



CENTRAL LUZON STATE UNIVERSITY

Science City of Muñoz, Nueva Ecija Philippines
Tel. No. (6344) 940-7406; Fax (6344) 456-0107
E-mail Address: oubs@clsu.edu.ph
URL: <https://clsu.edu.ph>

Manila Office:
No. 7B, Nueva Ecija Street
Bago Bantay, Quezon City
Philippines

Office of the University and Board Secretary

**EXCERPTS FROM THE MINUTES OF THE 212th REGULAR MEETING
OF THE CLSU BOARD OF REGENTS HELD ON 1 DECEMBER 2017 AT
THE CHED CONFERENCE ROOM, 4/F HEDC BUILDING, UP
DILIMAN, QUEZON CITY**

On motion duly seconded, the Board passed –

Resolution No. 72-2017

Approving the Proposed CLSU Community-Based and Integrated Environmental Management Program (CBIEMP) and Its Implementing Rules and Regulations.

APPROVED.

I hereby certify the correctness of the foregoing.

JAYPEE S. DE GUZMAN 
University and Board Secretary

“Excellent service to humanity is our commitment.”

CLSU COMMUNITY BASED AND INTEGRATED ENVIRONMENTAL MANAGEMENT PROGRAM (CBIEMP)

I. RATIONALE

It has been observed that the university is experiencing environmental stresses like increasing solid wastes, decreasing resources for educational use, damage and vandalism to facilities, wastage of resources such as energy, water, etc., conflicts over the use of finite resources and many more. Proper resources management and enhancement as well as protection of the environment are very imperative in every university.

Considering that schools are the "Cradles of Value Formation" and education is the means through which society prepares the citizenry to carry out their responsibilities, an important activity that must be given emphasis is the concern about the environment. There is a need, therefore, to make actions that will not only promote consciousness on resource conservation but also proper care and management of our environment.

It is believed that what is needed is a sustained environmental education effort that will set behavioral change among stakeholders and inculcate protective and nurturing characteristics for the Mother Earth implemented through community-based, integrated and participatory approaches. Thus, the various sectors in CLSU shall be imbued with a sense of responsibility to care, protect and enhance the environmental quality for the health, safety and betterment of the university's environment and its constituents.

II. OBJECTIVES

The main objective of the program is to unify all efforts of the different units of the university by sustained management of the university's resources through a "multi-faceted program". This must be coupled with an advocacy and awareness through formal and non-formal environmental education using the "community based approach/integrated approach". As a whole, the program must address and include policy, administration and finance, academics, research, outreach/extension and production activities.

Specifically, the program shall:

1. Create awareness and advocacy on environmental issues and concerns among stakeholders;
2. Encourage and implement conservation and recovery of resources by systemizing the control and handling of wastes for sanitary retrieval and safe disposal through waste avoidance, reduction, composing, recycling, re-use and appropriate processing of residuals;
3. Restrict the use of non-environmentally acceptable packaging to reduce solid wastes particularly plastics and other non-biodegradables at a significant level for sustained cleanliness;
4. Promote soil, water and energy conservation and increase utilization efficiency of other resources for the welfare of the CLSU community;

5. Conduct a coordinated development activities to include sustainable agroecosystem management, green productivity and/or clean production technologies.
6. Integrate environmental education principles and concepts in all subjects/courses for in-depth knowledge acquisition and practice of ecological strategies for effective environmental management.
7. Promote biodiversity conservation through establishment of ex-situ conservation parks and wildlife sanctuaries.
8. Conduct aesthetic enhancement of CLSU surroundings of all units, colleges and student organization parks and residential houses.
9. Promote information and awareness regarding climate change impacts, climate change adaptation and mitigation strategies in the university.
10. Creation of disaster risk reduction management council responsible for making plans and local actions in case of the occurrence of disasters and calamities.

III. THE PROGRAM COMPONENTS

There are eight major components of the CLSU Community Based and Integrated Environmental Management Program to be implemented as follows:

1. Environmental Information and Awareness (EIA)

The main task of this component is to create awareness and instill environmental principles among the stakeholders through continuing advocacy and campaign, series of seminars, information, education and communication (IEC) activities, etc. These activities will not only draw a strong public support but also sustain participation so that in the long term, everybody will appreciate the benefits derived and sustain the program.

1.1 Awareness Campaign

This part the program will create awareness and orient the stakeholders about the environmental plan and the activities that will be implemented to be participated in by the various sectors of the university.

IEC materials such as flyers, leaflets, bulletins, compact and digital video disks (CD/DVD) including broadcast materials will be developed to depict the various activities of the program and at the same time will serve as reference materials during orientations/seminars.

Visitors entering the university shall be given a briefer on the environmental management program of the university through the Public Affairs Office and to be assisted by the UCE.

1.2 Seminars Implementation

There will be continuing seminars to all members of the community with the Seven (7) Environmental Principles as the core message. This will be the basis as well as the

take-off point for the implementation of resource conservation as well as the other plan components.

Trainings on material recovery, recycling, residual management and composting will be undertaken by the Ecological Solid Waste Management team headed by RMCARES.

Training on climate change, biodiversity conservation, pollution prevention and disaster preparedness will be conducted by ICCEM.

2. Ecological Solid Waste Management (ECOSWAM)

This component will focus on the implementation of RA 9003 with the adoption of the National Framework for Ecological Solid Waste Management. The main activity includes waste avoidance and reduction, segregation at source, segregated collection, storage, transfer processing, treatment and safe disposal or in short the 4Rs – Reduce, Reuse, Recycling and Refuse.

2.1 Waste Characterization

RM-CARES will characterize the waste composition of the university yearly.

2.1.1 Waste Volume Reduction

Source reduction will be the first practice to be imparted to all CLSU constituents to reduce the amount of solid wastes in CLSU.

a) Improved Operating Practices

Improved operating practices include preventive and maintenance procedures, materials handling improvement, inventory control, waste segregation, effective supervision, employee participation, production scheduling/planning/control, cost accounting/allocation, spill containment, loss prevention program, computerization for inventory control and materials tracking.

b) Product Change

This involves a change in product quality standards and product composition or an increase in the product's durability or product substitution. Examples are: use of biodegradable products over non-biodegradables, avoid use of plastics, use of ecobags, etc.

2.2 Waste Recycling and Materials

This activity constitutes the return of waste material either in the original form to be utilize again or be used again in another process as an input material.

