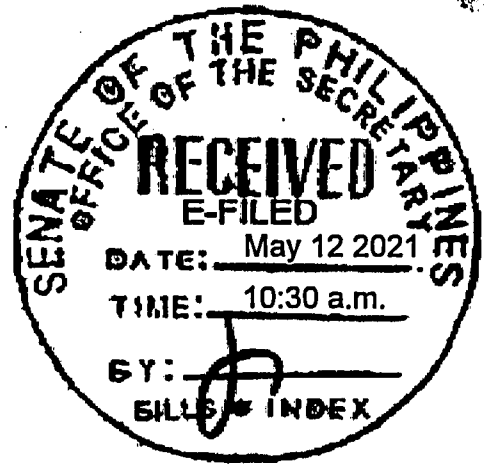


EIGHTEENTH CONGRESS OF THE )  
REPUBLIC OF THE PHILIPPINES )  
*Second Regular Session* )



SENATE

S. No. 2184

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Introduced by SENATOR RAMON BONG REVILLA, JR.

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**AN ACT**  
**INSTITUTIONALIZING THE PHILIPPINE ECOSYSTEM AND NATURAL**  
**CAPITAL ACCOUNTING SYSTEM (PENCAS), APPROPRIATING FUNDS**  
**THEREFOR AND FOR OTHER PURPOSES**

**EXPLANATORY NOTE**

This bill seeks to institutionalize a Philippine Ecosystem and Natural Capital Accounting System (PENCAS) to reflect environmental inputs and outputs in the determination of national income accounts.

The national income accounts are important indicators for determining the level of development of a country. Conventional national income accounting systems measure economic performance by determining the value of goods and services produced in a country and aggregating them to come up with indicators of economic development such as the Gross National Product (GNP) and Gross Domestic Product (GDP). The goods and services that are included in this accounting system are those that are "marketed", the prices of which are the basis for estimating the value that are then included in computing economic indicators. This methodology thus reflects the goods and services produced, sold, and bought in the economy.

However, the conventional methodology for computing national income accounts has its shortcomings. In the process of producing marketed goods and services, the natural environment generates goods and services that are utilized but are not valued in the process of producing goods and services. Consumption benefits of amenities provided by the natural environment, waste disposal services,

and pollution are part of producing marketed commodities but are not valued (positively or negatively) and reflected in national income accounting.

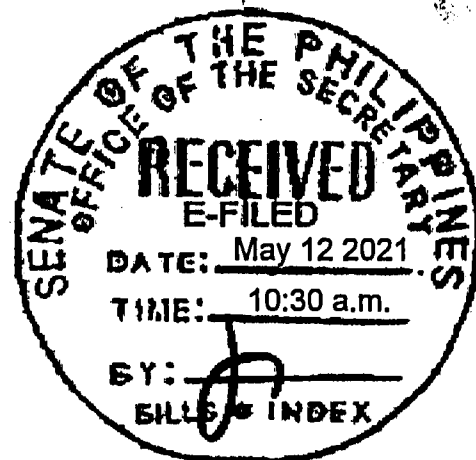
Indicators and standards generated by the national income accounting system are considered vital information for economic management and policy-making. They serve as basis for socio-economic planning, formulation of development programs, and policy analysis in aid of legislation, among others. Thus, it is important that the national income accounts reflect a more accurate state of development and economic performance of the country. It should incorporate both environmental and non-environmental economic inputs and outputs for policymakers to make responsive, relevant and effective laws, plans and programs necessary for national development.

This is a counterpart measure of House Bill No. 9181 filed by Representative Loren B. Legarda.

In view of the foregoing, the immediate passage of this bill is highly recommended.

  
**RAMON BONG REVILLA, JR.**

EIGHTEENTH CONGRESS OF THE )  
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**INSTITUTIONALIZING THE PHILIPPINE ECOSYSTEM AND NATURAL**  
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*Be it enacted by the Senate and House of Representative of the Philippines in Congress assembled:*

1       Section 1. *Short Title.* - This Act shall be known as the "*Philippine Ecosystem*  
2       *and Natural Capital Accounting System (PENCAS) Law of 2021*".

