

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

EIGHTEENTH CONGRESS
First Regular Session

House Bill No. 897



Introduced by Rep. MARIO VITTORIO "MARVEY" A. MARIÑO
5th District, Batangas

**AN ACT IMPPROVING AND SUSTAINING GENOMICS AND
FORENSIC SCIENCE FACILITIES, AND ESTABLISHING
SEPARATE DATABASES FOR GENOMICS AND FORENSIC DNA
IN THE COUNTRY AND FOR OTHER PURPOSES**

EXPLANATORY NOTE

DNA or deoxyribonucleic acid is one of science and technology's most important discoveries and has greatly contributed in the formation and development of society. DNA is a molecule that contains the instructions an organism needs to develop, live and reproduce. It has not only been used to determine an individual's identity and parentage but also diagnose genetic disorders through DNA sequencing and testing—an indispensable tool for basic and applied research in health and medicine, agriculture, biodiversity, ethnicity, industry, environment, and forensic science.

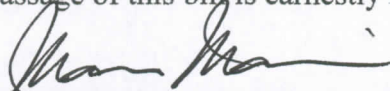
Considering how essential DNA is, the Department of Science and Technology (DOST) supported the formation of the Genomics Research and Development Program and the establishment of DNA Sequencing Core Facility and Bioinformatics Core Facility of the Philippine Genome Center. However, increasing demand for DNA sequencing and analysis for research and development require further upgrading of Genomics facilities and infrastructure.

This holds true even in the field of forensic science. While, the Philippine National Police (PNP) has acquired the Combined DNA Index System (CODIS) used for routine casework analysis, the current facilities and infrastructures require upgrading to improve criminal investigation and crime laboratory capabilities for higher crime solution efficiency.

The establishment of databases for each field—genomics and forensic science—are deemed necessary to further boost the country's DNA capabilities in the areas of in health and medicine, agriculture, biodiversity, ethnicity, industry, environment, and forensic science. These improvements would not only lead to more breakthroughs in research and development, but most importantly in practical applications.

Science and technology are undeniably important in nation building. The 1987 Constitution says that science and technology are essential for national development and progress. It further states that the State shall give priority to research and development, invention, innovation, and their utilization. It is high time the State lives up to this mandate.

In view of the foregoing, the early passage of this bill is earnestly requested.

A handwritten signature in black ink, appearing to read 'Mario Mariño', written in a cursive style.

MARIO VITTORIO "MARVEY" A. MARIÑO

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1 **AN ACT IMPPROVING AND SUSTAINING GENOMICS AND**
2 **FORENSIC SCIENCE FACILITIES, AND ESTABLISHING**
3 **SEPARATE DATABASES FOR GENOMICS AND FORENSIC DNA**
4 **IN THE COUNTRY AND FOR OTHER PURPOSES**

5
6 *Be it enacted by the Senate and the House of Representatives of the Philippines in*
7 *Congress assembled:*

8
9 **TITLE 1 – GENERAL PROVISIONS**

10 **SECTION 1.** *Short Title* – This Act shall be known as the “Genomics and
11 Forensic Science Capacity Enhancement Act”.

12 **SECTION 2.** *Declaration of Policy.* – The State recognizes the need for
13 upgrading genomics and forensic science facilities and infrastructures in the country
14 to respond to the increasing demand for DNA sequencing and analysis for various
15 applications, such as research and development, legal proceedings, disaster response,
16 and the enhancement of human capabilities, skills or expertise.

17 **SECTION 3.** *Definition of Terms* - For purposes of this Act, the following terms
18 shall mean:

19 *A. Bioinformatics facility* means data processing and analytical services for
20 clients wishing to outsource data analysis for their next-generation sequencing data,

1 and make available our high-performance computing servers for clients who wish to
2 do their own data analysis.

3 B. *Department* means the Department of Science and Technology (DOST);

4 C. *Secretary* means the Secretary of the DOST;

5 D. *Deoxyribonucleic Acid or DNA* is a macromolecule that contains the genetic
6 instructions an organism needs to develop, live and reproduce;

7 E. *DNA analysis* means analysis of the DNA identification information in a
8 bodily sample.

9 F. *DNA sequencing* is a technology that allows researchers to determine the order
10 of bases in a DNA sequence. The technology can be used to determine the order of
11 bases in genes, chromosomes, or an entire genome.

12 G. *DNA sequencing facility* means any government institution, laboratory or
13 office which conducts DNA sequencing analysis in the country.