2.2.1 Reuse of Waste Materials

There is a potentially large market for recycling plastics, glass bottles, used paper and scrap metals. Therefore, these materials must be recovered from the waste stream to reduce the volume as well as convert these into cash. As much as possible, the waste that will be collected are only the residuals, if not, these will be valued accordingly for handling and transport.

2.2.2 Composting the Biodegradables

All units, colleges, dormitories and households are required to have compost pits for their biodegradable wastes. Biodegradable wastes will not be collected by the waste haulers/waste collectors.

2.2.3 Waste Segregation

Upon the implementation of the plan, recovery of recyclable materials will be at household level. To have an effective recovery system, proper sorting of waste materials must be implemented. Waste generated must be segregated and placed in a properly labeled bins or trash cans as follows:

Green colored bin – Biodegradables (Biomass wastes, leftover food, etc.)

Blue colored bin – Non-biodegradables but recyclable (Plastic bottles, glass jars, etc.)

Red colored bin – Non-biodegradables and non-recyclables (Thin plastic wrappers, electric bulb, etc.)

Yellow colored bin – Paper and Waste paper products

2.3 Waste Collection, Handling and Transport

For efficient collection, handling and transport, waste materials for collection must be properly segregated and placed in a container prescribed by the program. Specific type of waste will only be collected in a specified day and time at a designated collection/transfer station. These will be brought to the Material Recovery Facility of the PPSDS.

2.3.1. Only residual wastes or wastes that can no longer be recycled, re-used or composted shall be collected as per schedule and designated collection station. The residual wastes shall be brought to the transfer station of the Science City of Muñoz.

The hauling schedules for waste from the different households, units and stalls/commercial establishment are as follows:

Monday	AM	Dormitories and Cottages
	PM	Colleges and Offices
Tuesday	AM/PM	Business Establishments
Wednesday	AM	Colleges and Cottages
	PM	Dormitories and Offices
Thursday	AM/PM	Business Establishments
Friday	AM	Cottages and Offices
	PM	Dormitories and Colleges

2.3.2. Household, units and stalls/commercial establishments shall be charged a handling fee proportional to the volume of residual waste generated. Such fees shall be

payable to the University Business Affairs Program which shall be responsible in determining the applicable amount.

2.3.3. Seminars and orientations on backyard composting shall be continuously undertaken. Those who will not practice backyard composting shall be penalized.

2.3.4. For hazardous and hospital wastes, an appropriate treatment shall be employed to neutralize or make it safe for storage or transport. Such wastes shall be disposed accordingly.

3. Greening The Curriculum (GC)

The main purpose of environmental education and greening the curriculum is to produce environmentally literate citizenry, unified in its pursuit of social justice and equity in the proper use of natural resources. The primary aim is to require all curriculum of the university to have one (1) subject dedicated to environmental protection and management.

These will help students and other environmentalists develop a set of values and feelings of concern for the environment and the motivation and commitments to participate actively in environmental protection and improvement (stewardship).

This will provide stakeholders with opportunities to be actively involved toward the resolution of environmental problems.

This will also address the needed preparation by the faculty and staff members, students as well as other members coming in and out of the university which must be geared towards environmental protection, care and management.

4. Sustainable Agroecosystem Management (SAM)

This component of the program shall address the sustainable agroecosystem management of the university in various research activities and resource generation activities like rice and vegetable production of the university. It shall promote regeneration of the soil resources and maintenance of ecological integrity of water, air and other environmental components.

4.1 Farm Waste Management

Farm waste includes crop residues and other remaining parts of a crop grown in a given area including animal waste generated in the farm. Crops remaining after harvest and other residues shall be incorporated to the soil. Burning must be banned except in cases where the crops are infected with virus or other organisms that maybe transmitted to the next crop or to human beings. Residues in bulk shall be composed together with the animal manures. However, animal manures in large volume may be used also for biogas production before it will be converted as organic fertilizer.

Eutrophication must be minimized, thus nitrates and phosphates utilization must be reduced. Use of pesticides must also be selective and reduced to minimize pollution in the agroecosystems.

4.2 Utilization of Integrated Nutrient and Pest Management Strategies

Excessive and inappropriate use of pesticides and fertilizers are the major issues in agriculture as these create pollution. Some of the mitigating measure to be used are as follows:

- a) Crop rotation and use of resistant plant varieties
- b) Use of protective structure especially on vegetables
- c) Use of Leaf Color Chart (LCC) especially for rice for wise N fertilizer utilization
- d) Green manuring and other soil-conserving techniques
- e) Use of organic fertilizers and botanical pesticides

4.3 Improved Enterprise/Farm Operations for Efficiency and Productivity

This shall address proper and efficient use of resources like energy, water and soil the minimization of odor animal production sites such as use of effective microorganisms.

5. Green Productivity for Environmental Management (GPEM)

Any form of economic activity such as in agriculture, industry, small medium enterprises and services sector involves use of natural resources. These resources could be water, energy, mineral or biological. The process of using these resources to provide food and other services results to degradation of the environment. Modern consumption patterns and the corresponding production patterns lead to high fossil fuel use and excessive water consumption leading to pollution, volumes of wastes and degradation of the natural and agricultural resources.

Thus, in the business sectors of the university green productivity/cleaner production shall be imposed which focuses on the 4 aspects Source Reduction, Waste Minimization, Pollution Prevention and Cleaner Production. Hence, as a corporate strategy for all the small medium enterprises in the university "Eco-efficiency" which emphasizes economic and environmental improvement and corporate social responsibility must always be their goal.

6. Climate Change and Biodiversity Conservation and Management (CCBIOCON)

Climate change is already affecting Southeast Asia including the Philippines with rising temperature, decreasing rainfall, rising sea levels, increasing frequency and intensity of extreme weather events such as typhoon leading to massive flooding, landslides and drought causing damage to property, assets and human life. Though climate change is global in nature, addressing climate change requires local action. Thus, integration of climate change and disaster risk management to Environmental Management Program of the university is

very imperative to step up efforts and make decisive actions to combat climate change with the following objectives such as:

1.) To develop local community into resilient, thriving and sustainable community that is empowered, educated and aware; 2) To help build resistance to climate change threats using knowledge, tools, technologies and resources that is environmentally friendly and ethical, ecologically sustainable, practical and affordable; 3) To develop partnership from all sectors of the society at the local, national, international levels to address climate change and environmental management; 4) To spearhead environmental management and conservation activities in the campus and the immediate environs; and 5) To prepare, produce and distribute instructional materials on environmental issues.

This component of the program shall also address biodiversity conservation including conservation of plant and animal species in identified portions of the university (land and water) and protect this against destructive human exploitation.

