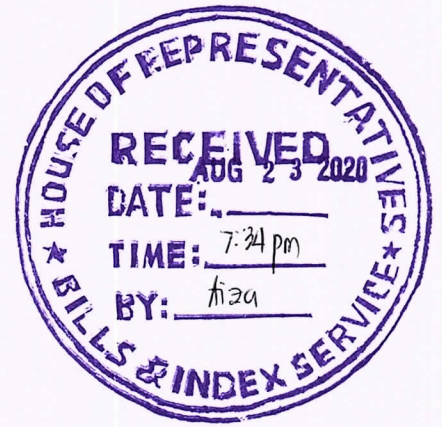


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Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City, Metro Manila

EIGHTEENTH CONGRESS
Second Regular Session

HOUSE BILL NO. 7453

Introduced by **ANG PROBINSYANO**
Party-List Representative Alfred Delos Santos

EXPLANATORY NOTE

The Philippine government recognizes the role of science, technology, and innovation in achieving AmBisyon 2040. From 2009 to 2013, the research and development expenditures as a percentage of the Gross Domestic Product (GDP) increased from 0.11% to 0.14%. However, this is far from the global average of 2.04% and UNESCO recommendation of 1% for developing countries. The bulk of research and development spending in the Philippines comes from the public sector with 60% of total expenditures. Most of the activities relating to research and development are concentrated in the National Capital Region (NCR), Regions IV-A (CALABARZON), and Region III (Central Luzon).

The Department of Science and Technology (DOST) sets the direction of research and development in the country, guided by the socio-economic agenda of the administration, the Philippine Development Plan (PDP), and the DOST Strategic Plan. In the Philippine Development Plan 2017-2022, the annual target for research and development expenditure as a percentage of GDP is set at 0.2% in 2017, increasing to 0.5% by 2022.

The proposed bill, in line with the aforementioned direction and guidelines, emphasizes the role of science, technology, and innovation as a foundation for inclusive growth, a high-trust society, and a globally competitive knowledge economy through increasing the country's potential economic growth. Increasing research and development in agriculture, industry, and service sectors as well as investments in technology-based start-ups, enterprises will result in the promotion and acceleration of technology adaptation.

On the other hand, this bill, through enhancing the creative capacity for knowledge and technology generation, acquisition, and adoption, and strengthening open collaboration will stimulation innovation which will ultimately have a positive and well-meaning impact on Filipino society, bringing about inclusive progress and holistic development.

1 In view of the foregoing, immediate approval thereof is highly recommended.
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ALFRED C. DELOS SANTOS
Representative, Ang Probinsyano Partylist

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10 Introduced by **ANG PROBINSYANO**
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14
15 **AN ACT ESTABLISHING SCIENCE FOR FILIPINO SOCIETY PROGRAM**
16

17 *Be it enacted by the Senate and the House of Representatives of the*
18 *Philippines in Congress assembled:*
19

20 SECTION 1. *Short Title.* – This Act shall be known as the “Science for
21 Filipino Society Act of 2020.”
22

23 SECTION 2. *Declaration of Policy.* – In recognition of the fundamental role
24 of science and technology, it is the policy of the State to promote science that
25 reflects and responds to the needs of the Filipino society aiming for sustainable
26 development and progress. Article II, Section 17 provides:
27

28 “The State shall give priority to...science and technology...to
29 foster patriotism and nationalism, accelerate social progress, and
30 promote total human liberation and development.”
31

32 Equally, Article XIV, Section 10 of the 1987 Constitution states:
33

34 “Science and technology are essential for national
35 development and progress. The State shall give priority to research
36 and development, invention, innovation, and their utilization; and
37 to science and technology education, training, and services. It shall
38 support indigenous, appropriate, and self-reliant scientific and
39 technological capabilities, and their application to the country’s
40 productive systems and national life.”
41

42 SECTION 3. *Objectives.* – The objectives of this law are to bring about a
43 distinguished standard of science and technology, to contribute to the
44 sustainable and holistic development of the economy and society, and to improve
45 the total welfare of the nation by means of prescribing basic policy requirements
46 for the promotion of science and technology and promote policies for progress
47 through a coordinated and responsive manner.

