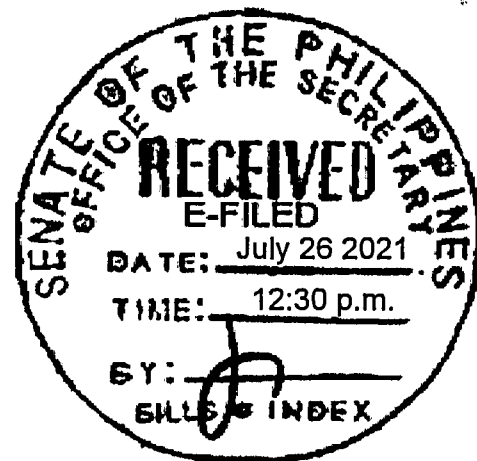


EIGHTEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
Third Regular Session)



SENATE
S. No. 2328

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-

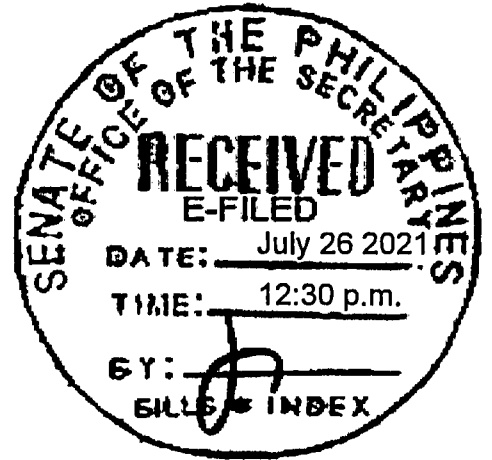
2022. As stated therein, the proposed S4C Act "aims to expand various science and technology programs of the DOST, prescribe the research and development areas to be considered, and require government instrumentalities to adopt publicly funded and generated technologies whenever feasible and practicable."

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.

EIGHTEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
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SENATE
S. No. 2328

Introduced by SENATOR RAMON BONG REVILLA, JR.

**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 "Science for Change
2 *Program (S4CP) Act of 2021.*"

3 Sec. 2. *Declaration of Policy.* - The State shall give priority to science,
4 technology and innovation to foster patriotism and nationalism, accelerate social
5 progress, and promote total human liberation and development. It recognizes that
6 science and technology are essential for national development and progress. Thus,
7 the State shall give priority to research and development, invention, innovation, and
8 their utilization. It shall likewise give priority to science and technology education,
9 training, and services. It shall support indigenous, appropriate, and self-reliant
10 scientific and technological capabilities, and their application to the country's
11 productive systems and national life.

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

13 a) To achieve a higher standard of science, technology, and innovation (STI)
14 to contribute to the development of the economy and society and to the
15 improvement of the welfare of the nation through prescribing the basic
16 policy requirements for the promotion of STI and comprehensively and
17 systematically promoting policies for the progress of STI; and

- 1 b) Through R&D, to come up with new products and technologies, solve
2 pressing national problems, increase productivity, generate new
3 knowledge and improve capability in new and emerging technologies.

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

- 6 a) *Harmonized National Research and Development Agenda (HNRDA)* – an
7 outcome-based agenda where all research and development (R&D)
8 programs and projects to be funded by the government are envisioned to
9 contribute to the attainment of the majority of government’s key result
10 areas, particularly responding to poverty reduction and empowerment of
11 the poor and vulnerable; rapid, inclusive, and sustained economic growth;
12 and integrity of the environment and climate change adaptation and
13 mitigation;
- 14 b) *High-tech Equipment* – any equipment using the most advanced and
15 developed machines and methods.
- 16 c) *Publicly-funded Technology* – any technology the development or
17 generation of which was funded, in part or in full, using government
18 money or resources;
- 19 d) *Research and Development* – any systematic and creative work
20 undertaken in the physical, natural, mathematical, and applied sciences
21 by using methods in order to increase the stock of knowledge in these
22 fields to devise new applications;
- 23 e) *Science, Technology, and Innovation (STI)* – Science is the systematic
24 way of acquiring knowledge through observation and experimentation
25 whereas technology is the practical application of science. Innovation is
26 the creation of new ideas that results to the development of new or
27 improved products, processes, or services which are then spread or
28 transferred across the market;
- 29 f) *Technology licensing* – a mode of technology transfer whereby a licensor
30 (technology generator or owner) authorizes a licensee to use the
31 technology under certain agreed terms and conditions;

- 1 g) *National Innovation Council (NIC)*– a policy advisory body, established by
2 virtue of the Philippine Innovation Act, mandated to formulate, develop,
3 implement and monitor the country’s innovation goals, priorities, and
4 long-term national strategy.

