

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

SENATE  
OFFICE OF THE SECRETARY

10 JUL 26 P4 46

SENATE

S.B. No. 2055

RECEIVED BY: 

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Introduced by SENATOR EDGARDO J. ANGARA

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**EXPLANATORY NOTE**

The last decades of the 20<sup>th</sup> century saw rapid advances in our knowledge of life and its mechanisms that have given rise to a new set of practical tools and techniques collectively referred to as biotechnology. Biotechnology, in turn, developed for the world novel products such as safer, more effective pharmaceuticals, less capital-intensive crops and less polluting industrial and agricultural production systems. In this century, with concerns about climate change, non-renewable energy sources, dwindling fresh water supply, increasing population and environmental protection on one hand, and new discoveries in biology on the other, these factors are expected to greatly increase the number of technologies developed based on biological systems. Thus, the 21<sup>st</sup> century has been hailed the biotech century.

The world biotechnology industry is a multibillion industry. Investment in medical biotechnology alone is estimated at US\$200 billion whereas investment in agricultural biotechnology was worth US\$67 billion in 2003. The start of the 21<sup>st</sup> century indicates the coming convergence of agriculture and medicine with pharmaceuticals being produced by genetically engineered plants and the greater acceptance of herbal medicine. The biotech century will further see the integration of agriculture and industry especially in energy production. Enzyme-based processing of agricultural produce and its by-products are being developed to produce biofuels, plastics and other products. It is predicted that this will eventually comprise the largest sector of the biotechnology industry.

As early as 1979, the Philippine government has invested in biotechnology with the establishment of the National Institute of Biotechnology and Microbiology (BIOTECH), now known as the National Institute of Molecular Biology and Biotechnology at UP Los Baños. This institute has been replicated in four other campuses of the University of the Philippines System. In mid-1980s, the Department of Science and Technology identified biotechnology as a priority investment area and developed the UPLB science park for business incubation. The Department of Agriculture two years ago organized its leading research centers – Philippine Rice Research Institute, Philippine Carabao Center, and National Fisheries Research Institute into a network of biotechnology research centers for crops, livestock and aquatic resources, respectively. Still these investments have not sufficiently fostered the growth of a biotechnology industry as what was previously envisioned in the establishment of the BIOTECH at UP Los Baños.

The US, Canada, Australia and several EU countries, as well as Singapore, Malaysia, China, India and Taiwan, have put in place a policy environment that encourages bioindustry development. These policies include support for high quality

research, support to rapidly develop research results into marketable products/services, support for start-up companies, and other incentives for industry to develop/adopt new technologies. Large and competitive grants are provided for high quality research work in research institutions. Huge grants are also provided for industry-public collaborations to fast-track technology development. Guarantee funds for venture capital investing in biotechnology have been provided. Science parks/bioincubators were established to provide infrastructure, technical, administrative, marketing and legal support for start-up companies. Technology transfer from public research institution is encouraged. For example, the US passed the Bayh-Doyle Act in 1980 which was credited with stimulating significant growth in university-industry technology transfer and research collaborations. France encourages scientists to become entrepreneurs by allowing them to leave their post for a maximum of 6 years and awards a maximum of 15% of capital in the creation of a start-up. Protection of intellectual property rights further encouraged technology development and biotechnology companies are graded according to their patent portfolios. In Malaysia and Singapore, foreign companies are encouraged to locate in their countries; whereas Canada requires foreign companies doing business within the country to establish R&D units.

In the Philippines, we need to put in place the appropriate policy environment to promote bioindustry development. Biodiversity, our greatest resource, remains untapped. While we continue to train scientists, lack of local employment lead them either to other occupations or to foreign shores. The cumbersome government accounting and auditing procedures often results in poor fund utilization in public research institutions and stifles scientific creativity. Industry-academe collaborations in technology development are few. Many policies encourage individual rather than multidisciplinary achievements, yet biotechnology requires a multidisciplinary approach. Government funds for research cannot be committed for terms longer than one year yet technology and product development may take years. Venture capital for biotechnology is virtually non-existent. The present bioprospecting policy is biased against a Filipino start-up and favors well-capitalized foreign companies. Many scientists are not familiar with intellectual property rights protection. Although biotechnology investment is highly profitable, it is also very risky with a long gestation period, hence, private sector investments in biotechnology R&D is low.