14 H. *Forensic DNA Analysis* is the use of DNA specimens in legal proceedings.

15 I. *Forensic DNA Profile* is the information derived from a forensic DNA analysis.

16 J. *Forensic Science* – is the application of the methods of the natural and physical
17 sciences to matters of criminal and civil law.

18 K. *Genomics* means the study of the full genetic complement of an organism (the
19 genome). It employs recombinant DNA, DNA sequencing methods, and
20 bioinformatics to sequence, assemble, and analyze the structure and function of
21 genomes.

22 L. *Genomics profile* is the genetic information derived from a DNA sequencing
23 and analysis;

24 M. *Philippine Forensic DNA Database (PFDD)* is the country's central
25 repository of Forensic DNA profiles created under this Act.

1 N. *Philippine Genomics Database (PGD)* is the country's central repository of
2 genomic profiles created under this Act.

3 O. *Philippine Genomics Database Bureau (PGDB)* is the bureau under the DOST
4 tasked to manage the PGDS.

5 TITLE II - GENOMICS

6 SECTION 4. *Genomics Capacity Enhancement Plan* - The Secretary, in
7 consultation with the heads of the government-funded DNA sequencing facilities
8 including the DNA Analysis Laboratory at the University of the Philippines,
9 Department of Health (DOH), Commission on Higher Education (CHED),
10 Department of Agriculture (DA), Department of Information and Communications
11 Technology (DICT), National Privacy Commission (NPC), National Institute of
12 Health (NIH) UP-Manila, and the Philippine Genome Center (PGC), subject to the
13 requirements of the Data Privacy Act, shall draw up an annual Genomics Capacity
14 Enhancement Plan, that shall:

15 A. Continuously assess the prevailing capacities of existing government-funded
16 DNA sequencing facilities in the country in terms of equipment and human resources,
17 and identify inadequacies and areas of improvement;

18 B. Propose the acquisition of necessary equipment and recruitment and training
19 of scientists, accompanied by the corresponding budget for its accomplishment to be
20 included in the proposed general appropriation items of the head agencies of the
21 facilities involved herein, whenever applicable;

22 C. Promulgate rules and regulations, regarding DNA analyses, methods and
23 facilities, including security protocols on handling, access and storage of individual
24 personal information; quality assurance protocols and practices that the international

1 scientific community considers ethical and adequate to assure the quality of a
2 genomics laboratory; and

3 D. Promote and boost the technical capability of the PGC and other centers as
4 hubs of excellence in gene discovery and genomics research and development,
5 specifically to be:

6 a.) Equipped with state of the art technologies compliant to
7 international standards and protocols to provide efficient, high-quality and
8 cost-competitive sequencing and analytical services using bioinformatics for
9 local and international stakeholders;

10 b.) Allowed expeditious procurement of the needed state-of-the-art
11 equipment, supplies and reagents for both genomics and bioinformatics;

12 c.) Provided with additional permanent and accountable personnel
13 required for the sustainable management and operations of the genomics
14 facilities.

15 E. Continuous funding support for the implementation of the National Genomics
16 Research and Development Roadmap as the technological platform to revolutionize
17 research and development in health, agriculture and biodiversity for socio-economic
18 development in the country, which includes the following components:

19 a.) Upgraded DNA Sequencing Core Facilities for basic and advanced
20 sequencing

21 b.) Upgraded Bioinformatics Core Facilities

22 c.) Biobank Facility

23 d.) Health Program: Filipinized personal medicine and nutrigenomics

24 e.) Agriculture: Endemic and Staple Crops, Microbes, Fisheries, Livestock

25 f.) Biodiversity for Drug Discovery and Bio-energy

1 g.) Ethnicity

2 h.) Food and other related products

3 i.) Ethics, Legal and Social Issues

4 j.) Computational Genomics and Systems Biology

5 F. Address needs in the region by establishing basic sequencing and
6 bioinformatics facilities in selected HEIs and SUCs nationwide.

7 G. Build the capacity of existing researchers and experts on new technologies,
8 techniques, processes, protocols, standards and the like by sending them to
9 international training programs.

10 H. Increase number of stem graduates as well as MS and PhD in molecular
11 biology, genetics, chemistry, computer science, medicine, bioinformatics and
12 engineering through S&T scholarships linked with said facilities in order to increase
13 human capital.