5 *Sec. 5. The Science for Change Program (S4CP) and Utilization Policy*
6 *Framework.* – The formulation of the S4CP is anchored on the Harmonized National
7 R&D Agenda that is regularly updated based on the needs of the time.

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

- 10 i. Health Self Sufficiency and Responsiveness to Public Health
11 Emergencies
12 ii. Renewable Energy (RE) Systems & Bioenergy Technologies
13 iii. Functional Materials for Alternative Energy Sources and Energy
14 Conversion and Storage
15 iv. Nuclear Science for Energy, Health, Agriculture and Industry
16 v. Biotechnology, Nanotechnology, and Genomics
17 vi. Climate and Environment Sciences
18 vii. Nutrition and Food Security and Safety
19 viii. Agriculture, Aquaculture and Fisheries Productivity
20 ix. Natural Resource Management and Sustainable Development
21 x. Transport Solutions
22 xi. Industrial/Manufacturing/Mining Productivity
23 xii. Disaster Risk Reduction and Climate Change Adaptation
24 xiii. S&T Services for the Production Sector
25 xiv. Metrology, Calibration and Standards
26 xv. Technology Transfer and/or Commercialization
27 xvi. Human Resource Development for STI
28 xvii. Nurturing a Culture of Science

- 29 b) The following new programs shall also be included in the Science for
30 Change Program:

- 31 i. Defense and Security R&D
32 ii. Space Science and Technology

- 1 iii. ICT Development, Electronics, Artificial Intelligence and Cybersecurity
- 2 iv. Strengthening of R&D and S&T Services in the Regions through
- 3 Infrastructure and Human Resource Development
- 4 v. S&T for Creative, Tourism, and Services Industries
- 5 vi. New and Emerging Technologies

6 Sec. 6. *Major Strategies of the Science for Change Program.* – There shall be
7 Accelerated R&D Program for Capacity Building of Research and Development
8 Institutions and Industrial Competitiveness.

9 a) *Niche Centers in the Regions for R&D (NICER).* – The NICER Program shall
10 be implemented to address the discrepancy in access to R&D funding
11 among the regions. Through the program, qualified Higher Education
12 Institutions (HEIs) in the regions shall be provided with grants so they can
13 undertake quality research directed at promoting regional development
14 with their existing capabilities and resources. A proposed NICER should
15 be unique, a collaborative project between HEIs, and must be duly
16 endorsed by the Regional Development Council (RDC) to ensure its socio-
17 economic impact in the region.

18 b) *R&D Leadership Program (RDLead).* – The RDLead program shall be
19 implemented to help develop and strengthen further the research
20 capabilities of the academe, research and development institutions
21 (RDIs), and other government line agencies nationwide. To this end,
22 RDLeaders who are local S&T experts with strong leadership and
23 innovative policy proficiencies shall be engaged to train, and direct and
24 support their R&D goals. Depending on the R&D needs of the academe,
25 RDIs, and line agencies, an RDLeader shall be engaged through
26 application, screening, and evaluation by the National Research Council of
27 the Philippines (NRCP). NRCP shall be the implementing agency of the
28 RDLead Program.

29 c) *Collaborative R&D to Leverage the Economy (CRADLE) for RDIs and*
30 *Industry.* – The CRADLE Program shall be implemented to enable
31 technological advancement and innovation of local companies and to
32 support the growth of the Philippine Innovation ecosystem. Through the

1 program, the academe and/or RD, in partnership with a Filipino company,
2 shall undertake research and development to improve the company's
3 products, processes, and services to become more competitive in their
4 respective industries. Beneficiary-companies under this program must
5 provide at least 20% counterpart funding and commit to adopt the
6 technology that will be developed. This way, research outputs from the
7 academe are directly translated commercially to the market.

