



Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City, Metro Manila

Seventeenth Congress
First Regular Session

HOUSE BILL NO. **3539**

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Introduced by Representative Sharon S. Garin

EXPLANATORY NOTE

The Philippines has an average annual rainfall of about 2,400 mm which is enough to meet the annual water demand for crop production. However, this amount of rainfall is not evenly distributed throughout the year in most parts of the country. In some areas, there is "too much" rainfall, resulting to excessive surface run-off, severe erosion, siltation of rivers, and flooding during the rainy season. And in other parts of the country, there may be "too little" to provide a sustained base flow to support crop production especially during the dry season, particularly in the upland areas.

The situation is further aggravated by the continuous degradation of our watersheds. Watersheds have been subjected to various forms of degradation such as indiscriminate logging and slash-and-burn practices ("kaingin"), with the resulting loss of forest cover from 17 million hectares in 1934 to only about 5.33 million hectares in most recent estimates (LGSP, 2003). But if properly managed, watersheds can provide a continuing flow of water to a particular water body (e.g. river, creeks and streams) and to man-made "water use outlets" such as dams, irrigation systems, or water supply take-off points.

Moreover, about 45% of the arable lands in the Philippines have been moderately to severely eroded, triggering the movement of subsistence farmers to marginal lands with the hope of meeting their day-to-day food requirement. Approximately 5.2 M hectares are severely eroded and 8.5 M hectares are moderately eroded resulting to 30-50% reduction in soil productivity and water retention capacity. This situation will predispose the degraded lands to drought and other water availability problems.

A related challenge is the country's perennial problem of food insufficiency in light of our growing population. This calls for the development of new areas for food production.

The development and management of the country's water resources are critical interventions because the availability of water (or lack of water) impacts on the country's ability to increase agricultural productivity, which is fundamental to food security. Protection and efficient management of the watersheds ensure the continuous water base flow and contribute to environmental sustainability. There is a need, therefore, to ensure water availability for sustainable

agricultural development while parallel interventions should be pursued to arrest rapid environmental degradation.

This bill, thus, aims to promote soil and water conservation technologies and practices through the National Soil and Water Conservation Program. The targeted sector of the program consists of local government units and marginalized farmers in the rain-fed uplands.

Under the water conservation efforts in the Program, environment-friendly rainwater harvesting structures will be constructed in the middle to upper reaches of the uplands and watersheds with predominantly rolling to hilly topography. The depressions and small inland valleys in these areas can be harnessed for small water reservoir development which would then be utilized by poor upland farming communities for agricultural production. The envisaged Program will also include watershed protection, development and management as major components.

Likewise, sustainable upland development is also one of the priority thrusts of the government under Executive Order 606 (*Pursuing Sustainable Upland Development Anchoring on Food, Wood and Non-Wood Security and Economic Productivity*). Rainwater harvesting can contribute to the attainment of sustainable upland development through the involvement of local communities who will manage and maintain both the rainwater harvesting systems and the local watersheds, which are important in recharging ground and surface water that will feed into the water impounding dams.

Concomitant to water conservation activities are soil conservation activities. There are various soil conservation measures that could be implemented in the uplands to protect the environment while attaining agricultural productivity. These will reduce the risks of natural disasters and enhance the adoption mechanism of farmers and communities to climate change. Moreover, it will also enhance food security, improve farm household income, protect resource base and/or environment and prepare the community against the threats of upcoming natural calamity.

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



REP. SHARON S. GARIN
AAMBIS-Owa Party-list



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AN ACT
PROMOTING SOIL AND WATER CONSERVATION TECHNOLOGIES AND
APPROACHES FOR SUSTAINABLE LAND MANAGEMENT

1 **SECTION 1. *Short Title.*** This Act shall be known as the “*Soil and Water Conservation*
2 *Act*”.

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

11 **SECTION 3. *Definition of Terms.*** As used in this Act:

- 12
- 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, pasture,
15 forest, and woodlands resulting from land use or from processes or combination of
16 processes arising from human activities and habitation pattern such as a) soil erosion
17 caused by wind and/or water; b) deterioration of the physical, chemical, and biological
18 or economic properties of soils, and c) long term loss of natural vegetation.
- 19 b) ***Organic Agriculture*** refers to a production system that sustains the health of soils,
20 ecosystems and people. It relies on ecological processes, biodiversity and cycles
21 adapted to local conditions, rather than the use of inputs with adverse effects. Organic
22 agriculture combines tradition, innovation, and science to benefit the shared
23 environment and to promote fair relationship and good quality of life for all involved.

- c) **Rain-fed area** refers to an area not served by any irrigation facility 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.
- e) e) Small-scale rainwater harvesting system refers to reservoir storage facilities with a height of not more than five (5) meters and a surface area of not more two thousand five hundred (2, 500) square meters.
- f) **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 four-five (4-5) meters wide between contoured rows of leguminous trees and shrubs.
- g) **Soil and Water Conservation Technologies** refers to measures that control soil and water degradation and enhance productivity in the field.
- h) **Soil and Water Conservation Approaches** refer to ways and means of support that help to introduce, implement, adapt, and apply soil and water conservation technologies in the field.
- i) **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, soil and water conservation farm planning and implementation of the plan.
- j) **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.
- k) **Soil Conservation** refers to the management of soil to prevent or reduce soil erosion and depletion by wind and water.
- l) **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.
- m) **Upland** refers to the extensive portion of land located within one hundred to five hundred (100-500) meters above sea level (masl) with slope of less than eighteen percent (18%).
- n) **Water Conservation** refers to the protection, development, and efficient management of water resources for beneficial purposes.
- o) **Watershed** refers to a land area drained by a stream or fixed body of water and its tributaries having common outlet for surface runoff. This include small watershed with area of ten thousand (10,000) hectares and below; medium scale watershed with area of more than ten thousand (10,000) hectares to fifty thousand (50,000) hectares; and large scale watershed with an area of fifty thousand (50,000) hectares.
- p) **Watershed Management** refers to the process of guiding and organizing land and other resource uses in a watershed to provide desired goods and services without adversely affecting soil, water and other natural resources.