14 I. Provide assistance to genomics services start-up companies, if any.

15 J. Offer subsidized costs for sequencing and analysis once the target facilities are
16 improved and/or new ones established in the regions.

17 **TITLE III – PHILIPPINE GENOMICS DATABASE**

18 **SECTION 5.** *Establishment of the Philippine Genomics Database.* – A genomics
19 database to be known as the Philippine Genomics Database (PGD) is hereby
20 established to store genomic profiles and any information in relation thereto from any
21 DNA sequencing and analysis in the country. The PGD shall consist of well-curated
22 databanks in:

23 a. Health and Medicine

24 b. Agriculture

25 c. Biodiversity

1 d. Ethnicity

2 e. Other related fields.

3 **SECTION 6.** *Objectives of Genomics Database* – PGDS is established for the
4 following purposes:

5 1. To utilize the technological advances in genomics for practical purposes in
6 health, medicine, agriculture, biodiversity, ethnicity and other related fields;

7 2. To facilitate coordination with other agencies, sharing of data, protection and
8 handling of sensitive or classified information and dealing with ethical, legal
9 and social issues.

10 **TITLE IV – MANAGEMENT, SHARING, AND ACCESS**

11 **TO INFORMATION OF THE PHILIPPINE**

12 **GENOMICS DATABASE**

13 **SECTION 7.** *The Philippine Genomics Database Bureau.* – A Philippine
14 Genomics Database Bureau (PGDB), under the control and supervision of Advanced
15 Science and Technology Institute of the DOST (ASTI), is hereby established to
16 manage the PGDS as specified in Title III of this Act.

17 The Department of Health (DOH), its attached agencies and corporations,
18 University of the Philippines System (UP System), and all other government agencies
19 with existing DNA Database shall share, subject to the provisions of the Data Privacy
20 Act, all genomic profiles and information in relation thereto to the PGDB. The PGDB
21 shall have all such powers as may be necessary for, in connection with, or incidental
22 to the performance of its function under this Act, including the following:

23 1. To be responsible for the general conduct, administration, and management of
24 the PGD;

2. To establish mechanisms to facilitate the connection, storage, and dissemination of data in connection with genomics profiles and any information in relation thereto stored in the PGD;
3. To ensure that genomics profiles and any information in relation thereto are securely stored and remain confidential;
4. To cooperate with both local and foreign government agencies in accordance with the provisions of this Act; and
5. To carry out any other functions conferred by or under this Act and to perform any other functions that are supplemental, incidental, or consequential to any other functions specified in this section or in furtherance of the objectives of the PGDS.

TITLE V – FORENSIC SCIENCE

SECTION 8. *Forensic Science Enhancement Plan* – The Department of Justice (DOJ), the National Bureau of Investigation (NBI), the Department of Interior and Local Government (DILG), the Philippine National Police (PNP), the scientists and experts at the DNA Analysis Laboratory at the University of the Philippines, and the National Privacy Commission (NPC) shall draw up a five-year Forensic Science Enhancement Plan, that shall:

A. Assess the prevailing capacities of all crime laboratories in the country in conducting Forensic DNA Analysis in terms of equipment and facility, human resources, and identify inadequacies and areas of improvement;

B. Propose the acquisition of the necessary equipment units in making Forensic DNA analysis available in crime laboratories all over the country as well as building human capacity through training, workshops that will produce a local talent pool, accompanied by the corresponding budget for its accomplishment to be included in

1 the proposed general appropriation items of the head agencies of the facilities
2 involved herein, whenever applicable;

3 C. Promulgate rules and regulations regarding forensic DNA analyses, methods,
4 storage, and facilities, including quality assurance protocols and practices that the
5 international scientific community considers adequate to assure the quality of forensic
6 DNA laboratory;

7 D. Establish guidelines for better coordination and cooperation between and
8 among law enforcement agencies and government-funded DNA facilities in the
9 country as to provide a more efficient forensic DNA analysis and database which may
10 be useful for disaster risk mitigation and forensic casework; and

11 E. Professionalize Forensic DNA Analysts by creating a licensing or
12 accreditation unit under the Professional Regulatory Commission (PRC) to ensure the
13 quality of the talent pool and specialists in forensic DNA analysis in the country.

