

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



22 JUL 18 A10:10

SENATE

S. No. 690

RECEIVED BY: _____

Introduced by SENATOR RAMON BONG REVILLA, JR.

**AN ACT
ESTABLISHING THE SCIENCE FOR CHANGE PROGRAM (S4CP)**

EXPLANATORY NOTE

Now more than ever, we depend on science to direct our decisions on how to carefully proceed with the New Normal amid the limitations and risks posed by the ongoing Covid-19 pandemic. We rely on science to determine the best interventions to confront the health emergency. We turn to science-based interventions on how to safely reopen the economy and get people's lives back on track. We seek expert opinion of the scientific community in order to guide us amid the uncertainties and to appreciate the developments about the novel Coronavirus.

It is with this mindset that we are filing this Science for Change Program or the S4CP, which aims to harness and optimize science, technology, innovation and research at the domestic level in offering solutions to the country's perennial and most pressing problems. In line with the recent Congressional action of passing laws such as Republic Act 11293 or the "Philippine Innovation Act;" RA 11312 or the Act Strengthening the Magna Carta for Scientists, Engineers, Researchers and Other Science and Technology Personnel in the Government; RA 11363 or the "Philippine Space Act;" RA 11337 or the "Innovative Startup Act," this bill continues to give priority to science and technology as agents of change and propellers of national development.

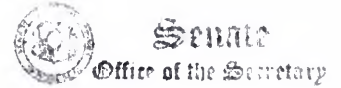
This bill is also among the priority measures of the Department of Science and Technology (DOST), as identified in the updated Philippine Development Plan 2017-2022. As stated therein, the proposed S4C Act "aims to expand various science and technology programs of the DOST, prescribe the research and development areas to be considered, and require government instrumentalities to adopt publicly funded and generated technologies whenever feasible and practicable."

As progress has been made over the years with the steady increase of Researchers, Scientists and Engineers per million population, and percentage of GDP expenditure on R&D, there is a need to harmonize the research agenda, further accelerate the capacities for R&D, and utilize the outputs towards progress.

In this light, the passage of this bill is hereby recommended.


RAMON BONG REVILLA, JR.

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**AN ACT
ESTABLISHING THE SCIENCE FOR CHANGE PROGRAM (S4CP)**

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 "Kaakibat sa Agham
2 *para sa Pagbabago Act.*"

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 training and services." Likewise, the State "shall support indigenous, appropriate, and
8 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:

16 a) To achieve a higher standard of science, technology, and innovation (STI)
17 to contribute to the development of the economy and society;

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

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

- 8 a) *Harmonized National Research and Development Agenda (HNRDA)* – an
- 9 outcome-based agenda which identifies all the research and development
- 10 (R&D) programs and projects to be undertaken and funded by the
- 11 government to support the attainment of the key result areas of the
- 12 government’s development objectives, particularly those that aim to
- 13 reduce poverty and empower the poor and vulnerable; induce rapid,
- 14 inclusive and sustained economic growth; promote the integrity of the
- 15 environment, and enhance the country’s climate change adaptation and
- 16 mitigation capability.
- 17 b) *High-tech Equipment* – any equipment using the most advanced and
- 18 developed machines and methods.
- 19 c) *National Innovation Council (NIC)* – the policy advisory body established
- 20 by virtue of Republic Act No. 11293, or the Philippine Innovation Act,
- 21 mandated to formulate, develop, implement and monitor the country’s
- 22 innovation goals, priorities, and long-term national strategy.
- 23 d) *Publicly-funded Technology* – any technology the development or
- 24 generation of which was funded, in part or in full, using government
- 25 money or resources.
- 26 e) *Research and Development (R&D)* – any systematic and creative work
- 27 undertaken in the physical, natural, mathematical, and applied sciences
- 28 by using methods in order to increase the stock of knowledge in these
- 29 fields to devise new applications.
- 30 f) *Science* – the systematic way of acquiring knowledge through observation
- 31 and experimentation.
- 32 g) *Technology* – the practical application of science.

1 h) *Innovation* – the creation of new ideas that results to the development of
2 new or improved products, processes, or services which are then spread
3 or transferred across the market.

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

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

9 – The formulation of the S4CP is anchored on the Harmonized National Research and
10 Development Agenda (HNRDA) which shall be regularly updated based on the needs
11 of the time.