- 1 q) ***Watershed Protection*** refers to a management strategy to control soil erosion and
2 prevent illegal cutting of vegetations and other land degrading activities in the
3 watershed.

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

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

16 **SECTION 5. *Goals and Objectives.*** The Program shall support the implementation of
17 Sustainable Land Management (SLM) projects for livelihood improvement and prevention of
18 land degradation in the uplands. As such, it shall pursue the following specific objectives:

- 19 a) to establish one thousand (1,000) Soil and Water Conservation Guided Farms within
20 five (5) years from the effectivity of this Act to in order to showcase sustainable land
21 management best practices such as but not limited to sloping agricultural land
22 technology, organic-based agriculture, farm waste and residue management,
23 wastewater recycling and re-use, rainwater harvesting or combination of two or more
24 of these practices including approaches to implement these practices;
25
26 b) to establish ten thousand (10,000) units of small-scale rainwater harvesting systems
27 consisting of rainwater reservoir development, watershed management, and service
28 area development in strategic upland areas throughout the country, within five (5)
29 years from the effectivity of this Act; and
30
31 c) to capacitate and empower Local Government Units (LGUs) and farmers associations
32 in the implementation and operationalization and maintenance of soil and water
33 conservation model farms and rainwater harvesting systems.

34 **SECTION 6. *Implementing Agency.*** The Department of Agriculture (DA), through the
35 Bureau of Soils and Water Management (BSWM) and the DA-Regional Field Units (DA-
36 RFUs), shall provide the technical and administrative support in the implementation of the
37 Program and all other policies and objectives of this Act.
38

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

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

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

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

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

27 **SECTION 9. *Small-scale Rainwater Harvesting Structures.*** Small-scale rainwater
28 harvesting structures shall be designed and established in cluster to store rainwater and
29 surface runoff within a watershed. Potential sites shall be identified and selected using
30 approved site selection criteria in coordination with concerned LGUs and farmers
31 associations. Selected sites shall be subjected to various field surveys, bio-physical
32 characterization and socio-economic profiling. The small-scale rainwater harvesting
33 structures shall be implemented in accordance with the approved engineering plans and
34 design, and field distribution which shall be prepared by concerned LGUs with technical
35 assistance from BSWM and DA-RFUs.
36

37 The BSWM shall turn over the small-scale rainwater harvesting structures to the
38 concerned LGUs wherein said structures are located. Subject to the requirements to be set by
39 BSWM, the LGU shall accordingly entrust and delegate the operation and maintenance of
40 structures to duly organized farmers associations as recipients.
41

42 Farmers shall be required to formulate or prepare the appropriate cropping pattern and
43 calendar that will optimize the use of stored rainwater with the technical assistance from the
44 LGUs through the Office of the Municipal Agriculturist.
45

46 **SECTION 10. *Research, Development and Extension Services.*** Research and development
47 and extension on soil and water conservation shall be an important component of the program
48 to provide a dynamic technology development, information dissemination and extension

1 support in the implementation of the program. Research and development shall cover but
2 shall not be limited to the following areas: rainwater harvesting design methods, runoff
3 management technologies, soil moisture conservation impacts, and groundwater recharge
4 enhancement.

5
6 The BSWM, the Bureau of Agricultural Research (BAR) and the Agricultural
7 Training Institute (ATI) of the DA, the Ecosystem Research and Development Bureau
8 (ERDB) of the Department of Environment and Natural Resources (DENR), and concerned
9 State Universities and Colleges (SUCs), through proper and appropriate institutional
10 arrangements, shall provide technical support and assistance in the conduct of research and
11 development and in the provision of extension services on soil and water conservation to
12 LGUs and farmers associations and cooperatives.

13 The BSWM and ATI shall also assist the LGUs in the conduct of trainings for
14 beneficiaries and/or cooperators of Soil and Water Guided Farms and small-scale rainwater
15 harvesting systems prior to operation and/or turn-over of said facilities.

16 **SECTION 11. *Implementing Rules and Regulations.*** The Department of Agriculture and
17 the Bureau of Soils and Water Management, in consultation with other concerned agencies
18 and stakeholders, shall promulgate the necessary rules and regulations to implement this Act.

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

23 **SECTION 13. *Separability Clause.*** - If any of the provisions of this Act is declared invalid,
24 the other provisions which are not affected thereby shall remain to be in full force and effect.

25
26 **SECTION 14. *Repealing Clause.*** - All laws or parts thereof, decrees, orders, rules and
27 regulations inconsistent with the provisions of this Act are hereby repealed or modified
28 accordingly.

29 **SECTION 15. *Effectivity Clause.*** - This Act shall take effect fifteen (15) days after its
30 publication in the Official Gazette or in a newspaper of general circulation.

31 *Approved,*