3       Sec. 2. *Declaration of Policy.* - It is hereby declared the policy of the State to:

4           (a) Promote the common good, conserve and develop our patrimony, as  
5           provided in the Preamble of the Constitution, natural capital being the  
6           bedrock of the national patrimony;

7           (b) Develop a comprehensive information system and accounting framework  
8           that will take into consideration the role of our natural capital, consisting  
9           of both environmental and natural resources, and its impact on the  
10          country's economy;

11          (c) Include and institutionalize natural capital accounting as part of the  
12          national income accounting system, strengthening and building on  
13          Republic Act No. 10625, otherwise known as the "Philippine Statistical  
14          Act of 2013", on environmental accounts and statistics;

15          (d) Provide indicators that will facilitate the integration of environmental and  
16          natural resource concerns in national development planning and policy

1 making, in allocation of budgets, and in designating statistics that will  
2 be produced regularly for an identified period of analysis;

3 (e) Establish and improve inter-agency coordination for the purpose of  
4 linking economic with environmental and natural resource information  
5 and efficient data management among concerned government agencies  
6 and their partner institutions, and to establish an office to guide such  
7 coordination; and,

8 (f) Include nature's pricelessness, its intrinsic value, and its  
9 interdependencies in the implementation of the foregoing policies to  
10 consider that nature and ecosystems have intrinsic rights to exist, with  
11 an end in view of recognizing legal rights that serve to protect  
12 endangered ecosystems and applying the precautionary principle,  
13 especially when economic values cannot be estimated.

14 **Sec. 3. *Definition of Terms.*** – For purposes of this Act, the following terms are  
15 hereby defined as follows:

16 (a) An *ecosystem* is a complex community of living organisms, their physical  
17 environment, and all their interrelationships in a particular unit of space,  
18 and these biotic and abiotic components are linked together through  
19 nutrient cycles and energy flows;

20 (b) *Capital* is a stock concept, which yields a periodic income, which is a flow  
21 concept;

22 (c) *Natural capital* is the concept of nature as a stock that provides a flow  
23 of benefits to people and the economy. Natural capital consists of stocks  
24 of natural assets – both biotic and abiotic. It includes air, water, soil,  
25 minerals, forests, coral reefs, seagrass beds, and all living things. It is  
26 from this natural capital that humans derive a wide range of goods and  
27 services, which make human life possible. The goods and services that  
28 natural capital provides, such as food, water, energy or climate  
29 regulations, are called ecosystem services. These provide people  
30 everywhere with the means for healthy lives and underpin all economic  
31 activity.

1 (d) *Ecosystem services* are the flows of benefits, which people gain from  
2 natural ecosystems, while natural capital consists of the stock of natural  
3 ecosystems or stock of renewable and non-renewable natural resources  
4 from which these benefits flow.

5 (e) The United Nations *System of Environmental-Economic Accounting*  
6 (*SEEA*) is a framework that integrates both economic and environmental  
7 data to provide a more comprehensive and multipurpose view of the  
8 interrelationships between the economy, the environment and  
9 ecosystems, and the stocks and changes in stocks of natural assets, as  
10 they bring benefits to humanity.

11 Sec. 4. *Philippine Environmental and Natural Capital Accounting System*  
12 (*PENCAS*). – A System of Environmental-Economic Accounting is hereby  
13 institutionalized within the government bureaucracy. The Philippine Environmental  
14 and Natural Capital Accounting System (*PENCAS*) shall be based on the existing  
15 environmental accounting frameworks that are covered by the UN *SEEA* and are  
16 theoretically correct and accepted as evaluated based on international standards.  
17 Among others, the *PENCAS* framework shall include a list of the officially designated  
18 statistics on the depreciation of natural capital, environmental protection expenditures,  
19 pollution and quality of land, air and sea, environmental damages, and genuine  
20 savings. It shall conform to and expound, expand and localize the UN *SEEA*. A  
21 roadmap and manual for further development of these indicators for each of the  
22 terrestrial (land and freshwater) and blue (marine) economies shall be formulated.  
23 The draft roadmap and international manuals shall be customized to the ecosystems  
24 in the Philippine archipelago that support the terrestrial and blue economies. All these  
25 data shall constitute the Philippines' natural capital, the conservation of which shall be  
26 paramount.