- 8 d) *Business Innovation through S&T (BIST) for Industry.* – The BIST Program
9 shall be implemented to provide financial assistance to Filipino private
10 companies for the acquisition of strategic and relevant technologies so
11 they can undertake their R&D. The financial assistance, which may only
12 be used to purchase high-tech equipment or to secure technology
13 licensing and/or patent rights, shall be refunded to DOST at zero percent
14 interest.

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

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

23 *Sec. 8. S4C Program Management Office (PMO).* – The Program Management
24 Office for the Science for Change Program (PMO-S4CP) shall be created under the
25 DOST- Office of the Undersecretary for R&D. The PMO shall ensure the effective and
26 efficient implementation of the Science for Change Programs. It shall perform
27 coordinating and Secretariat functions required in the accomplishment of the program
28 objectives, as well as promote the various programs. The initial staffing structure and
29 complement of the PMO shall be submitted by the DOST to the DBM.

30 *Sec. 9. The Harmonized National R&D Agenda.* – The DOST, in consultation
31 with government research institutions and other agencies concerned, shall formulate
32 a harmonized national research and development agenda (HNRDA) and a program for

1 technology adoption for the government. The proposed agenda shall be submitted for
2 approval by the National Innovation Council. All publicly funded R&D projects, twenty
3 million pesos (P20,000,000.00) and above, shall be certified by the DOST as to
4 alignment with the HNRDA.

5 The HRNDA shall be directly related to the priorities under the Philippine
6 Development Plan.

7 The DOST shall submit to the DBM, the Speaker of the House of
8 Representatives, and the President of the Senate of the Philippines, either in printed
9 form or by electronic document, a copy of the approved HNRDA. The Secretary of
10 Science and Technology and the Agency's web administrator or his/her equivalent
11 shall be responsible for ensuring that the approved HNRDA is posted on the Agency's
12 website.

13 *Sec. 10. Mandatory Adoption of Publicly Funded Technologies.* – Mandatory
14 adoption of publicly funded and generated technologies whenever feasible and
15 practicable shall strictly be implemented by all government entities and
16 instrumentalities. All national government agencies (NGAs), government-owned-and-
17 controlled corporations (GOCCs), state universities and colleges (SUCs), and local
18 government units (LGUs) performing science and technology development projects
19 shall adopt publicly-funded technologies.

20 *Sec. 11. Science for Change Program Fund (S4CPF).* – There is hereby created
21 the Science for Change Program Fund to be used exclusively for the implementation
22 of the projects and activities under the S4CP. The S4CPF shall be administered by the
23 DOST in accordance with existing government budgeting, accounting and auditing
24 rules and regulations. The S4CPF shall be sourced from the following:

- 25 a) The initial amount of ten billion pesos (P10,000,000,000.00) to be taken
26 from the General Appropriations Act (GAA) and other funds/savings from
27 GAA of the preceding year, in case the GAA is approved before this law
28 is enacted. The yearly budget for Science for Change Program shall double
29 yearly until it reaches 2% of the Government Appropriations Act (GAA)
30 budget. Such amount shall be released to the DOST after the effectivity
31 of this Act;
- 32 b) Royalty income produced under the S4CP; and

1 c) Loans, contributions, grants, bequests, gifts, and donations, whether from
2 local or foreign sources. Provided, that acceptance of grants, bequests,
3 contributions and donations from foreign governments shall be subject to
4 the approval of the President, upon the recommendation of the Secretary
5 of the DOST and Secretary of the Department of Foreign Affairs (DFA).
6 The Secretary of DOST, with the approval of the NEDA and, subsequently,
7 the Department of Finance (DOF) is hereby granted the authority to enter
8 into loan agreements with foreign financial institutions.

9 Sec. 12. *Appropriations.* – The sum of Ten Billion Pesos
10 (PhP10,000,000,000.00) is hereby appropriated as initial operating fund for the
11 projects and activities under the S4CP. Thereafter, the amount needed for the
12 operation of the SCP shall be included in the General Appropriations Act.

13 Sec. 13. *Annual Report.* – The DOST shall annually submit a report on the
14 implementation of the S4CP to the Office of the President and to the Committee on
15 Science and Technology of the House of Representatives and the Senate of the
16 Philippines.

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

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

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

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

29 *Approved,*