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Introduced by Senator LOREN B. LEGARDA

EXPLANATORY NOTE

According to a 2010 report by the Department of Agriculture's Bureau of Soils and Water Management, it is estimated that 45% or around 13 million hectares of arable land in the Philippines are either moderately or severely eroded due to massive deforestation and adoption of unsustainable land management practices in the upland areas, further compounded by the unabated use of "urea" in modern farming. The widespread use of the latter has led to actual soil degradation –commonly known as soil mining, leading to lower agricultural output despite the application of modern farming practices. Land degradation in the country has affected more than 33 million Filipinos and is likely to contribute to widespread and severe poverty in the rural areas. The 2009 Family Income and Expenditure Survey (FIES) reveals that poverty incidence among farmers and fisher folk are at 36.7% and 41.4%, respectively –much higher than the 26.5% national level.

Moreover, the 2012 Yearbook of the United Nations Environment Programme (UNEP) highlighted how land degradation, particularly soil erosion, can worsen the impact of climate change through the release of carbon previously stored in the soil. Ordinarily, soil stores large amounts of carbon which binds the nutrients found in the ground, and allows rainfall to flow towards the underground aquifers. This suggests that if the unsustainable land management practices continue, more carbon will be released to the atmosphere, thus adding to the carbon produced by the burning of fossil fuels.

In this light, this measure seeks to support Sustainable Land Management (SLM) programs for livelihood improvement, particularly that of upland farmers and indigenous peoples, and for the prevention of land degradation and the protection of the environment and natural resource base.

The salient features of the bill are as follows:

- (a) Establishment of the National Soil and Water Conservation Program which shall foment synergy between agricultural productivity improvement and sustainable land management through the promotion and implementation of soil and water conservation technologies and approaches;
- (b) Creation of Soil and Water Conservation Guided Farms (SWCGF) that shall serve as model farms that will showcase soil and water conservation approaches and technologies in the uplands; and
- (c) Construction of small-scale rainwater harvesting structures to be established in cluster to store rainwater and surface runoff within watersheds.

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

LOREN B. LEGARDA
Senator

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AN ACT
PROMOTING SOIL AND WATER CONSERVATION TECHNOLOGIES AND
APPROACHES FOR SUSTAINABLE LAND MANAGEMENT IN THE PHILIPPINES
AND FOR OTHER PURPOSES

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

SECTION 1. Short Title. This Act shall be known as the "*Soil and Water Conservation Act of 2012*".

SECTION 2. Declaration of Policy. It is hereby declared the policy of the State to promote and support soil and water conservation technologies and approaches through the development, promotion, and implementation of soil and water conservation measures and practices including rainwater harvesting to enhance decision-making, planning, and potential up-scaling of good practices. Towards this end, the State shall support Sustainable Land Management (SLM) programs for livelihood improvement, particularly that of upland farmers and indigenous peoples, and for the prevention of land degradation and the protection of the environment and natural resource base.

SECTION 3. Definition of Terms. As used in this Act, the following terms shall mean:

- a) **Land degradation** refers to the reduction or loss of the biological or economic productivity and complexity of rain-fed cropland, irrigated cropland, range, pasture, forest, and woodlands resulting from land use or from processes or combination of processes arising from human activities and habitation pattern such as a) soil erosion caused by wind and/or water; b) deterioration of the physical, chemical, and biological or economic properties of soils, and c) long term loss of natural vegetation.
- b) **Organic agriculture** refers to production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation, and science to benefit the shared environment and to promote a fair relationship and good quality of life for all involved.
- c) **Rain-fed area** refers to an area not served by any irrigation facilities and mainly relies on rainfall for crop and animal production.
- d) **Rainwater harvesting system** refers to a system that collects, accumulates, and stores rainwater and surface runoff for purposes of supplemental irrigation, inland fish production, and other agricultural purposes. For the purpose of this act, a small-scale rainwater harvesting system refers to reservoir storage facilities with a height of not more than 5 meters and a surface area of not more than 2, 500 sq. meters.
- e) **Sloping Agricultural Land Technology (SALT)** refers to a simple, applicable, low-cost method of upland farming which consists of alley farming in which field and perennial crops are grown in bands 4-5 meters wide between contoured rows of leguminous trees and shrubs.
- f) **Soil and Water Conservation Technologies** refers to measures that control soil and water degradation and enhance productivity in the field.