6.1 Environmental Conservation

Concerned with strengthening the capacity of the off-site conservation facilities thru collection and conservation of biodiversity, educating the public and contributing to sustainable development. The EC consists of Biodiversity Learning Nooks such as Conservation Park, Biodiversity Museum, Nursery, Native Tree Living Museum, Agrobiodiversity Museum and Regional Integrated Coastal Resources Management (RIC) Learning Center which are always open for visitation or social call for all CLSU constituents. The conduct of seminar/trainings on Biodiversity Conservation is also a part of this unit.

6.2 Information Management

Responsible for weather advisory in CLSU and for database management, data science pertaining to climate change, weather, hazard maps and other data relative to disaster damage assessment, biodiversity, and other environmental management related data.

6.3 Climate Change Information and Education

Responsible for promoting information and education in Climate Change Disaster Risk Reduction Management (DRRM) and Pollution Prevention. Responsible for giving training/ seminar/ workshop regarding climate change, disaster preparedness and pollution prevention issues. This sector produces and acquires print and non-print media materials that can serve as tools for effective and efficient instruction and information/technology dissemination. This sector has also learning nooks which are open to public for environmental education and awareness which include the Climate Change and Disaster Risk Reduction Management Digital Viewing Museum and Climate Change and Disaster Risk Reduction Management Regional Learning Center.

6.4 Enhancement of Parks, University Monuments and Markers

Parks, markers and monuments existing in the university shall be maintained and enhanced to preserve their aesthetic and historical values. As much as possible, removal or redesigning of monuments and other structures shall be prohibited. Enhancement of aesthetics of other areas like students organizations' and fraternities' and sororities' parks as well as roadside gardens shall be based upon approved landscape design of the University.

6.5 Home Gardens

This sector of the program shall be responsible in the enhancement of aesthetic view of the CLSU environment for biodiversity conservation and climate change mitigation strategy. All faculty and staff are required to have home gardens with diverse plants and trees for carbon sequestration and for biodiversity conservation. The activity will be supervised by the Auxiliary Service Office of the university.

6.6 Colleges/Units/Offices Conservation Park

Each unit/college/office shall also establish botanical garden within their jurisdiction with diverse plants and trees as climate change mitigation strategy and for biodiversity conservation. All heads of colleges, units and offices should be responsible for this particular activity with the guidance and supervision of all the four vice presidents (VPAd, VPRET, VPAA and VPBA).

7. Wildlife Sanctuary (WS)

The Wildlife Park under the College of Veterinary Medicine shall be designed as a sanctuary of faunal species especially those under extinction.

8. Disaster Risk Reduction Management (DRRM)

As the Environmental Management Bureau of DENR states, "an organization must address its activities, products or services that have environmental aspects and impacts under emergency conditions or in accidents where they could lead to an emergency situation. Since these are unexpected events, controls must be put in place to ensure that further damage to the environment or lives of the stakeholders are prevented. Emergency equipment and facilities must be available and functional at all times and an emergency team formed shall always be helpful and responsive. Drills on procedures what to take during fire, earthquake, typhoon, flood and other calamities as well as testing of procedures and functionality of facilities must be done on a periodic basis.

CLSU created a Disaster Risk Reduction Management Council which is responsible in this component.

IV. STRATEGY

The program will adopt the "community-based" approach where participation in the formulation and implementation of the various programs/components is invoked. This is a very important element of the program to ensure its sustainability and success. Local ordinances and policies related to the various components shall be adapted and form part of the program.

Due to the varied composition of actors who will implement the whole programs, a clear definition of jurisdictional arrangements for the tasks identified together with clear distribution of functions, responsibilities and authority at all levels will be made.

V. ENVIRONMENTAL ACTIVITIES INTEGRATION

1. Environmental Information Awareness (EIA) Activities

- a) Preparation of print materials/ICT for CBIEMP
- b) Orientation/Seminar Series on Eps for Trainers and Stakeholders
- c) Preparation of radio broadcast materials for CBIEMP
- d) Seminars on Environmental Principles' for integration in various courses

2. Ecological Solid Waste Management (ECOSWAM) Activities

- a) Promotion of waste segregation in the whole CLSU
- b) Promotion of "zero" plastics
- c) Seminar on Solid Waste Management, Waste Material Collection, Handling and Transport
- d) Trainings on Composting (Commercial and Backyard)
- e) Procurement and distribution of labeled bins
- f) Reduction of solid wastes

3. Greening the Curriculum (GC) Activities

- a) Integration in all courses of Science and Technology and Society where environmental protection and management principles are included.
- b) Inclusion of DGS principles in the administration and finance, research, outreach/extension programs and production
- c) Further "greening" of the NSTP

4. Sustainable Agroecosystem Management (SAM) Activities

- a) Promotion of sustainable agroecosystem management strategies
- b) Use of organic-based farming systems
- c) Production of standardized and quality organic fertilizer
- d) Setting up of Organic Agriculture Demo Area
- e) Use and promotion of IPM and INM technologies
- f) Production of organically-based commodities
- g) Use of water-saving techniques in crop production

5. Green Productivity for Enhancement of Environment (GPPE) Activities

- a) Imposition of clean production technologies in the business sectors of the university

- b) Promote and clean production technologies in all the small medium enterprises (SMEs) sectors/business sectors for awareness and education of environmental management and for their corporate social responsibility.

6. Climate Change and Biodiversity Conservation (CCBIOCON) Activities

- a) Collection of plant species near extinction for conservation
- b) Ex-situ Conservation Parks
- c) Enhancement of parks, markers, signages
- d) Roadside gardens, tree planting and Landscaping/Aesthetic enhancement
- e) Home Gardens
- f) Unit/Office/College Gardens
- g) Promotion of Biodiversity Conservation thru visit to Biodiversity Museum, Agrobiodiversity Museum, Regional Integrated Coastal Resources Management Learning Center
- h) Public awareness and information about climate change and DRRM to the CLSU constituents thru visit to Climate Change and Disaster Risk Reduction Management Digital Viewing Museum and Disaster Risk Reduction Management Learning Center
- i) Seminars/Trainings about Climate Change, Biodiversity Conservation, Pollution Prevention and Disaster Preparedness
- j) Distribution of IEC materials for public awareness and information

7. Wildlife Sanctuary (WS) Activity

- a) Enhancement of the Wildlife Park

8. Disaster Risk Reduction Management (DRRM) Activities

- a) Establishment of Early Warning System
- b) Conduct of Seminars/Trainings on Disaster Preparedness
- c) Information Dissemination
- d) Preparation and procurement of disaster emergency gadgets
- e) Attendance to training on emergency response
- f) Regular monitoring of drinking water at ambulant and food stalls for public health and safety
- g) Improvement and maintenance of drainage system
- h) Establishment of canal system/water catchment areas / rainwater harvesting system to prevent flooding
- i) Regular pruning and trimming of trees
- j) Regular cleaning and greening of the CLSU campus
- k) Preparation of action plan of every unit/college

VI. Environmental Policy

The university's environmental policy should be a documented statement of commitment to environment from the top management down the lowest level. This shall involve the inclusion of environmental aspects/considerations in decision-making process and the

operationalization of environmental principles in administration, finance and in maintenance and operations.

