

NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
Second Regular Session)



23 JUL 18 A11 :06

SENATE
S. No. 2323

RECEIVED BY:

A handwritten signature in black ink, appearing to be "L. Legarda", written over a horizontal line.

Introduced by Senator Loren B. Legarda

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

EXPLANATORY NOTE

Around 13 million hectares or 45% of the arable land in the Philippines is either moderately or severely eroded due to widespread deforestation and the adoption of unsustainable land management practices, aggravated by the unabated use of "urea" in modern farming, which has led to actual soil degradation or "soil mining," which lowers agricultural productivity.

Land degradation, particularly soil erosion, has contributed to the worsening effects of climate change through the release of carbon previously stored in the soil. Typically, the soil acts as a storage facility for large amounts of carbon, which in turn helps retain essential nutrients in the soil and facilitates rainfall toward underground aquifers. This implies that if unsustainable methods of land management persist, more carbon will be released into the atmosphere, thereby adding to the overall carbon emissions produced by the burning of fossil fuels.

More than 33 million Filipinos have been affected by land degradation in the country, which has contributed to the widespread poverty in rural areas.

In this regard, this bill seeks to promote soil and water conservation technologies and approaches to enhance sustainable land management with the end view of preventing land deterioration and degradation as well as improving the quality of life of upland farmers and indigenous peoples.

Under the bill, a National Soil and Water Conservation Program shall be established, 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. A Soil and Water Conservation Guided Farm (SWCGF) shall also be created, which shall serve as a model farm that will showcase soil and water conservation approaches and technologies in the uplands. The bill also mandates the construction of small-scale rainwater harvesting structures to be established in clusters to store rainwater and surface runoff within watersheds.

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



LOREN LEGARDA

23 JUL 18 A11 :06

SENATE
S. No. 2323

RECEIVED BY: 

Introduced by Senator Loren B. Legarda

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 House of Representatives of the Philippines in Congress assembled:

1 Section 1. *Title* - This Act shall be known as the "Soil and Water Conservation
2 Act."

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

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

13 a) Land degradation - refers to the reduction or loss of the biological or economic
14 productivity and complexity of rain-fed cropland, irrigated cropland, range,
15 pasture, forest, and woodlands resulting from land use or from processes or a
16 combination of processes arising from human activities and habitation pattern
17 such as soil erosion caused by wind and/or water; deterioration of the physical,

- 1 chemical, and biological or economic properties of soils; and long-term loss of
2 natural vegetation.
- 3 b) Organic agriculture - refers to a production system that sustains the health of soils,
4 ecosystems, and people. It relies on ecological processes, biodiversity, and cycles
5 adapted to local conditions rather than the use of inputs with adverse effects. Organic
6 agriculture combines tradition, innovation, and science to benefit the shared
7 environment and to promote a fair relationship and good quality of life for all
8 involved.
- 9 c) Rain-fed area - refers to an area not served by any irrigation facilities and mainly relies
10 on rainfall for crop and animal production.
- 11 d) Rainwater harvesting system - refers to a system that collects, accumulates, and stores
12 rainwater and surface runoff for purposes of supplemental irrigation, inland fish
13 production, and other agricultural purposes. For the purpose of this act, a small-scale
14 rainwater harvesting system refers to reservoir storage facilities with a height of not
15 more than 5 meters and a surface area of not more than 2,500 sq. meters.
- 16 e) Sloping Agricultural Land Technology (SALT) - refers to a simple, applicable, low-cost
17 method of upland farming that consists of alley farming in which field and perennial
18 crops are grown in bands 4-5 meters wide between contoured rows of leguminous
19 trees and shrubs.
- 20 f) Soil and Water Conservation Technologies - refer to measures that control soil and
21 water degradation and enhance productivity in the field.
- 22 g) Soil and Water Conservation Approaches - refer to ways and means of support that
23 help to introduce, implement, adapt, and apply soil and water conservation
24 technologies in the field.
- 25 h) Soil and Water Conservation Guided Farm (SWCGF) - refers to a farm one
26 hectare or larger, established to showcase appropriate soil and water
27 conservation technologies for possible replication and up-scaling, and facilitate
28 the proper implementation of soil and water conservation technologies
29 through the availment of technical assistance in the field survey, the soil and
30 water conservation farm planning, and the implementation of the plan.
- 31 i) Soil and Water Conservation Farm Plan - refers to a plan that considers the
32 right mix of farm enterprises and appropriate soil and water conservation
33 technologies, which is formulated with reference to existing bio-physical and
34 socio-economic conditions of the farm and consultation with farmer

1 cooperators.

2 j) Soil Conservation - refers to the management of soil to prevent or reduce soil
3 erosion and depletion by wind and water.

4 k) Sustainable Land Management (SLM) - refers to the use of land resources,
5 including soils, water, animals, and plants, for the production of goods to meet
6 changing needs while simultaneously ensuring the long-term productive
7 potential of these resources and the maintenance of their environmental
8 functions.

9 l) Upland - refers to the extensive portion of land located within 100-500 meters above
10 sea level (masl) with a slope of less than 18%.

11 m) Water Conservation - refers to the protection, development, and efficient management
12 of water resources for beneficial purposes.

13 n) Watershed - refers to a land area drained by a stream or a fixed body of water with its
14 tributaries having a common outlet for surface runoff. This includes a small watershed
15 with an area of 10,000 hectares and below; a medium-scale watershed with an area of
16 more than 10,000 hectares to 50,000 hectares; and a large-scale watershed with an area
17 of 50,000 hectares and above.

