

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

TWENTIETH CONGRESS
First Regular Session

HOUSE BILL NO. 157



Introduced by Representative Jose Manuel F. Alba

AN ACT
MAINSTREAMING THE USE OF BAMBOO AS A SUSTAINABLE
MATERIAL FOR THE BUILT ENVIRONMENT

EXPLANATORY NOTE

This proposed bill seeks to establish a comprehensive regulatory framework for the integration of bamboo as a sustainable material for the built environment in the Philippines. Recognizing the critical role of the built environment in addressing contemporary challenges related to environmental conservation, climate change mitigation, and sustainable development, this legislation is designed to promote the responsible use of bamboo as a structural material in construction while advancing key aspects of sustainability.

To facilitate the responsible use of bamboo in construction, this bill tasks relevant agencies and stakeholders with developing the Bamboo Structural Code (BSC). This code will provide essential guidelines, standards, and best practices for the safe and sustainable use of bamboo in building design and construction.

Moreover, the proposed legislation places a strong emphasis on promoting bamboo as a sustainable building material, aligning with

sustainable consumption and production practices. It encourages public awareness campaigns, educational programs, and incentives for bamboo cultivation. Additionally, it calls for the integration of bamboo-related education into higher education curricula and continuing professional education for architects, interior designers, and engineers, fostering a culture of sustainability within the construction industry.

In summary, this bill reflects a commitment to environmental sustainability, economic development, and social well-being. By promoting bamboo as a sustainable building material and establishing the necessary regulatory framework, it seeks to contribute significantly to the Philippines' pursuit of a balanced and healthful ecology, in harmony with nature, while advancing key aspects of sustainability on both local and global scales.

It is also essential to underscore that this bill was already deliberated upon by relevant government agencies and civil society groups during the 19th Congress, was approved by the House of Representatives, and was transmitted and received by the Senate of the Philippines.

For the foregoing reasons, the immediate consideration and approval of this bill is earnestly sought.



JOSE MANUEL F. ALBA

Representative, 1st District, Bukidnon

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Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. Short Title. – This Act shall be known as the “Bamboo for a Sustainable Built Environment Act”.

SEC. 2. Declaration of Policy. – It is the declared policy of the State to protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

It is likewise the policy of the State to promote inclusive and sustainable economic growth and productive employment; make human settlements safe, resilient and sustainable; protect, restore and promote sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, and halt and reverse land degradation and biodiversity loss; accelerate climate action and strengthen disaster resilience.

In pursuance of this policy, the State shall encourage the propagation and use of bamboo for a sustainable built environment.

SEC. 3. Definition of Terms. – As used in this Act,

(a) *Bamboo* refers to any species within the subfamily Bambusoideae of the family Poaceae, defined as a tropical, subtropical, or temperate fast-growing grass with lignocellulosic matrix, usually having hollow culms, recognized by the relevant government agencies as a suitable material for a bamboo structure or the built environment;

(b) *Bamboo Architectural Code (BAC)* refers to the set of regulations and standards governing the design, construction, inspection and maintenance of bamboo used as architectural building materials. In accordance with Section 4 of this Act, the BAC shall be incorporated in the Architectural Code of the Philippines;

(c) *Bamboo Structural Code (BSC)* refers to the set of regulations and standards governing the design, construction, inspection, and maintenance of a bamboo structure. In accordance with Section 4 of this Act, the BSC shall be incorporated in the Structural Code of the Philippines;

(d) *Bamboo structure* refers to any building or structure in which bamboo is used as primary load-bearing material;

(e) *Built environment* refers to the external and internal environments and any element, component, or fitting that is commissioned, designed, constructed and managed for use by people;

(f) *Engineered bamboo* refers to composite products manufactured by binding together either veneers, strands, particles, fibers, strips, or slats of bamboo with a suitable adhesive designed to meet specific uses and compliant in accordance with Sec. 5 (b) and Sec. 10 hereof;

(g) *Structural bamboo* refers to bamboo in a type or form utilized for structure, construction, and load-bearing purposes; and

(h) *Structural engineered bamboo* refers to engineered bamboo utilized as a load-bearing material.

SEC. 4. *Development of the Bamboo Referral Codes for Incorporation in the Structural Code of the Philippines and Architectural Code of the Philippines.* – To mainstream the use of bamboo in the built environment for reduced environmental impact throughout its lifecycle, integrate and implement green practices, promote the development of a green local market for bamboo, and ensure adherence to the framework of minimum standards and requirements governing buildings and structures, the following are hereby mandated:

(a) *Development of the BAC for Adoption in the Architectural Code of the Philippines.* – The Professional Regulatory Board of Architecture, in consultation with the Board of Environmental Planning, the Board of Interior Design, the Board of Landscape Architecture and relevant stakeholders and experts in the use of bamboo for the built environment, shall develop the BAC.

The BAC shall include guidelines and standards taking into account best practices for the sustainable use of bamboo, aesthetics, safety, environmental impact, and cultural considerations.

The Board of Architects shall incorporate the BAC in the current and subsequent amendments to the Architectural Code of the Philippines.