- g) *Soil and Water Conservation Approaches* refers to ways and means of support that help to introduce, implement, adapt, and apply soil and water conservation technologies in the field.
- h) *Soil and Water Conservation Guided Farm (SWCGF)* refers to a farm established to showcase appropriate soil and water conservation technologies for possible replication and up-scaling. It is also an approach that facilitates the proper implementation of soil and water conservation technologies through the provision of technical assistance in the field survey, the soil and water conservation farm planning, and the implementation of the plan.
- i) *Soil and Water Conservation Farm Plan* refers to a plan that considers the right mix of farm enterprises and appropriate soil and water conservation technologies, which is formulated with reference to existing bio-physical and socio-economic conditions of the farm and in consultation with farmer-cooperators.
- j) *Soil Conservation* refers to the management of soil to prevent or reduce soil erosion and depletion by wind and water.
- k) *Sustainable Land Management (SLM)* refers to the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions.
- l) *Upland* refers to the extensive portion of land located within 100-500 meters above sea level (masl) with slope of less than 18%.
- m) *Water Conservation* refers to the protection, development, and efficient management of water resources for beneficial purposes.
- n) *Watershed* refers to a land area drained by a stream or a fixed body of water with its tributaries having common outlet for surface runoff. This include small watershed with area of 10,000 hectares and below; a medium scale watershed with an area of more than 10,000 hectares to 50,000 hectares; and large scale watershed with an area of 50,000 hectares and above.
- o) *Watershed management* refers to the process of guiding and organizing land and other resource used in a watershed to provide desired goods and services without adversely affecting soil, water or other natural resources.
- p) *Watershed protection* refers to a management strategy to control soil erosion and prevent illegal cutting of vegetations and other land degrading activities in the watershed.

SECTION 4. *The National Soil and Water Conservation Program.* In order to address the problem of land degradation which affects the state and management of our natural resources, a National Soil and Water Conservation Program, hereinafter referred to as the Program, is hereby established. The Program shall foment synergy between agricultural productivity improvement and sustainable land management through the promotion and implementation of soil and water conservation technologies and approaches.

The Bureau of Soils and Water Management (BSWM), in consultation with concerned agencies and other stakeholders, shall prepare the National Soil and Water Conservation Program subject to the approval of the Secretary of the Department of Agriculture (DA). Upon implementation of this Act, the BSWM shall submit an Annual Report and Progress Report as required, within five (5) years, to the Secretary of the Department of Agriculture for review and assessment.

SECTION 5. *Goals and Objectives.* Pursuant to the above declaration, the Program shall support the implementation of Sustainable Land Management (SLM) projects for livelihood improvement and prevention of land degradation in the uplands. As such, it shall adopt the following specific objectives:

- a) To establish one thousand (1,000) Soil and Water Conservation Guided Farms within five (5) years from the effectivity of this Act to showcase sustainable land management best practices such as but not limited to sloping agricultural land technology, organic-based agriculture, farm waste and residue management, wastewater recycling and re-

use, rainwater harvesting or combination of two or more of these practices including approaches to implement these practices;

- b) To establish ten thousand (10,000) units of small-scale rainwater harvesting systems consisting of rainwater reservoir development, watershed management, and service area development in strategic upland areas throughout the country, within five (5) years from the effectivity of this Act; and
- c) To capacitate and empower Local Government Units (LGUs) and farmers associations in the implementation and operationalization and maintenance of soil and water conservation model farms and rainwater harvesting systems.

SECTION 6. *Implementing Agency.* The Department of Agriculture (DA), through the Bureau of Soils and Water Management (BSWM) and the DA-Regional Field Units (DA-RFUs), shall provide the technical and administrative support in the implementation of the Program and all other policies and objectives of this Act, and perform such other duties as may be assigned to it by the Secretary of the Department of Agriculture.

SECTION 7. *Farmers Associations.* Farmer-cooperators and program recipients shall be organized into associations and/or cooperatives and shall be capacitated on soil and water conservation. As such, the BSWM and DA-RFUs in coordination with concerned local government units (LGUs) shall provide trainings on soil and water conservation and shall assist them in accessing available credit windows to sustain the operation and maintenance of soil and water conservation facilities to be established.

The BSWM and DA-RFUs, in coordination with concerned LGUs, shall assist and facilitate the registration of such associations and/or cooperatives for purposes of participation in the National Soil and Water Conservation Program: *Provided*, That the farmers shall select their leaders in accordance with the constitution and by-laws that they will formulate and firm-up.