In the school, offices and recreational areas, minimization of the use of resources shall be the focused such as conservation of energy, water, paper and other resources. As one important focus and concern is the wise use of time as it is said that this is gold, so, once it is not used properly, it is totally wasted. In CLSU, it shall be a culture to maximize efficiency, i.e. more work is accomplished per unit time.

VII. ADMINISTRATION AND MANAGEMENT OF THE PROGRAM

1. Organization and Management Structure

The CBIEMP shall be under the control and administration of the Office of the President with the assistance of four (4) Vice Presidents. The eight components of the program will have a head unit/center/institute/office to manage all activities of their respective components with the help of other units/college/institutes/centers for successful and efficient implementation of the various activities. The leaders of each component will be called the Project Leader and the leader of the units under each component will be called the Project Staff. The Organizational Structure of CBIEMP is shown in Figure 1.

2. Monitoring and Evaluation

Monitoring and evaluation of the whole program shall be conducted by a group to be assigned by the Office of the President.

During monitoring and evaluation, components that will be found violating or not properly implementing their activities shall be dealt with accordingly by the Office of the President and the corresponding penalty shall be imposed.

3. Plan Revision and Program Addition

Any component or part of this program which will not work as expected shall be immediately improved, revised or replaced with better alternatives. Unity, cooperation, collaboration and interconnectivity of the various components must be practiced to have a successful and efficient implementation of the program.

VIII. BUDGETARY REQUIREMENT

The projected expenses at the start of the program will be more on environmental awareness campaign materials which can be shouldered initially by the lead units/office/institutes/centers involved. However, to fully implement the program, budgetary allocation should be given to the various lead units/office/centers/institutes.

1. Establishment of an Environmental Amelioration Fund (EA-Fund)

RAs 9003 and 7586 impose fees, fines as well as penalties. Fees collected shall accrue to the EA Fund, a trust fund which shall be used for environmental amelioration activities only.

Considering that every individual has their own "environmental as well as carbon footprints, these two will serve as the basis in the imposition of fees to the stakeholders. "Environmental footprint" refers to the amount of resources used and the wastes contributed to the environment. On the other hand, "carbon footprint" is the amount of carbon dioxide and other carbon components emitted due to consumption of fossil fuels by a particular person, group, organization, etc. Since these two has negative impacts to the environment, a mitigating measure shall be put in place to offset it.

As a way of mitigating these impacts by the university, two types of fees whichever is applicable to an individual shall be collected the moment they enter the university. The same shall be imposed to the persons or families living inside the university. Everybody therefore, shall in one way or the other, promote "carbon neutral", i.e. doing something that cancels out the negative impacts of activities done in order to become a "low carbon university".

For example in vehicles, the bigger the vehicle engine, the more it pollutes especially if not properly maintained, hence, higher fees will be imposed. For families residing inside, the more wastes they bring to the waste collection stations, the higher the fees charged against them.

As a rule, the "Polluter Pays Principle" (P3) will be implemented as soon as everybody is knowledgeable about the environmental management program. Fees based on "carbon footprint" or "environmental footprint" whichever is applicable will be levied or collected from individual persons or group or a family. Full implementation will be approximately two months after its university-wide launching and the awareness campaign have finished it first leg work. It will be in effect throughout the program to instill discipline and respect to the environment.

2. Regular Environmental Amelioration Fund (REA-Fund)

The university and the various colleges shall allocate funds either from Fund 164 or Fund 101 whichever is appropriate and allowed by law for the implementation of the program.

In a similar manner, student councils, college-based organizations, student societies, fraternities and sororities must be required to conduct activities related to environmental concerns and shall also allocate funds for implementation and participation in the program. Donations or grants may be sought for the purpose of environmental enhancement.

IX. SCHEDULE OF ACTIVITIES

A series of orientations, seminars and workshops will be conducted to the various stakeholders. This will also serve as a public hearing where everyone has to put his comments, suggestions or recommendations and later form part of the program. Upon

approval of the program, each component will be implemented by the respective Project Leaders.

Below is the outline of implementation which will be done simultaneously after the First Level Training:

Pre-implementation Phase of the whole program

1. Presentation to the Project Leaders and Project Staff for final review
2. Presentation for approval to Administrative Council of the university
3. Presentation and approval of BOR
4. Orientation Seminars/Trainings on the CLSU-CBIEMP
 - a) First Level – Project Leaders, Project Staff Members, Environmental Management Officers, and DRRM Officers
 - b) Second Level – CLSU Students, Student Organizations/Societies
 - c) Third Level – Tricycle Drivers; Market/Ambulant Vendors/SMEs and University Residents

Implementation Phase

A. Environmental Information and Awareness (EIA)

1. Environmental Awareness Campaign
2. Lecture Series on 7 EPs and Environmental Immersion

Environmental Performance Audit (EPA)

Monitoring and Evaluation shall always be done in all facets of activities implemented.