The proposed legislation intends to address the weaknesses of our system to enable the country to develop a biotechnology-based industry. The private sector is given incentives to invest in biotechnology R&D by allowing the total R&D cost and prices of shares of stocks in biotech companies as tax deductible. Majority of the government's investments in biotechnology R&D is awarded through a government corporation so as to lessen the burden of an unwieldy accounting and auditing system.

  
**EDGARDO J. ANGARA**  
Senator

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**AN ACT PROMOTING THE GROWTH OF A BIOTECHNOLOGY INDUSTRY IN THE  
PHILIPPINES AND THE CREATION OF WEALTH FROM BIODIVERSITY**

*Be enacted by the Senate and the House of Representatives of the Philippines in Congress  
Assembled:*

**CHAPTER I**

**TITLE, DECLARATION OF POLICY AND OBJECTIVES**

1           **SECTION. 1. *Short Title.*** – This Act shall be known as the “Biotechnology Industry  
2 Development Act of 2010”.

3  
4           **SEC. 2. *Declaration of Policy.*** – It is hereby declared the policy of the State to fully  
5 recognize that biotechnology is a powerful tool in the creation of wealth from human capital as  
6 well as from biodiversity.

7  
8           **SEC. 3. *Objective.*** – The Act aims to put in place a policy environment for the  
9 continuing generation and application of biological knowledge and promote the sustainable  
10 growth of a biotechnology-based industry.

11  
12           **SEC. 4. *Definition of Terms.*** – As used in this Act, the following terms shall be taken to  
13 mean as follows:

- 14           (a)    **“Biodiversity”** refers to the variability among living organisms from all sources,  
15                   including, terrestrial, marine, and other aquatic ecosystems, and the ecological

1 complexes of which they are part, such as diversity within species, between  
2 species and of ecosystems;

3 (b) **“Bioindustry”** or **“biotechnology-based industry”** consists of companies  
4 involved in research, development, manufacture and sale of materials such as cell  
5 cultures, catalysts, genetic materials, immune response materials, biochemicals,  
6 enzymes, proteins, bioactive molecules, genetically engineered organisms, and  
7 equipment specifically used in biological and genetic research. It also includes  
8 service organizations performing consulting, testing, processing, and storage of  
9 such products;

10 (c) **“Biotechnology”** refers to a set of tools and procedures involving living  
11 organisms or parts thereof that produces a product or service;

12 (d) **“Start-up”** refers to a newly established biotech company for profit.

## 14 CHAPTER II

### 15 THE PHILIPPINE BIOINDUSTRY R&D CENTER

16  
17 **SEC. 5. *The Philippine Bioindustry Research and Development Center.*** – To ensure the  
18 continued availability of suitable yet innovative and competitive bio-based technologies, a  
19 Philippine Bioindustry Research and Development (R&D) Center (hereafter the “Center”) shall  
20 be established.

21  
22 **SEC. 6. *Functions of the Center.*** The Center shall perform the following functions:

- 23 (a) Develop and market competitive, biologically-based technologies and products;  
24 (b) Harness Philippine biodiversity in developing competitive products for the world  
25 market;  
26 (c) Conduct contract research and provide technical services to the public;

1 (d) Manage a Biotechnology Research Fund that will support off-Center research and  
2 development relevant to its corporate objectives as well as support a research  
3 fellowship and training program;

4 (e) Establish state of the art facilities for research and study.  
5

6 **SEC. 7. Powers of the Center.** – To enable the Center to carry out its functions, it shall  
7 have the following powers:

8 (a) To own, hold, plan and construct buildings and other facilities as may be  
9 necessary or proper to attain its purposes and objectives;

10 (b) To enter into, make and execute contracts and agreements of any kind or nature;

11 (c) To borrow money and obtain loans from all sources, whether local or foreign and  
12 whether government or private, in order to finance its research programs and its  
13 capital and operating expenditures;