(b) *Development of the BSC for Adoption in the Structural Code of the Philippines.* – The Professional Regulatory Board of Civil Engineers, in consultation with the Board of Chemistry, the Board of Structural Engineers, the Institute of Civil Engineers, the Department of Human Settlements and Urban Development, and other relevant stakeholders in the use of bamboo for the built environment, shall develop the BSC.

The BSC shall include guidelines and standards taking into account structural integrity and safety.

The Board of Civil Engineers shall incorporate the BSC in the current and subsequent amendments to the Structural Code of the Philippines.

(c) *Research and Development for Bamboo in the Built Environment, and Establishment and Management of Comprehensive Database for Product Development.* – The Department of Science and Technology – Forest Products Research and Development Institute (DOST-FPRDI) shall:

- (i) Develop research and development programs on bamboo and its uses in the built environment;
- (ii) Innovate and create new products and uses of bamboo in the built environment;
- (iii) Maintain a comprehensive database on bamboo research, engineered bamboo, and structural bamboo products and services, for the use of relevant government agencies, the private

sector and the Department of Trade and Industry (DTI) in the development of a green local market and to facilitate sustainable public procurement; and

(iv) Coordinate closely with the BAC and BSC stakeholders, relevant government agencies and the private sector to incorporate technological advancements and best practices in bamboo engineering and construction pursuant to Section 12 of this Act.

SEC. 5. *Implementation of the Bamboo Referral Codes.* –

(a) All construction projects that incorporate bamboo as a primary load-bearing material shall comply with the provisions of both the BSC and BAC.

(b) The Philippine Bamboo Industry Development Council (PBIDC) shall enforce compliance with the BSC and BAC during construction inspections, work with the DTI for the cost-efficiency validation and certification of green products, and issue certificates of compliance in accordance with applicable certification rules for green products under the governing regulatory framework. The Board of Architecture and Board of Engineering, in coordination with the Department of Public Works and Highways (DPWH), shall incorporate the BSC into the existing building code, referral codes and permit application procedures.

SEC. 6. *Promoting Bamboo as a Sustainable Building Material.* – The PBIDC SHALL:

(a) In coordination with the DOST and other relevant agencies, conduct and encourage the conduct of research and development in bamboo engineering, construction techniques, and the

utilization of bamboo composites to ensure sustainability for construction and form resilient supply chains;

(b) Promote awareness of the benefits of bamboo as a sustainable building material through public campaigns, education programs, and incentives for bamboo cultivation; and

(c) Develop programs, projects and initiatives that will promote the cultivation of bamboo nationwide, ensure its commercialization and widespread use in the built environment.

SEC. 7. *Baseline Utilization of Bamboo for Building Construction.* – Within three (3) years from the enactment of this Act, government agencies shall adopt measures for the construction of government infrastructure utilizing bamboo for the built environment pursuant to applicable laws, rules and regulations on sustainable, green, and inclusive public procurement.

(a) For all new building construction, at least fifty percent (50%) of the total wood-based structural requirements shall use bamboo, subject to the availability of supply in the green local market and the procuring entity's inclusive procurement program.

(b) For identified structures, the total wood-based volume requirement shall utilize structural bamboo.

Within five (5) years from the enactment of this Act, the private sector shall be encouraged to adopt similar measures utilizing bamboo for the built environment for new construction.

SEC. 8. *Introduction of the Practical Education of Bamboo Utilization in the Built Environment Architecture, Engineering, and Related Services Curricula.* – To ensure widespread adoption of the use of

bamboo, its products, byproducts, and derivatives in building construction, furniture production, and design utilizing bamboo in the built environment, and to ensure the creation of sustainable and resilient supply chains for products and services in relation to the use of bamboo in the built environment, the Commission on Higher Education (CHED) shall, after consultation with the Board of Architecture and the Board of Engineering, immediately include bamboo utilization in the existing curricula in architecture, engineering, and related services in the next policies, standards, and guidelines curriculum update of respective programs, or create a specialization course that integrates bamboo utilization for the built environment in the existing curricula. A minor subject of at least two (2) units shall be offered to architecture and engineering undergraduate students regarding “Introduction to Structural Bamboo,” including model-making classes.

SEC. 9. *Introduction of the Practical Education of Bamboo Utilization in the Continuing Professional Development (CPD) and Professional Licensure Examinations.* – Within five (5) years from the enactment of this Act, the Professional Regulation Commission (PRC) shall require the Professional Regulatory Boards for Architecture, Interior Design, and Engineering disciplines to include practical education on bamboo utilization in the built environment as part of the expected learning competency outcomes for licensure examination takers. Moreover, the PRC shall encourage and prioritize continuing professional education providers who can develop and offer practical education on bamboo utilization in the built environment in the form of hands-on workshops for architects, interior designers, and engineers.

The CPD of concerned professionals shall have a seminar of at least five (5) CPD units on “Introduction to Structural Engineered Bamboo,” which shall include model-making.

SEC. 10. *Certification of Bamboo for Construction.* – The bamboo products, by-products, and their derivatives that will be used for building construction shall be compliant with the Philippine National Standards; the Philippine Building Code, and other applicable referral codes.