B. ECOSWAM

Pre-implementation Phase

1. Designation of waste collection/transfer station for efficient handling and transport
2. Lecture/seminar on collection and handling strategy in accordance with the schedule
3. Distribution of trash bins/waste containers
4. Seminar on Solid Waste Management and Backyard Composting
5. Distribution of Guidelines/Brochures for Waste Segregation

Implementation Phase

1. Collection of garbage and other waste materials according to schedule
2. Imposition of penalties/fines for violators
3. Shredding of biodegradables for organic fertilizer production
4. Sorting and disposal of recyclables
5. Management of residuals for the controlled dumpsites/landfill

Environmental Performance Audit

Monitoring and Evaluation shall always be done in all facets of activities implemented

C. Greening the Curriculum (GC)

Pre-implementation Phase

1. Brainstorming on the Greening of the Curriculum

Implementation Phase

1. Initial integration of the 7 EPs in selected courses
2. Full integration of 7 EPs in all courses
3. Integration of Science, Technology and Society in all courses

Environmental Performance Audit

Monitoring and Evaluation shall always be done in all facets of activities implemented

D. Sustainable Agroecosystems Management (SAM) Activities

Pre-implementation Phase

1. Identification of sustainable agroecosystem management technologies in the research undertakings of CLSU
2. Seminars on Sustainable Agroecosystem Management Strategies and Practices

Implementation Phase

1. Implementation of sustainable agroecosystem management technologies in rice and vegetable production
2. Establishment of Commercial Organic Rice Production
3. Fertilizer Use Efficiency thru LLC
4. Adoption/Utilization of INM and IPM
5. Proper Utilization and Disposal of Farm Wastes
6. Composting of Rice Straw
7. Green Manuring and other technologies for Fertilizer Reduction
8. Green and Precision Agriculture

Environmental Performance Audit

Monitoring and Evaluation shall always be done in all facets of activities implemented.

E. Green Productivity for Environmental Management (GPEM)

Pre-implementation Phase

1. Seminars/Training on Green Productivity/Clean Production Technology for Project Leaders and Project Staff Members

Implementation Phase

1. Imposition of Green Productivity/ Cleaner Production for all SMEs and business establishments in CLSU.
2. Conduct of Seminars on Green Productivity/Cleaner Production for all SMEs and business establishments in CLSU.
3. Distribution of guidelines on Green Productivity/Cleaner Production to all SMEs/business establishments.
4. Monitoring and Evaluation of all SME/business establishments in CLSU

F. CCBIOCON Activities

Pre-implementation Phase

1. Inventory of student organization's park, university parks and monuments
2. Promotion of the establishment of home garden and office/unit/college/center garden

Implementation Phase

1. Enhancement of parks, monuments, signages and roadside gardens.
2. Enhancement of ex-situ conservation parks.
3. Landscaping and aesthetic enhancement of office/unit/college gardens.
4. Establishment and enhancement of home gardens.
5. Conduct of Seminars on Climate Change, Biodiversity Conservation, Pollution Prevention and Disaster Preparedness.
6. Social call to Biodiversity Museum, Agrobiodiversity Museum and Learning Centers.
7. Distribution of IEC materials to students who will visit the learning centers and attend the seminars.
8. Day to day Weather Information Bulletin and Environmental Management messages.
9. Distribution of IEC materials on climate change, biodiversity, pollution prevention and disaster risk reduction management to CLSU residents.

G. Wildlife Sanctuary

Pre-implementation Phase

1. Survey of animals that are in danger of extinction

Implementation Phase

1. Improvement of the Park and Wildlife Sanctuary

H. Disaster Risk Reduction Management

Pre-implementation Phase

1. Meeting to discuss and finalize the function/role of every unit/college in the DRRM

Implementation Phase

1. Seminar on Disaster Preparedness
2. Procurement of Gadgets for disaster preparedness in every unit/colleges

3. Preparation of Action Plan of every unit/college for disaster preparedness
4. Semester Disaster Drill for every unit/college
5. Establishment of Early Warning System
6. Information Dissemination
7. Attendance to training on emergency response
8. Regular monitoring of drinking water at ambulant and food stalls for public health and safety
9. Improvement and maintenance of drainage system
10. Establishment of canal system/water catchment areas / rainwater harvesting system to prevent flooding
11. Regular pruning and trimming of trees
12. Regular cleaning and greening of the CLSU campus

Environmental Performance Audit

Monitoring and Evaluation shall always be done in all facets of activities implemented.

X. EFFECTIVITY CLAUSE

This program shall be implemented upon approval of the Administrative Council and concurrence by the Board of Regents.

Reviewed and Revised by:

ANNIE MELINDA PAZ-ALBERTO
Chair

JONATHAN F. GALINDEZ
Member

JOCELYN L. AVENO
Member

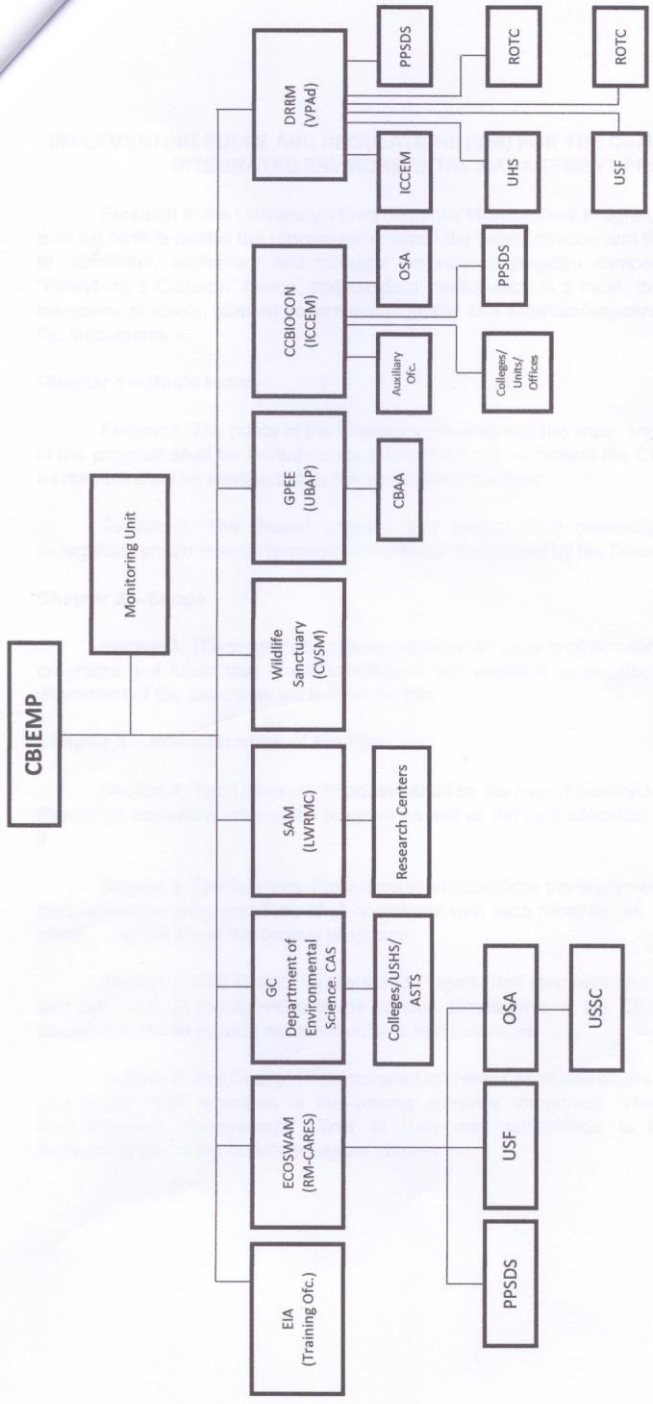
MILAGROSA A. SANTOS
Member

ARMANDO N. ESPINO
Member

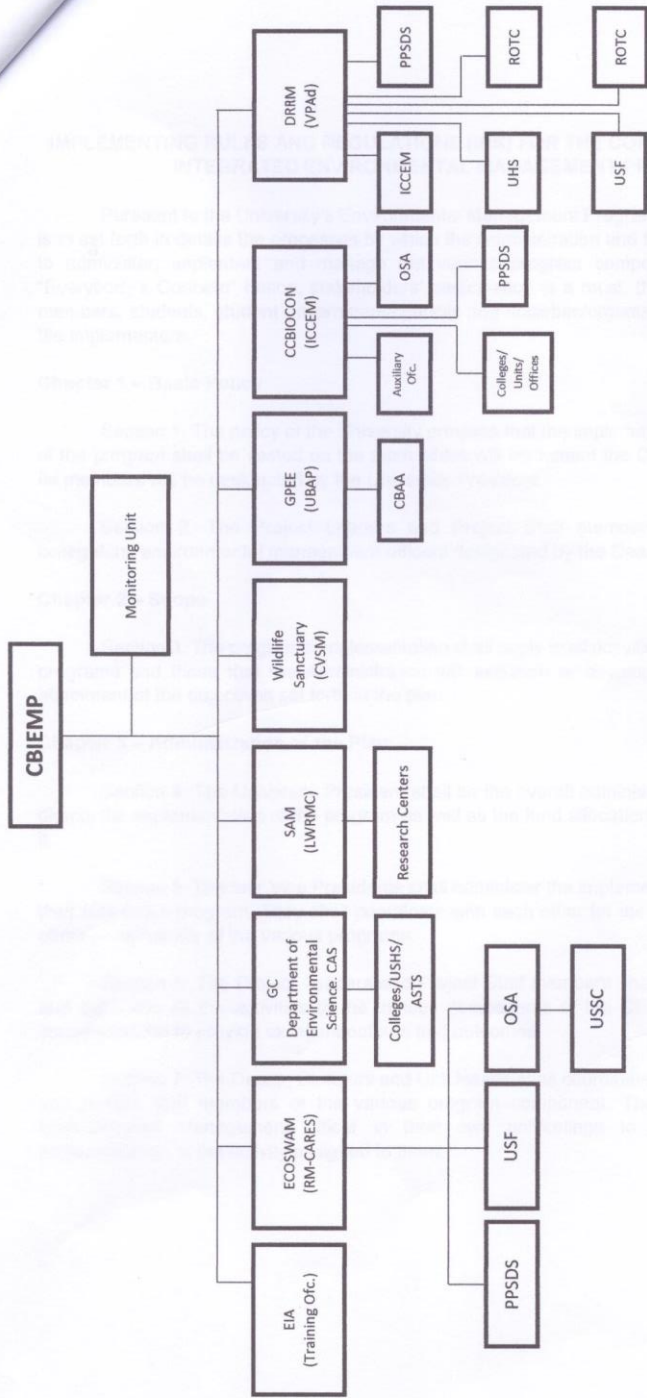
RENATO B. DELA CRUZ
Member

CESAR V. ORTIÑERO
Member

JOSHUA C. NAVALEZ
Member



Organizational Structure of the CLSU Community-Based and Integrated Environmental Management Program



Organizational Structure of the CLSU Community-Based and Integrated Environmental Management Program

IMPLEMENTING RULES AND REGULATIONS (IRR) FOR THE COMMUNITY BASED AND INTEGRATED ENVIRONMENTAL MANAGEMENT PROGRAM

Pursuant to the University's Environmental Management Program, the purpose of the IRR is to set forth in details the processes by which the Administration and the lead units designated to administer, implement and manage the various program components. The program is "Everybody's Concern" hence, stakeholders' participation is a must, thus, the faculty and staff members, students, student government/councils and societies/organizations and residents are the implementers.

Chapter 1 – Basic Policy

Section 1. The policy of the University provides that the implementation and management of the program shall be vested on the team which will implement the CBIEMP of the university. Its members will be designated by the University President.

Section 2. The Project Leaders and Project Staff members shall be assisted by college/unit environmental management officers designated by the Dean or Unit Head.

Chapter 2 – Scope

Section 3. The program's implementation shall apply to all activities included in the various programs and those that the Administration will establish or develop at later stages for the attainment of the objectives set forth in the plan.

Chapter 3 – Administration of the Plan

Section 4. The University President shall be the overall administrator of the program. He directs the implementation of the program as well as the fund allocation necessary to implement it.

Section 5. The four Vice Presidents shall administer the implementation of the program in their respective program. They shall coordinate with each other for the needed unified action to attain sustainability of the various programs.

Section 6. The Project Leaders and Project Staff members shall take the lead, manage and supervise all the activities of the various components of the CBIEMP for the successful implementation to provide excellent outputs and outcomes.

Section 7. The Deans, Directors and Unit Heads shall coordinate with the project leaders, and project staff members of the various program component. They should designate an Environmental Management officer in their own unit/college to be responsible in the implementation of the activity assigned to them.

Chapter 4 – Implementation of the Program

Section 8. The members of the team who will implement the CBIEMP shall adhere to the objectives set forth in the program and its strict implementation. They shall revise, enhance, develop or replace existing component of the program which they think is not in conformity or not functioning as planned with the approval of the Administration.

Section 9. The Monitoring and Evaluation team shall be created by the Office of the President to assist the Project Leader and Project Staff members in the implementation of the various components of the program with special duty to apprehend, issue non-conformance action report to individuals, groups or entities that deviates with the policy of the program and related documents required in the process.

Section 10. The Environmental Information and Awareness (EIA) component headed by the Training Office shall conduct a continuing environmental information and awareness campaign so that all members are informed about the program before and during implementation. Awareness and advocacy campaigns shall be in the *forms of memoranda, circulars, newsletters, flyers, posters, stickers or even texting*. Any of these forms maybe selected to be used by the team to attain the envisioned paradigm shift of “valuing” the environment.