14 **TITLE VI – PHILIPPINE FORENSIC DNA DATABASE**

15 **SECTION 9.** *Establishment of a Philippine Forensic DNA Database – A*
16 Forensic DNA database to be known as the Philippine Forensic DNA Database
17 (PFDD) is hereby established to store Forensic DNA profiles and any information in
18 relation thereto from any forensic DNA analysis in the country. The database shall
19 consist of the following indices classified as follows:

20 a. For purposes of criminal identification, a crime scene index, a convicted
21 offenders index and a victims index;

22 b. For purposes of finding missing persons and identifying human remains, a
23 missing persons index, a relative/s of missing persons index, and a human
24 remains index; and

25 c. For purposes set out in (a) and (b), and for other purposes, voluntary index.

1 **SECTION 10.** *Management, Sharing and Access to Information.* – The DOJ, DILG,
2 NBI, PNP, and NPC shall promulgate the necessary rules and regulations for the
3 management of and access to the database. The DOJ, DILG, NBI, PNP, and other law
4 enforcement agencies shall share, subject to the provisions of the Data Privacy Act,
5 and integrate all existing forensic DNA profiles in their respective databases into the
6 PFDD.

7 **TITLE VII – CRIMINAL ACTS AND PENALTIES**

8 **SECTION 11.** *Tampering of Genomics Records and Forensic DNA Profiles.* –
9 Any person who shall knowingly make any false entry or falsely alter any sample,
10 record or profile or otherwise contained in the database; or who shall intentionally
11 destroy, mutilate, conceal, remove or otherwise impair the verity or availability of
12 Genomics records or Forensic DNA profile shall suffer the penalty ranging from
13 twelve (12) years to Twenty (20) years or a fine not less than One Million Pesos
14 (PhP1,000,000.00) but not more than Five Million Pesos (PhP5,000,000.00).

15 **SECTION 12.** *Improper Disclosure of Genomics Records and Forensic DNA*
16 *Profiles.* – Any person who, by virtue of employment or official position, has
17 possession of, or access to individually identifiable genomics and forensic DNA
18 information indexed or otherwise contained in the database as referred to in this Act
19 and who knowingly and willfully discloses such information in any manner to any
20 person or agency not entitled to receive it to the prejudice and detriment of the public
21 or person from whom the said genomics information was taken shall suffer the
22 penalty of imprisonment ranging from six (6) years to twelve (12) years and a fine of
23 not less than Five hundred thousand pesos (Php500,000.00) but not more than Four
24 million pesos (Php4,000,000.00).

1 **SECTION 13.** *Improper Access to and Use of Genomics Records and Forensic*
2 *DNA Profiles.* – Any person who, without proper authorization, knowingly and
3 willfully obtains any individual identifiable information indexed or contained in the
4 database shall suffer the penalty of imprisonment ranging from three (3) years to six
5 (6) years and a fine of not less than Five hundred thousand pesos (Php500,000.00) but
6 not more than Four million pesos (Php4,000,000.00).

7 **SECTION 14.** *Failure to Deliver Genomics Records and Forensic DNA*
8 *Profiles.* – Any person who shall possess a genomics record in the database and refuse
9 to deliver the same upon request of a person lawfully entitled to receive the same shall
10 suffer the penalty ranging from three (3) years to six (6) year or a fine of not less than
11 Four Hundred Thousand Pesos (Php400,000.00) but not more than Two million
12 (Php2,000,000.00): *Provided*, That no action, suit, prosecution or other proceedings
13 shall lie or be brought against the aforesaid person if he/she failed to deliver the
14 records for cause(s) outside his/her control.

15 **TITLE VIII – MISCELLANEOUS PROVISIONS**

16 **SECTION 15.** *Implementing Rules.* – Within ninety days upon effectivity of this
17 Act, all concerned agencies shall promulgate the necessary rules and regulations for
18 the implementation of this Act.

19 **SECTION 16.** *Appropriations.* – The amount necessary for the implementation
20 of this Act shall be included in the General Appropriations Act of the year following
21 its enactment into law and thereafter.

22 **SECTION 17.** *Separability Clause* - If any provision or part hereof, is held
23 invalid or unconstitutional, the remainder of the law or the provision not otherwise
24 affected shall remain valid and subsisting.

1 **SECTION 18. *Repealing Clause*** - All the laws, orders, issuances, rules and
2 regulations or part thereof inconsistent with the provisions of this Act are hereby
3 repealed, amended, or modified accordingly.

4 **SECTION 19. *Effectivity Clause*** - This Act shall take effect within fifteen (15)
5 days after its publication in the Official Gazette or in at least two (2) newspapers of
6 general circulation, whichever comes earlier.

7
8 Approved,