1
2 In order to achieve the objective, the following programs and initiatives
3 shall be expanded, developed, and prioritized:
4

- 5 a. healthcare sufficiency;
- 6 b. clean and renewable energy;
- 7 c. disaster risk reduction and management (DRRM);
- 8 d. pollution control and mitigation;
- 9 e. climate adaptation and resilience;
- 10 f. clean water and sanitation;
- 11 g. sustainable cities and communities;
- 12 h. agricultural productivity and food security;
- 13 i. nutrition and food safety;
- 14 j. nuclear sciences for energy, health, agriculture, and industry;
- 15 k. indigenous science and technology;
- 16 l. business incubation for technology;
- 17 m. foreign scholarships and technology transfer;
- 18 n. promotion of science and technology;
- 19 o. cybersecurity and infrastructure security;
- 20 p. biodiversity and natural resources conservation;
- 21 q. strengthening regional research and development centers through
22 infrastructure, facilities, equipment, and funding;
- 23 r. space technology and information and communications technology
24 (ICT) development;
- 25 s. intelligent traffic, transportation, and mobility solutions;
- 26 t. e-government efficiency and productivity;
- 27 u. rural connectivity and countryside development;
- 28 v. artificial intelligence application;
- 29

30 SECTION 4. *Policy Framework.* – The formulation of Science for Filipino
31 Society Program shall be anchored on the following Research and Development
32 (R&D) Agenda;
33

34 4.1. Research and Development to Address Critical Issues
35

- 36 a. Healthcare sufficiency
 - 37 i. Diagnostics development
 - 38 ii. Drug discovery and development
 - 39 iii. Hospital equipment and biomedical devices
 - 40 iv. Information and communication technology for health
 - 41 v. Emerging disease detection and containment
- 42 b. Food and nutrition
 - 43 i. Food quality and safety
 - 44 ii. Innovative food products
 - 45 iii. Affordable nutrition intervention
 - 46 iv. Nutrition assessment and monitoring
- 47 c. Agricultural productivity and food security

- i. Breeding and improvement of crop and livestock varieties
- ii. Prevention and control of pests and disease, both existing and emerging
- iii. Increasing crop resilience
- iv. Smart farming approaches
- v. cultural management practices
- d. Biodiversity and natural resources conservation
 - i. Sustainable utilization, conservation and management of biodiversity in terrestrial, forestry and marine ecosystems
 - ii. Sustainable watershed management and utilization
 - iii. Development of high value products from agricultural and forest wastes
- e. Intelligent traffic, transportation, and mobility solutions
 - i. Intelligent transport system
 - ii. Cost-effective alternative mass transport systems
 - iii. Automated traffic monitoring, violation detection, public utility vehicle (PUV) tracking and safety signaling systems
- f. e-Government efficiency and productivity
 - i. web coordination and security
 - ii. promotion of e-services
- g. Human security
 - i. biosecurity
 - ii. cybersecurity
 - iii. key services infrastructure protection

4.2 Research and Development for Clean and Renewable Energy

- a. Renewable Energy Sources and Production
 - i. Solar
 - ii. Wind
 - iii. Hydro
 - iv. Biomass
 - v. Ocean
- b. Energy Storage
 - i. Cost competitive energy storage
 - ii. Development of sustainable and efficient battery and capacitors

4.3 Disaster Risk Reduction and Climate Resilience

- a. Observation and Monitoring Networks
- b. Technology Development and Application for Monitoring
- c. Modeling and Simulation for Improvement of Monitoring and Forecasting
- d. Hazards, Vulnerability, and Risk Assessment
- e. Warning and Risk Communication
- f. Technology Development and Application for Climate Change Mitigation and Adaptation