Section 11a. The RM-CARES shall be the lead unit in the implementation of ECOSWAM and operations of MRF with the assistance of the Physical Plant and Site Development Services (PPSDS). As a complement to avoidance, waste segregation/sorting, reduction, re-use, recycling and recovery of materials as well as minimization of resources use shall be adopted. Further, policies on littering, vandalism and related non-ecological practices shall be implemented. As embodied in the “polluter pays” principle, anybody who pollutes the environment in any manner resulting to a reduction in the quality, quantity or functions perform by the environment shall be fines or render environmental quality enhancement in accordance with the degree of impacts created.

Section 11b. Only residual wastes or wastes that can no longer be recycled, re-used or composted shall be collected as per schedule and designated collection station. The residual wastes shall be brought to the transfer station of the Science City of Muñoz.

The hauling schedules for waste from the different households, units and stalls/commercial establishment are as follows:

Monday	AM	Dormitories and Cottages
	PM	Colleges and Offices
Tuesday	AM/PM	Business Establishments
Wednesday	AM	Colleges and Cottages
	PM	Dormitories and Offices
Thursday	AM/PM	Business Establishments
Friday	AM	Cottages and Offices
	PM	Dormitories and Colleges

Section 11c. Waste materials shall be sorted accordingly. All non-biodegradable wastes will be put in an official waste bag/trashbag and only those wastes placed in these bags will be collected. Non-segregated/sorted wastes will not be collected. Only the waste for collection on a particular day shall be brought outside, i.e. in front of the gate/house of the waste generator. Stakeholders who will bring their waste materials not scheduled for collection shall be fined. An environmental fee or carbon footprint fee, whichever is applicable shall be collected based on the volume/amount of waste generated, or the amount of carbon dioxide that will be created by the individual in the environment.

Section 11d. Segregated or sorted materials will be collected based on the schedule and will be brought to the MRFs for processing. Compostable materials must be converted into organic fertilizers at source while recyclable materials will be collected and will be brought to the MRF nearest the cluster. Non-recyclables and other residuals will be brought to the transfer station of the Science City of Muñoz.

Section 12a. Greening the Curriculum (GC) shall be spearheaded by the Department of Environmental Science, College of Arts and Sciences. The designated leader shall initiate and implement the "greening of the curriculum" as mandated by laws, memoranda and other issuances of authorities concerned.

Section 12b. Each course in a curriculum shall conduct an environmental enhancement activity to serve as a "hands on" or immersion of the students for them to appreciate and at the same time acquire value and dedication for good stewardship of the environment.

Section 13. The Sustainable Agroecosystem Management (SAM) shall be spearheaded by the Land and Water Resources Management Center with focus on the maintenance of ecological integrity of the agro-ecosystems and other farm production units of the university.

Section 14a. The Green Productivity for Environmental Management (GPEE) shall be supervised by the University Business Affairs Office in collaboration with the College of Business Administration and Accountancy. The team must impose to all business establishments in the university to utilize and practice clean production technologies in order to prevent environmental impacts, carbon footprint and environmental footprint.

Section 14b. The College of the Business Administration and Accountancy particularly the Management Section shall be responsible in the conduct of seminar on clean production technology and corporate social responsibility to all business establishments in the university for environmental awareness and information.

Section 15a. Climate Change and Biodiversity Conservation (CCBIOCON) shall be spearheaded by the Institute for Climate Change and Environmental Management (ICCEM). The implementation of this component shall be assisted by the OSA, Auxiliary Office, PPSDS and Environmental Management officer of each college/unit/offices/center/institute.

Section 15b. The OSA shall take the lead and administer the enhancement of students' parks, monuments and signages in cooperation with the student organizations following the activities of CCBIOCON.

Section 15c. The Auxiliary office shall supervise the development of home gardens for all the CLSU house owners and residents with focus on cleaning and greening their homes with diverse plants, trees and crops.

Section 15d. The PPSDS shall be responsible in the continuing improvement of the university's parks, monuments and signages.

Section 15e. The environmental management officers of each unit/office/center/institute/college shall take the lead and administer in the enhancement of their gardens with focus on cleaning and greening their unit's surroundings with diverse plants and trees.

Section 15f. ICCEM shall administer, manage and properly implement all other activities such as enhancement of ex-situ conservation parks, conduct of seminars and trainings, information, education and communication management, distribution of IEC materials, promotion of biodiversity conservation thru social call to biodiversity museums and climate change learning centers, etc.

Section 16a. The Disaster Risk Reduction Management Council of the University shall be headed by the Vice President for Administration (VPAd) with the assistance of all college/units/institute/centers of the university following the approved guidelines of university DRRM for safety and resiliency of CLSU community. Each unit/collage must assign the Disaster Risk Reduction Management officers and his/her team.

Section 16b. Responsibilities of every unit before the disaster/calamity. The impact of any emergency or disaster can be lessened by being prepared and knowing what to do before it strikes. Being prepared for a natural disaster can make the difference between life and death.

Section 16b.1. VPAd. Establishment of Early Warning System in coordination with CERDS. Provision of real time weather updates through the LED display board at the Institute.

Section 16b.2. ICCEM. Through the Disaster Risk Management and Public Health Department and Information Management Department of the Institute, the following are currently being undertaken:

- Seminars on Disaster Preparedness
- Information Dissemination
 - Posters at strategic places in the university with regards to the following: "what to do in case of fire", "earthquake preparedness plan" "what to do in case of flood" "tornado warnings", etc.
- Provision of real time weather updates through the LED display board at the Institute
- Preparation of Damage Assessment/Inspection Report Checklist
- Preparation of Post Survey Report after the Disaster Questionnaire/Checklist

Section 16b.3. UHS. The UHS should take responsibility on the regular monitoring of the standards of the drinking water, health and sanitation of various ambulant and food stalls in the university.

Section 16b.4. PPSDS. The office will take care of the maintenance of the drainage systems, pruning, and trimming of trees within the university as well as those along the national highway. Identification of evacuation area in case of flood should also be undertaken. Canal system/water catchment areas/rainwater harvesting system shall be established in low lying areas to prevent flooding.

Section 16c. During the disaster/calamity

Section 16c.1. PPSDS – Provision of vehicles for deployment to calamity stricken areas; maintenance of water and electrical facilities; coordination with FAC regarding use of rubber boat; coordination with ICCEM regarding disaster emergency gadgets such as ropes, hard hat, rain coat, boots and life vest; and coordination with UHS regarding emergency kits.