27 Sec. 5. *Objectives of the PENCAS*. – The *PENCAS* shall supplement the current  
28 System of National Accounts and shall have the following major functions:

29 (a) To support economic-environmental policy development and decision-  
30 making;

31 (b) To generate the Philippine version of the UN *SEEA* satellite accounts  
32 covering both the Central Framework and the Ecosystem Accounts;

1 (c) To serve as a comprehensive data framework in the generation of  
2 PENCAS statistics; and,

3 (d) To ensure that ecosystems and habitats, especially the ones in critical  
4 danger of irreparable damage, are conserved and restored, in line with  
5 the objectives and timelines of key Multilateral Environmental  
6 Agreements, including the United Nations Decade of Ecological  
7 Restoration and the 2030 Agenda for Sustainable Development.

8 **Sec. 6. *Involvement of Government Agencies.*** – The following government  
9 agencies and the concerned offices under or attached to them shall be involved in the  
10 establishment and institutionalization of the PENCAS:

- 11 (a) Department of Environment and Natural Resources (DENR);
- 12 (b) Department of Agriculture (DA);
- 13 (c) Philippine Statistics Authority (PSA);
- 14 (d) National Economic and Development Authority (NEDA);
- 15 (e) Department of Energy (DOE);
- 16 (f) Department of Tourism (DOT);
- 17 (g) Department of Transportation (DOTr);
- 18 (h) Department of Public Works and Highways (DPWH);
- 19 (i) Department of Health (DOH);
- 20 (j) Department of the Interior and Local Government (DILG);
- 21 (k) Department of Science and Technology (DOST);
- 22 (l) Department of Human Settlements and Urban Development (DHSUD);
- 23 (m) National Water Regulatory Board (NWRB); and,
- 24 (n) Other agencies as necessary.

25 **Sec. 7. *Duties of Specific Bureaus within the Agencies.*** – The following Bureaus  
26 shall have special mandates for natural capital accounting herein based on their  
27 primary functions:

- 28 (a) Bureau of Fisheries and Aquatic Resources;
- 29 (b) Bureau of Soils and Water Management;
- 30 (c) All Bureaus of the DENR, including the National Mapping and Resource  
31 Information Authority (NAMRIA), and National Water Resources Board  
32 (NWRB);

- (d) National Renewable Energy Board (NREB);
- (e) Research and Development Institutes and Science and Technology Services of the DOST;
- (f) Philippine Coconut Authority (PCA);
- (g) Philippine Rice Research Institute (PhilRice);
- (h) National Irrigation Administration (NIA);
- (i) Philippine Atmospheric Geophysical and Astronomical Sciences Administration (PAGASA); and,
- (j) Philippine Institute of Volcanology and Seismology (PHILVOLCS)

**Sec. 8. *Creation of the Natural Capital Units.*** – Natural Capital units shall be created within the organizational structure of the DENR, DA, PSA, NEDA, DOE, DOT, DOTr, DPWH, DTI, DOH, DILG, DOST, DHSUD, and other agencies as necessary.

The head of the Natural Capital Units in the foregoing government agencies should be at a Division Chief or higher level. The Department Head shall designate existing personnel within the Department or hire new ones within its budget to operate its Natural Capital Unit.

**Sec. 9. *Natural Capital Units at National Agencies.*** – The Natural Capital Units at the DENR, DA, NEDA, DILG, DOE, DOT, DOTr, DPWH, DTI, DOH, DILG, DOST, and DHSUD shall:

- (a) Develop and apply, with its various offices, attached agencies, GOCCs and beneficiaries, the data collection, development and compilation of resource or natural asset and ecosystem service accounts, environmental and emission accounts and ocean accounts, relevant to each agency's mandates, and formulate viable data development approaches and methodologies in coordination with PSA;
- (b) Collaborate with the science community in conducting studies and research in support of policy development related to PENCAS;
- (c) Ensure that sustainable development principles, especially regenerative resource use / resource conservation and climate, environmental and indigenous biodiversity considerations, are integrated in all its bureaus and offices and in their policy, national and project planning and implementation based on PENCAS results; and strengthen its statistical

capabilities, especially regulatory monitoring to provide environmental and natural resources data and accounts to other national government agencies, local government units, private sector, civil society, and other data users;

(d) Prioritize the data generation for the PENCAS accounts for the blue economy, particularly for areas of national patrimony most in danger of exploitation and appropriation, such as the West Philippine Sea and the Philippine Rise;

(e) Institutionalize open data for the studies and research in support of policy development related to PENCAS;

The DILG shall assist the local governments in building capacity and performing the above functions as far as they are able in order to build their own PENCAS accounts. It shall also consolidate local government data and statistics and compare these with the national accounts as generated by the other agencies.