- g. Technology Development and Application for Disaster Risk Management
- 4.4 Research and Development for New and Emerging Technologies
 - a. Technological application in biomedical sciences
 - b. Nuclear sciences for energy, health, agriculture, and industry
 - c. Information and Communication Technology (ICT)
 - d. Artificial intelligence
- 4.5 Research and Development in Business and Production Sector
 - a. Technology Business Incubation Program
 - b. Promotion of technology for commercial use
 - c. Support for implementation of private research for public use
 - d. Networking of laboratories
 - e. Product innovation centers
 - f. Manufacturing industry development
 - i. packaging and labeling
 - ii. machine and equipment development
 - iii. assistance to traditional and indigenous industries
- 4.6 Research and Development Through Technology Transfer and Institutional Collaboration
 - a. Inter-departmental collaborations to roll out new and beneficial technologies
 - b. Community empowerment through science and technology
 - c. Industry-academe-government collaboration
 - i. Co-laboratories
 - ii. Co-centers
 - iii. Co-facilities
 - d. international science and technology collaborations
- 4.7 Capacity Building in Research and Development
 - a. Accelerated R&D program for capacity building of research and development institutions and industrial competitiveness
 - i. Niche Centers in the Regions for R&D (NICER) Program
 - ii. R&D Leadership (RDLead) Program
 - iii. Collaborative R&D to Leverage PH Economy (CRADLE) for RDIs and Industry Program
 - iv. Business Innovation through S&T (BIST) for Industry Program
 - b. Upgrading of facilities and improvement of science and technology services
 - i. Product development centers
 - ii. Materials and product testing facilities
 - iii. Regional research centers

1 iv. Disaster risk reduction facilities

2
3 4.8 Human Resource Development for Science and Technology

- 4
5 a. Foreign scholarships in science and technology
6 b. Graduate science and technology scholarships
7 i. MD/Ph.D. scholarships
8 ii. Ph.D. research scholarships
9 iii. Expanded MS/Ph.D. scholarships
10 c. Undergraduate scholarships
11 d. Secondary level scholarships at Philippine Science High School
12 (PSHS)
13 e. Innovative modalities for the delivery of human resource
14 interventions
15 f. Science and Technology Regional Alliance for Inclusive National
16 Development (STRAND)
17 g. Science Teacher Academy for Regions (STAR)
18 h. Strengthening research centers in universities in the regions
19

20 4.9 Promotion of Science and Technology and Research and Development

- 21
22 a. Promotion of science and technology
23 i. Science fairs, symposiums, and conferences
24 ii. Establishment of science centers
25 b. Science and technology education for ordinary citizens
26 c. Promotion and application of indigenous science and technology
27 d. countryside and rural contextualization an application of science
28 and technology
29 e. Funding support for scientists and research
30

31 SECTION 5. *Formulation of Science for Filipino Society Program.* – The
32 Department of Science and Technology (DOST) shall formulate the five-year
33 Science for Filipino Society Program (referred to as Program) in coordination
34 with other relevant government agencies including state universities and colleges
35 (SUCs) and representatives from the private sector undertaking research and
36 development. The Secretary of Department of Science and Technology (DOST)
37 shall submit the Program for approval within ninety (90) days from the date of
38 effectivity of this Act.
39

40 SECTION 6. *Comprehensive National Research and Development Agenda.*
41 – The Department of Science and Technology (DOST), in consultation with
42 government research institutions and other agencies concerned, shall prepare a
43 comprehensive national research and development agenda for the government
44 covering all major research and development programs and projects or those
45 costing Twenty Million Pesos (Php 20,000,000.00) and above. The proposed
46 agenda shall be submitted for approval by the Director-General of the National
47 Economic Development Authority (NEDA).