14 (d) To invest in, purchase or otherwise acquire, own, hold, use, lease, mortgage,  
15 pledge, encumber, sell, assign, convey, exchange, or otherwise deal in real and/or  
16 personal properties of whatever kind and nature, or any interest therein, including  
17 shares of stock, bonds, notes, securities and other evidences of indebtedness of  
18 natural or juridical persons, whether domestic or foreign and whether government  
19 or private;

20 (e) To conduct bioprospecting activities: *Provided*, That in conducting these  
21 activities, it shall be exempted from the fees and requirements of Republic Act  
22 No. 9147, otherwise known as The Wildlife Resources Conservation and  
23 Protection Act;

24 (f) To acquire or obtain from any governmental authority, whether national or local,  
25 foreign or domestic, or from any person, corporation, partnership, association or  
26 other entity, such charters, franchises, licenses, rights, privileges, assistance,  
27 financial or otherwise, and concessions as are conducive to and necessary or  
28 proper for the attainment of its purposes and objectives;

- 1 (g) To receive and acquire from any person, government and other private entity,  
2 whether foreign or domestic, grants, donations and contributions consisting of  
3 such properties, real or personal, including funds and valuable effects or things, as  
4 may be useful, necessary or proper to carry out its purposes and objectives and to  
5 administer the same in accordance with the terms of such grants, donations and  
6 contributions, consistent with its purposes and objectives;
- 7 (h) To establish new corporations solely, in partnership, or in consortium with other  
8 entities;
- 9 (i) To exercise all the powers of a corporation under the general corporation law,  
10 insofar as such powers are not inconsistent with the provisions of this Act; and
- 11 (k) To exercise such other powers and functions and perform such other acts as may  
12 be necessary, proper or incidental to the attainment of its purpose and objectives.
- 13

14 **SEC. 8. *Composition of the Board of Directors.*** – The Center shall have a corporate  
15 structure and be governed by a Board of Directors (hereafter the “Board”) composed of:

- 16 (a) The Secretary of the Department of Trade and Industry (DTI) as the *ex-officio*  
17 Chairperson;
- 18 (b) The President of the Center;
- 19 (c) Three (3) business leaders;
- 20 (d) Two (2) respected scientists, in any one the relevant fields of molecular biology,  
21 biotechnology, genetics, biochemistry, chemistry or chemical/bioprocess  
22 engineering.

23 Initially, the members of the Board shall be selected by the Chairperson based on a set of  
24 criteria to be determined and from nominations submitted by the Biotechnology Coalition of the  
25 Philippines (BCP), Chamber of Herbal Industries of the Philippines, Inc. (CHIPI), and Philippine  
26 Food Processors and Exporters Organization Inc. (PhilFoodex).

27

1           **SEC. 9. *Functions of the Board of Directors.*** – The Board shall exercise the following  
2 powers and functions:

3           (a) To define and approve the programs, plans, policies, procedures and guidelines  
4           for the Center in accordance with its purposes and objectives, and to control the  
5           management, operation and administration of the Center;

6           (b) To approve the Center’s organizational structure, staffing pattern, operating and  
7           capital expenditure, and financial budgets, prepared in accordance with the  
8           corporate plan of the Center;

9           (c) To approve salary ranges, benefits, privileges, bonuses, and other terms and  
10           conditions of service for all officers and employees of the Institute, upon  
11           recommendation of the President;

12           (d) To appoint, transfer, promote, suspend, remove or otherwise discipline any  
13           subordinate officer or employee of the Center, upon recommendation of the  
14           President;

15           (e) To create such committee or committees and appoint the members thereof, as may  
16           be necessary or proper for the management of the Center or for the attainment of  
17           its purposes and objectives;

18           (f) To determine the research priorities of the Center consistent with the framework  
19           of its purposes and objectives; and

20           (g) To exercise such other powers and functions and perform such other acts as may  
21           be necessary or proper for the attainment of the purposes and objectives of the  
22           Institute.

23  
24           **SEC. 10. *President and Other Officers.*** – The Center shall be headed by a President who  
25 shall be appointed by the Board. He/she shall serve at the pleasure of the Board of Directors.

26           The President shall be assisted by a Vice-President and such other Program Managers as  
27 the Board may determine to carry out the purposes and objectives of the Center.