**Sec. 10. *Staffing Pattern for Natural Capital Units.*** – The agencies concerned shall, as much as practicable, utilize existing qualified employees for staffing the Natural Capital Units. In case, however, of the lack of qualified employees who have the skills and capabilities required of the functions of the Units, the concerned agency shall be allowed to include new plantilla items in accordance with the prescribed procedures therefor.

**Sec. 11. *Functions of the Philippine Statistics Authority (PSA).*** – The Natural Capital Unit at the PSA shall have a pivotal role in the implementation of the PENCAS:

(a) Compile and collate PENCAS Accounts, and study and formulate viable approaches and methodologies for the PENCAS;

(b) Formulate templates, guidelines and digital aids to ensure that all units, especially local government, generating PENCAS data do so in a manner that can be efficiently consolidated, compared and analyzed, and ensure public accessibility for these tools;

(c) Explore ways and means to modify and improve current environmental and economic statistics, in coordination with the concerned data producers and users, including those in the academe, private sector, and non-governmental organizations;



- (d) Include natural resource and environment-related questions in the PSA's census and surveys, such as, but not limited to, Census of Establishments, Annual Survey of Philippine Business and Industry, Family Income and Expenditure Survey, Labor Force Survey, Survey on Tourism Establishments, Surveys of Household and Establishment Energy Consumption, Fisheries and Aquaculture Surveys, Agriculture, Livestock and Poultry surveys, Community-Based Monitoring System, and any surveys these may change into or added to them;
- (e) Collect data up to the fourth-digit level of the Philippine Standard for Industrial Classification particularly for data needed in the ocean accounts, and update the Input-Output and Supply and Use tables regularly;
- (f) Develop a satellite account for the oceans, including ocean-based and ocean-related economic activities or sectors, coastal and marine ecosystems (e.g. mangroves, seagrass, coral reefs, tidal flats, etc.), and marine water quality;
- (g) Enhance the water accounts to include both water resources (quantity), water quality for surface water and groundwater (water asset account), and water supply and use account, including water supply in relation to climate trends of extreme climatic events in coordination with DENR and its Environmental Management Bureau and National Water Resources Board, and DPWH and its Bureau of Research and Standards;
- (h) Update the Input-Output table regularly, incorporating the PENCAS accounts; and,
- (i) Serve as a repository of all PENCAS-related data and materials through the National Statistical Information Center and make the PENCAS data available on the PSA website.

**Sec. 12. *Functions of the National Economic Development Authority and the NEDA Board.*** – The National Capital Unit at the NEDA shall:

- (a) Coordinate the conduct of consultations, orientations and training seminars on the PENCAS and its implementation for the national government agencies, local government units and other concerned

1 institutions as well as on request by the private sectors and civil society  
2 organizations, upon their request;

3 (b) Coordinate the conduct of studies and research in support of policy  
4 development related to PENCAS and provide training for non-  
5 governmental entities on generating natural capital data and statistics;

6 (c) Establish a mechanism for integration of environmental and regenerative  
7 resource conservation considerations in national, regional, local and  
8 sectoral planning, policy, project development and implementation  
9 based on PENCAS results, particularly assuring that legally extracted  
10 resources and energy are sufficient for the plans for their sustainable  
11 use;

12 (d) Formulate and update indicators on the economy-environment  
13 interactions and regenerative and sustainable development indices;

14 (e) Provide technical services to the (i) Presidential Commission on Natural  
15 Capital; (ii) Development Budget Coordination Committee (DBCC) for the  
16 integration of environment, ecosystems, natural capital, and climate  
17 change in macroeconomic planning and allocation of expenditures and  
18 capital outlays; (iii) Investments Coordinating Committee that would  
19 review completeness of project-evaluation and ensure that it is inclusive  
20 of economic benefits and costs, sources of proposed natural resources,  
21 risks and uncertainty due to climate change, natural capital,  
22 environmental, biodiversity and social safeguards, justification of use of  
23 non-renewable resource, and matching of natural capital supply and  
24 demand; and, (iv) any Task Forces or deputized or contracted entities,  
25 which the Presidential Commission on Natural Capital may create or  
26 partner with for the coordinated functioning of the data-gathering  
27 agencies and quality decision-making; and,

28 (f) The NEDA Board and its instrumentalities shall ensure that PENCAS is  
29 considered in all its policy decisions and project evaluation systems. In  
30 order to ensure this, the composition of the NEDA Board shall always  
31 include the departments that generate the most crucial data on PENCAS  
32 accounts, such as the DENR and DA.