1
2 Further, the Comprehensive National Research and Development Agenda
3 shall be directly related to the priorities under the Philippine Development Plan.
4

5 Further, the Department of Science and Technology (DOST) shall submit
6 to the Department of Budget and Management (DBM), the Speaker of the House
7 of Representatives and the President of the Senate of the Philippines, either in
8 printed form or by way of an electronic document, a copy the approved
9 Comprehensive National Research and Development Agenda. The Secretary of
10 the Department of Science and Technology (DOST) and the Agency's web
11 administrator or the equivalent shall be responsible for ensuring that such a
12 copy is posted on the Department of Science and Technology (DOST) website.
13

14 SECTION 7. *Mandatory Adaptation of Publicly Funded Technology.* –
15 Mandatory adaptation of publicly funded and generated technologies, whenever
16 feasible and practicable, shall strictly be implemented by all government entities
17 or instrumentalities utilizing public funds thereof.
18

19 Further, all national government agencies (NGAs), government-owned-
20 and-controlled corporations (GOCCs), state universities and colleges (SUCs), and
21 local government agencies (LGUs) performing science and technology initiatives
22 are mandated to help develop and implement critical and strategic technology
23 development projects and adopt government-funded locally developed
24 technologies. For this purpose, all research and development activities performed
25 by NGAs, GOCCs, SUCs, and LGUs under their respective mandates shall be
26 under the control and supervision of the Department of Science and Technology.
27

28 SECTION 8. *Science for Filipino Society Fund.* – There is hereby created the
29 Science for Filipino Society Fund (referred to as Fund) to be used exclusively for
30 the implementation of the projects and activities under the Program. The Fund
31 shall be administered by the Department of Science and Technology (DOST) in
32 accordance with existing government budgeting, accounting, and auditing rules
33 and regulations.
34

35 The Fund shall be sourced from the following:
36

- 37 a. The initial amount of Twenty-One Billion Pesos (PHP
38 21,000,000,000.00) to be taken from the General Appropriation Act
39 (GAA) and other utilized funds and savings from the GAA of the
40 preceding year, in case the GAA was approved before this law is
41 enacted. The yearly budget for the Program shall double yearly for
42 the next four (4) years. Such amount shall be released to the
43 Department of Science and Technology (DOST) after the date of
44 effectivity of this Act.
45 b. The income produced by the Program.
46 c. Loans, contributions, grants, bequests, gifts, and donations whether
47 from local or foreign sources. Provided that, acceptance of grants,

1 bequests, contributions, and donations from foreign governments
2 shall be subject to the approval of the President upon the
3 recommendation of the Secretary of the Department of Science and
4 Technology (DOST) and the Secretary of the Department of Foreign
5 Affairs (DFA). The Secretary of the Department of Science and
6 Technology (DOST) and subsequently the Department of Finance
7 (DOF) is hereby granted the authority to enter into loan agreements
8 with foreign financial institutions.
9

10 SECTION 9. *Appropriations.* – The initial amount of Twenty-One Billion
11 Pesos (PHP 21,000,000,000.00) is hereby appropriated as the initial operating
12 fund for the projects and activities under the Program, taken from the current
13 fiscal year's appropriation of the Office of the President. Thereafter, the amount
14 needed for the operation of the Program shall be included in the General
15 Appropriations Act (GAA).
16

17 SECTION 10. *Annual Report.* – The Department of Science and Technology
18 shall submit a report on the implementation of the Program to the Office of the
19 President and the Committees on Science and Technology of both Chambers of
20 Congress annually.
21

22 SECTION 11. *Implementing Rules and Regulations.* The Department of
23 Science and Technology shall formulate the Implementing Rules and Regulations
24 (IRRO for the effective implementation of this Act within one hundred eighty (180)
25 days from the date of effectivity of this Act.
26

27 SECTION 11. *Separability Clause.* – If any provision or part of this Act is
28 held invalid or unconstitutional, the remaining provisions or parts unaffected
29 shall remain in full force and effect.
30

31 SECTION 12. *Repealing Clause.* – All laws, executive orders, presidential
32 decrees or issuances, letters of instruction, administrative orders, rules, and
33 regulations contrary to or inconsistent with the provisions of this Act are hereby
34 repealed, amended, or modified accordingly.
35

36 SECTION 13. *Effectivity Clause.* – This Act shall take effect fifteen (15) days
37 after its publication in the Official Gazette or in a newspaper of general
38 circulation.
39

40 Approved,