Section 8. *Soil and Water Conservation Guided Farms.* Soil and Water Conservation Guided Farms (SWCGF) shall serve as model farms that will showcase soil and water conservation approaches and technologies in the uplands. These will provide a multiplier effect by encouraging other farmers to engage in soil and water conservation. For this purpose, SWCGF shall be established in cluster within high impact areas such as watershed.

Potential sites shall be identified and selected, using approved site selection criteria, in coordination with concerned LGUs and farmers associations. Selected sites shall be subjected to various field surveys, bio-physical characterization, and socio-economic profiling as inputs in the preparation of Soil and Water Conservation Farm Plan: *Provided*, it shall be prepared in consultation with farmers based on the sites' bio-physical characteristics, market potential of crops to be produced, and capability and resources of farmer-cooperators to manage the farm. The Soil and Water Conservation Guided Farms shall be established in accordance with the Soil and Water Conservation Farm Plan, farmers' capabilities and preferences, and available resources.

The concerned LGUs through the Office of Municipal Agriculturist shall provide agriculture support and services to the farmer-cooperators of Soil and Water Conservation Guided Farms to ensure its sustainability and to facilitate broader adoption by more farmers within a locality.

SECTION 9. *Small-scale Rainwater Harvesting Structures.* Small-scale rainwater harvesting structures shall be designed and established in cluster to store rainwater and surface runoff within a watershed. Potential sites shall be identified and selected using approved site selection criteria in coordination with concerned LGUs and farmers associations. Selected sites shall be subjected to various field surveys, bio-physical characterization and socio-economic profiling. The small-scale rainwater harvesting structures shall be implemented in accordance with the

approved engineering plans and design, and field distribution which shall be prepared by concerned LGUs with technical assistance from BSWM and DA-RFUs.

The BSWM shall turn over the small-scale rainwater harvesting structures to the concerned LGUs wherein said structures are located. Subject to the requirements to be set by BSWM, the LGU shall accordingly entrust and delegate the operation and maintenance of structures to duly organized farmers associations as recipients.

Appropriate cropping pattern and calendar that will optimize the use of stored rainwater shall be prepared by farmers with technical assistance from the LGUs through the Office of the Municipal Agriculturist.

SECTION 10. *Research, Development and Extension Services.* Research and development and extension on soil and water conservation shall be an important component of the program to provide a dynamic technology development, information dissemination and extension support in the implementation of the program. Research and development shall cover but not limited to the following areas: rainwater harvesting design methods, runoff management technologies, soil moisture conservation impacts, and groundwater recharge enhancement.

The BSWM, the Bureau of Agricultural Research (BAR) and the Agricultural Training Institute (ATI) of the DA; the Ecosystem Research and Development Bureau (ERDB) of the Department of Environment and Natural Resources (DENR); and concerned State Universities and Colleges (SUCs), through proper and appropriate institutional arrangements, shall provide technical support and assistance in the conduct of research and development and in the provision of extension services on soil and water conservation to LGUs and farmers associations and cooperatives.

The BSWM and ATI are further directed to assist the LGUs in the conduct of training for beneficiaries and/or cooperators of Soil and Water Guided Farms and small-scale rainwater harvesting systems prior to operation and/or turn-over of said facilities.

SECTION 11. *Implementing Rules and Regulations.* The Department of Agriculture, thru the Bureau of Soils and Water Management, in consultation with other concerned agencies and stakeholders, shall promulgate the necessary rules and regulations to implement this Act within five (5) months upon the enactment of this Act.

SECTION 12. *Appropriations.* - The amount necessary for the initial implementation of this Act shall be charged to the budget of the Department of Agriculture under the current General Appropriations Act. Thereafter, such sums as may be necessary for its continued implementation shall be included in the annual General Appropriations Act.

SECTION 13. *Repealing Clause.* - All laws or parts thereof, decrees, orders, rules and regulations inconsistent with the provisions of this Act are hereby repealed or modified accordingly.

SECTION 14. *Separability Clause.* - If any of the provisions of this Act are declared invalid, the other provisions which are not affected thereby shall remain to be in full force and effect.

SECTION 15. *Effectivity Clause.* - This Act shall take effect immediately following its publication in a newspaper of general circulation or in the Official Gazette, whichever comes first.

Approved,