12 a) In order to achieve the objectives of this Act, the following S&T programs
13 of DOST shall be expanded:

14 i. Health Self Sufficiency and Responsiveness to Public Health
15 Emergencies

16 ii. Renewable Energy (RE) Systems & Bioenergy Technologies

17 iii. Functional Materials for Alternative Energy Sources and Energy
18 Conversion and Storage

19 iv. Nuclear Science for Energy, Health, Agriculture and Industry

20 v. Biotechnology, Nanotechnology, and Genomics

21 vi. Climate and Environment Sciences

22 vii. Nutrition and Food Security and Safety

23 viii. Agriculture, Aquaculture and Fisheries Productivity

24 ix. Natural Resource Management and Sustainable Development

25 x. Transport Solutions

26 xi. Industrial or Manufacturing or Mining Productivity

27 xii. Disaster Risk Reduction and Climate Change Adaptation

28 xiii. Science and Technology Services for the Production Sector

29 xiv. Metrology, Calibration and Standards

30 xv. Technology Transfer or Commercialization

31 xvi. Human Resource Development for Science, Technology and
32 Innovation (STI)

1 xvii. Nurturing a Culture of Science

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

4 i. Defense and Security Research and Development

5 ii. Space Science and Technology

6 iii. ICT Development, Electronics, Artificial Intelligence and Cybersecurity

7 iv. Strengthening of Research and Development and Science and
8 Technology Services in the Regions through Infrastructure and
9 Human Resource Development

10 v. S&T for Creative, Tourism, and Services Industries

11 vi. New and Emerging Technologies

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

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

24 b) *R&D Leadership Program (RDLead).* – The RDLead program shall be
25 implemented to help develop and strengthen further the research
26 capabilities of the academe, research and development institutions
27 (RDIs), and other government line agencies nationwide. To this end,
28 RDLeaders who are local S&T experts with strong leadership and
29 innovative policy proficiencies shall be engaged to train, and direct and
30 support their R&D goals. Academic institutions, RDIs and other agencies
31 may engage the services of an RDLeader through a screening and
32 evaluation process to be conducted by the National Research Council of

1 the Philippines (NRCP) based on their respective needs and specifications.
2 The NRCP shall be the implementing agency of the RDLead Program.

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

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

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

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

30 *Sec. 8. S4CP Program Management Office (PMO).* – The Program Management
31 Office for the Science for Change Program (PMO-S4CP) shall be created and placed
32 under the supervision of the Office of the Secretary of the DOST. The PMO shall ensure

1 the effective and efficient implementation of the Science for Change Programs. It shall
2 perform coordinating and Secretariat functions and promote the various S4CP
3 programs. The Secretary of the DOST shall formulate the staffing pattern of the PMO
4 in coordination with the Department of Budget and Management and in accordance
5 with rules and regulations of the Civil Service Commission.

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

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

20 Sec. 10. *Mandatory Adoption of Publicly Funded Technologies.* – All publicly
21 funded and generated technologies whenever feasible and practicable shall be utilized
22 by all government entities and instrumentalities. All national government agencies
23 (NGAs), government-owned and -controlled corporations (GOCCs), state universities
24 and colleges (SUCs), and local government units (LGUs) conducting science and
25 technology development projects shall adopt publicly-funded technologies.

26 Sec. 11. *Science for Change Program Fund (SACPF).* – All donations,
27 contributions, grants, bequests, or gifts, in cash or in kind, for the S4CP shall be placed
28 into a fund to be known as the Science for Change Program Fund: Provided, That,
29 acceptance of grants, bequests, contributions, and donations from foreign
30 governments shall be subject to the approval of the President of the Philippines, upon
31 recommendation of the Secretary of the DOST and the Secretary of the Department
32 of Foreign Affairs.

1 Sec. 12. *Appropriations.* – The initial amount for the implementation of this Act
2 shall be charged against the current year’s appropriations of the DOST. Thereafter,
3 such funds as may be required for the implementation of this Act shall be included in
4 the annual General Appropriations Act.

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

9 Sec. 14. *Implementing Rules and Regulations.* – The DOST shall formulate the
10 Implementing Rules and Regulations (IRR) for the effective implementation of this Act
11 within one hundred eighty (180) days from the effectivity thereof.

12 Sec. 15. *Separability Clause.* – If any provision or part hereof is held invalid or
13 unconstitutional, the remainder of the law or the provision or part not otherwise
14 affected shall remain valid and subsisting.

15 Sec. 16. *Repealing Clause.* – Any law, presidential decree or issuance, executive
16 order, letter of instruction, administrative order, rule, or regulation contrary to or
17 inconsistent with the provisions of this Act are hereby repealed, modified, or amended
18 accordingly.

19 Sec. 17. *Effectivity.* – This Act shall take effect fifteen (15) days after its
20 publication in the *Official Gazette* or in a newspaper of general circulation.

Approved,