1           **SEC. 11. Powers, Functions and Duties of the President.** – The President shall be  
2 directly responsible to the Board, and shall have the following powers, functions and duties:

- 3           (a) To exercise over-all supervision and direction over the implementation of all  
4 research, development and marketing programs of the Center, and in general, to  
5 supervise and direct the management, operation and administration of the Center;
- 6           (b) To draft a program of operation for the implementation of all activities necessary  
7 to attain the objectives of the Center subject to the approval of the Board;
- 8           (c) To execute contracts, incur obligations, acquire and dispose of assets and deliver  
9 documents on behalf of the Center within the limits of the authority delegated to  
10 him by the Board;
- 11           (d) To implement and enforce policies, decisions, orders, rules and regulations  
12 adopted by the Board; and
- 13           (e) To exercise such other powers and functions and perform such other duties as  
14 may be authorized or assigned by the Board.
- 15

16           **SEC. 12. Ownership of the Center.** – The Center shall exist as a government-owned and  
17 controlled corporation for a maximum period of ten (10) years from the effectivity of this Act,  
18 after which time it shall be sold off to the private sector: *Provided, however,* That in the event the  
19 Center becomes profitable earlier than the ten (10) year period provided, it shall be sold off to the  
20 private sector despite the period not having lapsed.

21

22           **SEC. 13. Scientific Manpower.** – To enable the Center to retain its scientific staff, it  
23 shall offer salaries at rates competitive with other countries. Upon the privatization of the Center,  
24 fifteen percent (15%) of the shares shall be awarded to the scientific staff that has been with the  
25 Center for at least five (5) years and has produced at least one patented technology or eight (8)  
26 articles published in scientific journals cited in the Institute for Scientific Information (ISI)  
27 Journal Citation Report.

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1           **SEC. 18.** A biotech company shall be allowed to purchase equipment, materials and  
2 articles abroad, as may be necessary or proper to carry out its powers and functions and attain its  
3 purposes and objectives, and shall be exempt from the payment of any and all forms of taxes,  
4 duties, fees and charges imposed by any governmental authority, whether national or local, on  
5 any and all such importation of equipment, materials, articles and services: *Provided however,*  
6 that the same are not available locally on favorable terms.

7  
8           **SEC. 19.** Shareholders of new locally-based biotechnology companies shall be able to  
9 claim as tax credit the amount paid for the shares in the same taxable year.

10  
11           **SEC. 20.** Scientists in public institutions are hereby allowed up to five (5) years leave of  
12 absence to establish a biotech start-up based on technologies they themselves developed.

13  
14           **SEC. 21.** In order to encourage top executives and technology investors to participate in  
15 the operation of biotech companies and R&D activities and to share their achievements, new  
16 shares issued by a biotech company to top executives and technology investors (in return for  
17 their knowledge and technology) shall be excluded from the amount of their consolidated income  
18 or corporate income of the current year for taxation purposes: *Provided, however,* That if the title  
19 to the aforesaid shares is transferred with or without consideration, or distributed as estate, the  
20 total purchase price or the market value of the shares at the time of transfer as a gift or  
21 distribution as estate shall be deemed income generated in that taxable year and such income less  
22 the acquisition cost shall be reported in the relevant income tax return.

23  
24           **SEC. 22.** Subject to the approval of the Department of Agriculture, the Agricultural  
25 Competitiveness Enhancement Fund can be used as financial grants for technology start-ups with  
26 agriculture- and aquaculture-related products and services for seed capital and for subsequent  
27 expansion.

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## CHAPTER V

### MISCELLANEOUS PROVISIONS

**SEC. 23. *Repealing Clause.*** – The pertinent provisions of Republic Act No. 9147, otherwise known as The Wildlife Resources Conservation and Protection Act; and all other laws, presidential decrees or issuances, executive orders, presidential proclamations, rules and regulations or parts thereof inconsistent with the provisions of this Act, are hereby repealed, modified or amended accordingly.

**SEC. 24. *Separability Clause.*** – If any provision of this Act is declared unconstitutional, the same shall not affect the validity and effectivity of the other provisions hereof.

**SEC. 25. *Effectivity.*** – This Act shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation.

*Approved,*