The concerned government agencies, including the Technical Education and Skills Development Authority, shall offer bamboo training programs to farmer cooperatives and micro-business enterprises (BMBEs) to encourage bamboo farming and production and enhance knowledge in proper planting and propagation of bamboo, including the bamboo species used as structural elements in construction. The Department of Environment and Natural Resources (DENR) and the Department of Agriculture (DA) shall provide bamboo saplings for free to farmer cooperatives and BMBEs.

SEC. 11. *Incentives.* – For the purpose of encouraging registered farmer cooperatives and BMBEs in the bamboo value chain, they shall enjoy the applicable fiscal and non-fiscal incentives provided under existing laws, orders, issuances, and regulations, and Title XII of the National Internal Revenue Code of 1997, as amended by Republic Act No. 12066, otherwise known as the Corporate Recovery and Tax Incentives for Enterprises to Maximize Opportunities for Reinvigorating the Economy (CREATE MORE) Act, Republic Act No. 11321 or the “Sagip Saka Act”, and Republic Act No. 7900, otherwise known as High Value Crops Development Act of 1995.

Moreover, the farmer cooperatives and business enterprises shall enjoy tax and duty-free importation of capital equipment that are actually, directly, and exclusively used in the planting, propagation, production, and manufacture of bamboo, engineered bamboo, structural bamboo, structural engineered bamboo as well as the construction of bamboo structure.

Finally, investors in bamboo plantation development shall enjoy the following incentives:

(a) Exemption from the payment of rent for the use of government lands for commercial bamboo plantation for the first five (5) years of operation reckoned from the date of the first harvest of the plantation;

(b) In the case of private plantations, exemption from the requirement to secure a cutting permit for the harvesting of bamboo and a transport permit for as long as the plantation is registered with the Community Environment and Natural Resources Office (CENRO) of the DENR: *Provided*, That the plantation owner shall inform the CENRO about the date of harvest, and the estimated volume of the harvest. Inventory of the plantation prior to harvest shall not be required. All CENROs shall approve and enter into a registry, the names of private bamboo plantation investors;

(c) Exemption from the payment of forest charges and other fees for taxes that local government units may impose;

(d) Access to development loans from public financial institutions for plantation developers;

(e) Insurance coverage of plantations and plantation development equipment by the Philippine Crop Insurance Corporation;

(f) Tax-free importation of plantation development equipment, ² including tree nursery facilities, pursuant to Republic Act No. 10863, ³ otherwise known as the "Customs Modernization and Tariff Act (CMTA)";

(g) To claim expenses incurred for plantation operations as ⁷ deductible expenses for income tax purposes, subject to the provisions ⁸ of the National Internal Revenue Code of 1997, as amended: *Provided*, That the

deduction shall only apply to the taxable period when the expenses were incurred;

(h) To claim as ordinary and necessary expenses or as capital expenditure expenses incurred in the development and operation of a bamboo plantation prior to the initial commercial harvest;

(i) Prioritized access for plantation developments to credit assistance from government owned, controlled or supported financial institutions;

(j) Acceptance of plantation as collateral for loans in government-owned or -controlled banks;

(k) In the case of a tenured developer, entitlement to fair 24 compensation upon the premature termination of the agreement at no fault of the holder: *Provided*, That all depreciable permanent and semi26 permanent improvements such as roads, building, and nurseries 27 including the planted and standing trees and other forest crops 28 introduced and retained in the area, shall be properly evaluated: 29 *Provided, further*, That the amount of compensation shall be mutually 30 agreed upon by both the DENR and the tenure holder: *Provided*, 31 *finally*, That in case of disagreement between them, the matter shall 32 be submitted to arbitration by a mutually acceptable and impartial third party adjudicator;

(l) No volume restriction in the exportation of bamboo culms from plantation;

(m) Tax-free importation of processing equipment by processors engaged in the bamboo industry, pursuant to Republic Act No. 10863; and

(n) Inclusion in the annual investment program of the National Economic and Development Authority (NEDA) of industrial bamboo plantations in forest lands and priority access to funds from external and internal sources.

SEC. 12. *Reporting and Review.* – The PBIDC, DTI and DPWH shall conduct periodic reviews and updates of the BSC and BAC to incorporate technological advancements and best practices in bamboo engineering and construction.

SEC. 13. *Implementing Rules and Regulations.* – Within ninety (90) days from the effectivity of this Act, the PBIDC shall, in coordination with the DPWH, DTI, DENR, DA, DOST, Department of the Interior and Local Government, NEDA, (CHED), Department of Education, Philippine Information Agency, and other relevant stakeholders, formulate and promulgate the necessary rules and regulations for the effective implementation of this Act.

SEC. 14. *Separability Clause.* – If any provision of this Act is declared invalid or unconstitutional, the remaining provisions not affected thereby shall remain in full force and effect.

SEC. 15. *Repealing Clause.* – All laws, decrees, or regulations inconsistent with the provisions of this Act are hereby repealed or modified accordingly.

SEC. 16. *Effectivity.* – This Act shall take effect fifteen (15) days after its publication in the *Official Gazette* or in a newspaper of general circulation.

Approved,