1        **Sec. 13. *Role of the Local Government Units.*** – In the planning and local  
2 legislation duties, local governments shall endeavor to create and populate PENCAS  
3 accounts, in compliance with templates and guidelines from the PSA and DILG, and in  
4 addition, employ other innovative measures and methods of resource valuation,  
5 damage estimation, ecosystem services and natural capital accounting to highlight  
6 their ecological competitive edge.

7        **Sec. 14. *Creation of the Presidential Commission on Natural Capital Accounting.***  
8 – A commission is hereby created to ensure the fulfillment of the objectives of this  
9 law and coordinate the performance of the functions of the agencies enumerated. It  
10 shall have the following composition:

- 11            1) The President, or his appointee to the Commission, as Chair;
- 12            2) An economic statistician;
- 13            3) An environment and natural resources economist;
- 14            4) A terrestrial ecologist who shall also cover freshwater ecosystems;
- 15            5) A marine ecologist who shall cover coastal and marine ecosystems;
- 16            6) An environmental lawyer.

17        All commissioners shall be appointed by the President from nominations by the  
18 agencies or civil society conglomerations.

19        **Sec. 15. *Functions of the Commission.*** – The Commission shall provide  
20 directions for the coordinated functioning and implementation of the Natural Capital  
21 Units. It shall create ad-hoc or permanent inter-agency committees and task forces  
22 that will support the data and technical requirements of the departments and their  
23 Natural Capital Units. It shall ensure that the officials as well as the other  
24 instrumentalities of the government have access to PENCAS data and endeavor to  
25 ensure that such data are used in policy and decision-making, taking care, however  
26 that security measures to prevent poaching or foreign intrusion that could impact on  
27 our utilization and enjoyment of our natural resources. Designated Undersecretary  
28 level officials in charge of policy and planning in their agencies shall represent the  
29 member agencies for DENR, DA, DOE, DOT, DOTr, DPWH, DOST, DTI, DILG, DOH,  
30 DHSUD, NEDA and PSA in all technical working groups consisted by the Commission.  
31 The Commission shall compile existing surveys and data generation activities of all  
32 government agencies to ensure that the information needed for generating the

1 accounts are efficiently captured, including but not limited to existing physical  
2 accounts and monetary accounts, data from Community-Based Monitoring System,  
3 DENR's Biodiversity Assessment and Monitoring System and Socio-Economic  
4 Assessment and Monitoring System, and monitoring data from projects, such as the  
5 Wealth Accounting and Valuation of Ecosystem Services (WAVES), Environment  
6 Natural Resource Accounting Project (ENRAP) and the National Greening Program, the  
7 DA's Ocean accounts, data submitted by license, permit and certification applicants,  
8 and the like.

9       Sec. 16. *Data and Research Support.* – The PSA, in coordination with the  
10 involved agencies, shall designate the required environment and economic statistics  
11 in the agencies and bureaus that shall be responsible for generating such data. The  
12 Department of Budget and Management (DBM) shall ensure that such research and  
13 data management are supported so as to prevent government spending that would  
14 unduly compromise PENCAS accounts and ecosystem services or the deterioration of  
15 the national patrimony.

16       Sec. 17. *Government Planning Mechanisms and the Environmental Impact*  
17 *Assessment System.* – In all government planning, considerations of PENCAS shall be  
18 included. In the Environmental Impact Assessment System, the DENR shall ensure  
19 that the natural environment, ecosystem services and natural capital are framed as  
20 opportunities, benefits or assets as opposed to being merely a constraint or backdrop  
21 to absorb impacts. The Commission shall ensure a wide availability of tools, methods  
22 and skills that can support the consideration of ecosystem services as part of the  
23 Environmental Impact Assessment and ensure the inclusion of such in the  
24 development of the Implementing Rules and Regulations (IRR), further including in  
25 such rules accounting for activities that may degrade the natural capital considerably  
26 despite not being under the coverage of the Philippine EIS System.