18 o) Watershed management - refers to the process of guiding and organizing land and
19 other resource used in a watershed to provide desired goods and services without
20 adversely affecting soil, water, or other natural resources.

21 p) Watershed protection - refers to a management strategy to control soil erosion and
22 prevent illegal cutting of vegetation and other land degrading activities in the
23 watershed.

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

31 The Bureau of Soils and Water Management (BSWM), in consultation with
32 concerned agencies and other stakeholders, shall prepare the National Soil and Water
33 Conservation Program subject to the approval of the Secretary of the Department of

1 Agriculture (DA). Upon implementation of this Act, the BSWM shall submit an
2 Annual Report and Progress Report, as required, within five (5) years, to the Secretary
3 of the Department of Agriculture for review and assessment.

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

8 a) To establish one thousand (1,000) Soil and Water Conservation Guided Farms
9 within five (5) years from the effectivity of this Act to showcase sustainable land
10 management best practices such as but not limited to sloping agricultural land
11 technology, organic-based agriculture, farm waste and residue management
12 wastewater recycling and re-use, rainwater harvesting or combination of two or
13 more of these practices including approaches to implement these practices;

14 b) To establish ten thousand (10,000) units of small-scale rainwater harvesting
15 systems consisting of rainwater reservoir development, watershed management,
16 and service area development in strategic upland areas throughout the country
17 within five (5) years from the effectivity of this Act; and

18 c) To capacitate and empower Local Government Units (LGUs) and farmers'
19 associations in the implementation and operationalization, and maintenance of
20 soil and water conservation model farms and rainwater harvesting systems.

21 d) To protect the topography and hydrological qualities and drainage capacity
22 of sloping lands in order to ensure soil conservation and prevent flooding for
23 agricultural land and for surrounding areas.

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

30 *Sec. 7. Farmers Associations.* Farmer-cooperators and program recipients shall
31 be organized into associations and/ or cooperatives and shall be capacitated on
32 soil and water conservation. As such, the BSWM and DA-RFUs, in coordination with

1 concerned local government units (LGUs), shall provide training on soil and water
2 conservation and shall assist them in accessing available credit windows to sustain
3 the operation and maintenance of soil and water conservation facilities to be
4 established.

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

10 Sec. 8. *Soil and Water Conservation Guided Farms*. Soil and Water Conservation
11 Guided Farms (SWCGF) shall serve as model farms that will showcase soil and water
12 conservation approaches and technologies in the uplands. These will provide a
13 multiplier effect by encouraging other farmers to engage in soil and water
14 conservation. For this purpose, SWCGF shall be established in clusters within high-
15 impact areas such as watersheds.

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

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

30 Sec. 9. *Small-Scale Rainwater Harvesting Structures*. Small-scale rainwater
31 harvesting structures shall be designed and established in clusters to store rainwater
32 and surface runoff within a watershed. Potential sites shall be identified and selected

1 using approved site selection criteria in coordination with concerned LGUs and
2 farmers' associations. Selected sites shall be subjected to various field surveys, bio-
3 physical characterization, and socio-economic profiling. The small-scale rainwater
4 harvesting structures shall be implemented in accordance with the approved
5 engineering plans and design, and field distribution which shall be prepared by
6 concerned LGUs with technical assistance from BSWM and DA-RFUs.

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

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

14 Sec. 10. *Research, Development, and Extension Services.* Research and
15 development and extension on soil and water conservation shall be an important
16 component of the program to provide dynamic technology development, information
17 dissemination, and extension support in the implementation of the program. Research
18 and development shall include the following areas: rainwater harvesting design
19 methods, runoff management technologies, soil moisture conservation impacts, and
20 groundwater recharge enhancement.

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

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

1 Sec. 11. *Protection of Topography.* Any development, whether public or private,
2 that will change the natural topography of any lands of over one hectare or an
3 accumulated one hectare within any polygon of 5 hectares shall require a
4 determination by the BSWM that the topographic alteration is necessary and
5 warranted over long term soil and water conservation services that the natural
6 topography would have provided. Such determination shall be submitted to the
7 Environmental Management Bureau for consideration in the Philippine
8 Environmental Impact Statement System.

9 Sec. 12. *Implementing Rules and Regulations and Publications.* The Department
10 of Agriculture, thru the Bureau of Soils and Water Management, in consultation with
11 other concerned agencies and stakeholders, shall promulgate the necessary
12 rules and regulations to implement this Act within five (5) months upon the enactment
13 of this Act. It shall likewise compile soil and water conservation strategies for wide
14 dissemination and language and format accessibility.

15 Sec. 13. *Appropriations.* - The amount necessary for the initial implementation
16 of this Act shall be charged to the budget of the Department of Agriculture under the
17 current General Appropriations Act. Thereafter, such sums as may be necessary for
18 its continued implementation shall be included in the annual General Appropriations
19 Act.

20 Sec. 14. *Repealing Clause.* - All laws or parts thereof, decrees, orders, rules and
21 regulations inconsistent with the provisions of this Act are hereby repealed
22 or modified accordingly.

23 Sec. 15. *Separability Clause.* - If any of the provisions of this Act are declared
24 invalid, the other provisions which are not affected thereby shall remain to be in full
25 force and effect.

26 Sec. 16. *Effectivity.* - This Act shall take effect fifteen (15) days after its
27 publication in at least two (2) newspapers of general circulation.

Approved,