limitations posed by the CoVid-19 pandemic, now more than ever, we should support the Department of Science and Technology as it endeavors to significantly accelerate STI through massive increase in investments on S&T, Human Resource Development (HRD) and Research and Development (R&D).

The Department of Science and Technology (DOST) offers solutions to the country’s perennial and most pressing problems brought by the pandemic as it provides science-based interventions on how to safely get every Filipinos lives on track and reopen the country’s economy. It also guides us amid the uncertainties by providing opinions from the experts in the science community.

It is with this mindset that the enactment of the Science for Change Program Act or the S4CP Act which aims to massively increase STI investments and permanently put a robust policy-making measure that yields towards the achievement of inclusive and sustainable development through enhanced innovation and creative capacity of the Filipinos is intensely pursued.

The S4CP consist of four (4) components namely:

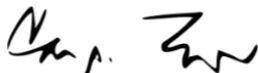
1. Program Expansion in 7 years
2. New Programs in 6 years
3. Grand Plan for S&T Human Resource Development
4. Accelerated R&D Program for the Capacity Building of Research and Development Institutions and Industrial Competitiveness

The significant increase in the budget will capture all the country's R&D efforts spread through a 5-year period, as follows:

1. Niche Centers in the Regions for R&D (NICER) – total of 3.2 billion pesos
2. R&D Leadership Program (RDLead) – total of 6 billion pesos
3. Collaborative R&D to Leverage PH Economy (CRADLE) for RDIs and Industry – total of 3.2 billion pesos
4. Business Innovation through S&T (BIST) for Industry – 14.25 billion pesos (25 industry sectors, at 50 to 100 million per sector times 75)
5. S&T HRD (STRAND, STAR, SRCUR)

The passage of this significant piece of legislation will further boost R&D and will accelerate the global competitiveness of Philippine products and services.

In this light, the passage of this important measure is earnestly sought.


ENGR. CARLITO “Lito” S. MARQUEZ
Chairperson, Ctte on Science & Technology

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

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 recognizes
4 that “science and technology are essential for national development and progress.” It
5 declares that “the State shall give priority to research and development, invention,
6 innovation, and their utilization; and to science and technology education, training, and
7 services”. Likewise, the State “shall support indigenous, appropriate, and self-reliant
8 scientific and technological capabilities, and their application to the country’s productive
9 systems and national life “.

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

15 **SEC. 3. Objectives.** - The objectives of this Act are as follows:

- 16 1. To achieve a higher standard of science, technology and innovation (STI) and
17 contribute to the development of the economy and society;
18 2. To improve the welfare of the nation by prescribing comprehensive and systematic
19 policies for the promotion of STI; and

- 1 3. To encourage innovation and creativity among Filipinos, and come up with new
2 products, technologies and solutions to pressing national problems, and gain a
3 competitive edge in the field of research and development.

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

- 5 a. *Harmonized National Research and Development Agenda (HNRDA)* refers to an
6 outcome-based agenda which identifies all the research and development (R&D)
7 programs and projects to be undertaken and funded by the government to support the
8 attainment of the key result areas of the government's development objectives,
9 particularly those that aim to reduce poverty and empower the poor and vulnerable;
10 induce rapid, inclusive, and sustained economic growth; promote the integrity of the
11 environment, and enhance the country's climate change adaptation and mitigation
12 capability.
13
14 b. *High-tech equipment* refers to any equipment using the most advanced and developed
15 machines and methods.
16
17 c. *National Innovation Council (NIC)* refers to the policy advisory body, established by
18 virtue of Republic Act No. 11293, or the Philippine Innovation Act, mandated to
19 formulate, develop, implement and monitor the country's innovation goals, priorities,
20 and long-term national strategy.
21
22 d. *Publicly-funded technology* refers to any technology the development or generation
23 of which was funded, in part or in full, using government money or resources.
24
25 e. *Research and development (R&D)* refers to any systematic and creative work
26 undertaken in the physical, natural, mathematical, and applied sciences by using
27 methods in order to increase the stock of knowledge in these fields to devise new
28 applications.
29
30 f. *Science*, refers to the systematic way of acquiring knowledge through observation and
31 experimentation.
32
33 g. *Technology* refers to the practical application of science.
34
35 h. *Innovation* refers to the creation of new ideas that results to the development of new
36 or improved products, processes, or services which are then spread or transferred
37 across the market.
38
39 i. *Technology licensing* refers to a mode of technology transfer whereby a licensor such
40 as a technology generator or technology or intellectual property owner, authorizes a
41 licensee to use the technology under certain agreed terms and conditions.
42

SEC. 5. Science for Change Program (S4CP) and Utilization Policy Framework. — The formulation of the S4CP is anchored on the HNRDA which shall be regularly updated based on the needs of the time.