27       Sec. 18. *PENCAS in the Educational System.* – The Department of Education  
28 (DepEd) shall cause the crafting of modules both in all levels of the formal as well as  
29 the non-formal education spheres to ensure that all citizens, and especially the  
30 academe, are able to help change the definition of economic success towards defining  
31 wealth inclusively, to generate, analyze and use the PENCAS to its maximum effect  
32 and assess the systemic extent of nature-related financial risk. The Commission on

1 Higher Education (CHED) shall include PENCAS in all curricula and ensure that PENCAS  
2 is incorporated in current courses on these subjects with the objective of generating  
3 credible, decision-grade data, which government, businesses and financial institutions  
4 and civil society can use to fully integrate nature-related considerations into their  
5 decision-making, and assess and disclose their use of, and impact on, nature. The  
6 Professional Regulation Commission (PRC) shall ensure that PENCAS is included in all  
7 professional examinations.

8       Sec. 19. *Participatory Mechanisms and Citizen Remedies.* — Each Natural  
9 Capital Unit shall institute consultative mechanisms, mass collaboration measures and  
10 digital comment and recommendation solicitations to effectively popularize PENCAS  
11 and ensure wide comprehensibility and usage of the accounts. Any citizen shall have  
12 the right to information on any accounts generated under this Act, have the standing  
13 to compel the performance of any of the mandates under this Act, and seek  
14 justification from any government agency who may have ignored or neglected PENCAS  
15 data in their policy or decision-making. Major PENCAS accounts, results on nature's  
16 wealth and the economic value of ecosystem services shall be released along with all  
17 releases of national economic data, such as GNP, GDP and other often-released  
18 measures of the state of the country's economic health, and highlight the contribution  
19 of resources and ecosystems to the economy, income, and employment.

20       Sec. 20. *Rights of Nature.* — Nothing in this Act shall be construed to mean  
21 that nature has no intrinsic value separate and distinct from its economic value, or  
22 that it loses interdependencies and pricelessness by such valuation. Whenever data  
23 or accounts tend to show that valuation of ecosystems or discrete and identified life-  
24 support mechanisms will commodify and/or degrade them, any citizen is authorized  
25 to submit a registration to the Commission for the latter's recognition of such intrinsic  
26 value and the right of such ecosystem or mechanism to exist and maintain its integrity,  
27 which registration the Commission is required to accept. The generated data and  
28 accounts can still be used but only for the purpose of the recognition of such rights  
29 rather than for commodification or ecologically unacceptable trade-offs.

30       Sec. 21. *Funding.* — The creation and initial funding of the Commission shall  
31 be Two hundred million pesos (Php200,000,000.00) to be sourced from excesses in  
32 funds, such as, the funds under Republic Act No. 9147 otherwise known as the

1 "Wildlife Resources Conservation and Protection Act", Republic Act No. 8749 otherwise  
2 known as the "Philippine Clear Air Act", and similar special accounts, especially the  
3 ones that have remained dormant. Two billion pesos (Php2,000,000,000.00) shall be  
4 apportioned by the DBM for the performance of agency functions required herein for  
5 the generation of data through expeditions and scientific investigations in the  
6 terrestrial / freshwater and marine disciplines. Eight hundred million pesos  
7 (Php800,000,000.00) shall be apportioned to the agencies for the creation and  
8 improvement of their Natural Capital Units. The apportionment and allocations shall  
9 be based on the plan and priorities decided by the Commission in coordination with  
10 the agencies performing the functions. These shall be included in the budget  
11 preparation of each agency to be incorporated in the annual General Appropriations  
12 Act under separate fund items.

13       Sec. 22. *Implementing Rules and Regulations.* – The Commission shall  
14 constitute an inter-agency working group to craft the Implementing Rules and  
15 Regulations (IRR) of this Act, and is hereby given the authority to adopt such IRR  
16 which shall constitute its inclusion as part of the administrative rules and regulations  
17 of all members of the Committee.

18       Sec. 23. *Separability Clause.* – If any provision or part hereof is held invalid or  
19 unconstitutional, the remainder of the law or the provision or part not otherwise  
20 affected shall remain valid and subsisting.

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

25       Sec. 25. *Effectivity.* – This Act shall take effect fifteen (15) days after its  
26 publication in the *Official Gazette* or in a newspaper of general circulation.

27       *Approved.*