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

1. Health Self Sufficiency and Responsiveness to Public Health Emergencies
2. Renewable Energy Systems & Bioenergy Technologies
3. Functional Materials for Alternative Energy Sources
4. Energy Conversion and Storage
5. Nuclear Science for Energy, Health, Agriculture and Industry
6. Biotechnology, Nanotechnology, and Genomics
7. Climate and Environment Sciences
8. Nutrition and Food Security and Safety
9. Agriculture, Aquaculture and Fisheries Productivity
10. Natural Resource Management and Sustainable Development
11. Transport Solutions
12. Industrial or Manufacturing or Mining Productivity
13. Disaster Risk Reduction and Climate Change Adaptation
14. Science and Technology (Services for the Production Sector
15. Metrology, Calibration and Standards
16. Technology Transfer or Commercialization
17. Human Resource Development for Science Technology and Innovation
18. Nurturing a Culture of Science

b. The following new programs shall also be included in the Science for Change Program:

1. Defense and Security Research and Development
2. Space Science and Technology
3. ICT Development, Electronics and Artificial Intelligence
4. Strengthening of Research & Development and Science Technology Services in the Regions through Infrastructure and Human Resource Development
5. S&T for the Creative, Tourism, and Services Industry
6. New and Emerging Technologies

SEC. 6. Major Strategies of the Science for Change Program. - 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:

a. **Niche Centers in the Regions for R&D (NICER).** The NICER Program shall be implemented to address the discrepancy in access to R&D funding

1 among the regions. Through the program, qualified higher education
2 institutions (HEIs) in the regions shall be provided with grants so they can
3 undertake quality research directed at promoting regional development with
4 their existing capabilities and resources. A proposed NICER should be a unique
5 and collaborative project between HEIs, and must be duly endorsed by the
6 Regional Development Council (RDC).

7
8 b. **R&D Leadership Program (RDLead).** The RDLead program shall be
9 implemented to help develop and strengthen further the research capabilities
10 of the academe, research and development institutions (RDIs), and other
11 government line agencies nationwide. To this end, RDLeaders who are local
12 S&T experts with strong leadership and innovative policy proficiencies shall be
13 engaged to train, direct, and support R&D goals. Academic institutions RDIs,
14 and other agencies may engage the services of an RDLeader through a
15 screening and evaluation process to be conducted by the National Research
16 Council of the Philippines (NRCP) based on their respective needs and
17 specifications. The NRCP shall be the implementing agency of the RDLead
18 Program.

19
20 c. **Collaborative R&D to Leverage the Economy (CRADLE) for RDIs
21 and Industry.** The CRADLE Program shall be implemented to promote
22 technological advancement and innovation in local companies and to support
23 the growth of the Philippine innovation ecosystem. Through the program, the
24 academe or RDI in partnership with a Filipino company, shall undertake
25 research and development to improve the company's products, processes, and
26 services to become more competitive in their respective industries. To ensure
27 that research outputs from the academe are commercially utilized by the
28 market, beneficiary-companies under this program must provide at least
29 twenty percent (20%) counterpart funding and commit to adopt the technology
30 that shall be developed by their R & D Partner.

31
32 d. **Business Innovation through S&T (BIST) for Industry.** The BIST
33 Program shall be implemented by the DOST to provide financial assistance to
34 Filipino private companies for the acquisition of strategic and relevant
35 technologies so they can undertake their R&D activities. The financial
36 assistance shall be used solely for the purchase of high tech equipment or to
37 secure technology licensing or patent rights and shall be refunded to the DOST
38 without interest.

39 **SEC. 7. Formulation and Submission of the Science for Change Program**
40 **(S4CP) Plan.** — The DOST shall formulate the five-year S4CP Plan in coordination with
41 other relevant government agencies, including state universities and colleges, and
42 representatives from the private sector undertaking R&D. The Secretary of DOST shall

1 submit to the President, for approval, the Science for Change Program Plan within ninety
2 (90) days from the effectivity of this Act.

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

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

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

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

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

31 **SEC. 11. *Science for Change Program Fund (S4CPF).*** — All donations,
32 contributions, grants, bequests, or gifts, in cash or in kind, for the S4CP shall be placed
33 into a fund to be known as the Science for Change Program Fund: Provided, That,
34 acceptance of grants, bequests, contributions, and donations from foreign governments
35 shall be subject to the approval of the President of the Philippines, upon recommendation
36 of the Secretary of the DOST and the Secretary of the Department of Foreign Affairs.

37 **SEC. 12. *Appropriations.*** - The initial amount for the implementation of this Act shall
38 be charged against the current year's appropriations of the DOST. Thereafter, such funds
39 as may be required for the implementation of this Act shall be included in the Annual
40 General Appropriations Act.

1 **SEC. 13. *Annual Report.*** - The DOST shall submit an annual report on the
2 implementation of the S4CP to the Office of the President and to the Committee on
3 Science and Technology of the House of Representatives and the Senate.

4 **SEC. 14. *Implementing Rules and Regulations.*** — Within One hundred eighty
5 (180) days from the effectivity of this Act, the DOST shall formulate rules and regulations
6 for its effective implementation.

7 **SEC. 15. *Separability Clause.*** — If any part or provision of this Act is declared invalid
8 or unconstitutional, the remaining parts or provisions not affected shall remain and in
9 full force and effect.

10 **SEC. 16. *Effectivity.*** — This Act shall take effect fifteen (15) days after its publication
11 in the Official Gazette or in a newspaper of general circulation.

12 *Approved,*