Section 16c.2. UHS, USF and ROTC – Responsible in the emergency response in case of occurrence of disaster/calamities in CLSU.

Section 16c.3. ROTC and CERDS – Responsible in operationalization of the siren and light signal at university tower.

Section 16c.4. OP and VPAD- Responsible in the allotment of funds for food and refreshments of volunteers

Section 16c.5. RET Cafeteria – Preparation and distribution of food and refreshments shall be the function of this unit.

Section 16d. After the disaster/calamity: Rehabilitation and Recovery

Section 16d.1. PPSDS (electrical, water works, janitorial) – Damage assessment, inspection and restoration; preparation of report shall be the main tasks of this unit.

Section 16d.2. ICCEM – Responsible in the conduct of post survey assessment and report preparation in coordination with the DRRM officer of every unit/college/office.

Section 16d.3. UHS – Stress debriefing of victims shall be the main role of this unit.

Section 16d.4. ROTC – Clean up and restoration of the affected areas shall be the main tasks and function of this unit.

Section 17. An environmental monitoring and audit/evaluation will be done on a sector basis in a scheduled period by the Monitoring Team.

Chapter 5 – Prohibited Acts and Penalties

Section 18. Prohibited Acts. Pursuant to existing laws such as CA 383 (Anti-dumping of Refuse and Waste); PD 984 – Pollution Control Law; PD 1151 (The Philippine Environment Policy); PD 1152 (The Philippine Environment Code of 1977); PD 825 (Improper Disposal of Garbage); PD 1067 (The Water Code); PD 1586 – The Philippine EIA System; PD 8550 (The Fisheries Code); RA 6969 – The Toxic Substances and Hazardous and Nuclear Waste Control

Act; RA 7586 (NIPAS Act); RA 8435 (AFMA Law); RA 9003 (Ecological Solid Waste Management); RA 8749 (Clean Air Act); as well as department orders, the NE Environment Code, the following are prohibited:

- (a) Dumping, littering or otherwise disposing of any waste products detrimental to any components of the environment or a part thereof such as roads, public sidewalks, canals, and parks;
- (b) Burning of waste materials (plants and animals) except those attacked by disease, virus or other forms of communicable diseases, pathogens and the like;
- (c) No Smoking in the whole CLSU campus;
- (d) Allowing the collection of non-sorted/non-segregated wastes from the various generators;
- (e) Dwelling at nearby dump sites or landfill;
- (f) Dumping or burying of waste materials in saturated, wet or flooded areas;
- (g) Development, construction, distribution and use of materials that will totally destroy or endanger the species of the environment;
- (h) Bringing inside the university smoke-belching and or noisy vehicles;
- (i) Hunting, destroying, disturbing, or mere possession of any plant or animal or a part thereof, and products derived from the environmental without permit or approval;
- (j) Mutilating, defacing or destroying objects of natural beauty, buildings, parks, religious sites, artifacts and other properties of the university;
- (k) Damaging and leaving roads, halls and rooms in damaged conditions;
- (l) Leaving in exposed or unsanitary condition, refuse or debris, or disposing wastes in bodies of water, roads (except during collecting time) and other premises;
- (m) Constructing or maintaining any kind of structure, fence or enclosures that will hinder, obstruct aesthetics or affect growth of plant and animal species;
- (n) Conduct of any business that is detrimental to the environment or to individuals without a permit or expansion thereof without approval of the Administration;
- (o) Altering, removing, destroying or defacing boundary markers or signages;
- (p) Use of red-labeled chemicals in any activities of the various programs and hazardous waste when used shall be properly disposed;
- (q) Use of dynamite or any electrical gadgets or poisonous substance in fishing;
- (r) Construction, expansion and management of facilities without Environmental Compliance Certificate (ECC) and other related permits needed or as required by law;
- (s) Other activities that maybe found later as producer/generator of negative impacts to the environment.

Section 19a. Penalties. Any person, group of persons or owner of any materials, (plants, animals, machines, compounds or substances) found guilty of any offense enumerated above shall:

1. For violation of letter (a), fine of Php300 or up to Php1000 or a community service of up to 15 days or both;
2. For violation of letter (b), fine of Php300 up to Php1000 or imprisonment of up to 15 days;

3. For violation of letters (d), (e) and (f), a fine from Php1000 or up to Php5,000 or imprisonment from 15 days or up to 6 months;
4. For violation of letter (g), a fine of Php50,000 and an additional of 5-10% of his previous income;
5. For violation of letter (r), a fine from Php100,000 or up to Php1M or imprisonment of up to 6 years or both;
6. If a violator is a foreigner, he will be deported after serving the penalty;
7. If the violators are government officials, an administrative case will be filed.
8. If the violation is related to NIPAS Act, the person shall be fined in the amount of not less than Php5,000 or more than Php500,000, exclusive of the value of the things damaged, or imprisonment for not less than one year but not more than six years, or both as determined by the court. Other provisions of the law shall also apply.

Chapter 6 – Environmental Amelioration Fund

Section 19b. Fines and penalties shall be collected or imposed based on Section 18. However, fees will be imposed based on “environmental footprints” or “carbon footprints” generated. In general, the more resources are used in any activity, the more waste and more pressure is put to the environment. On the other hand, the more activities performed using energy particularly fossil-based, the more carbon footprints generated. The fees to be collected are as follows:

1. Carbon Footprint Fee

- a) Individuals entering the university with motorcycle and other vehicles with less than 1.0L displacement, Php2.00/day; 1.0-2.0L displacement, Php3/day; greater than 2.0L displacement, Php5/day, but for frequent visitor of the university (4x a week) Php15/month
- b) Students and residents of the university with vehicles: motorcycle or vehicle with less than 1.0L displacement, Php10/month; 1.0-2.0L displacement, Php15/month and greater than 2.0L displacement, Php20/month
- c) Daily visitors of the university like vehicles making delivery, Php50/month
- d) Electrical gadgets, equipment and other users of electricity shall be charged in accordance with their usage by their respective dormitories and lodging houses

2. Environmental Footprint Fee

This applies to residential houses, dormitories, canteens, stalls and shops in both old market and the marketing center, and cooperative stores which will not recycle their wastes:

- a) 100 kg but not more than 200 kg = Php50
- b) 201 kg to 500 kg = Php85
- c) >500 kg = Php100
- d) Cut trees with leaves, one load (half or full) = Php150

Section 19c. Contributions, donations or grants from institutions.

Section 19d. Funds allocated by the university from its income generated.

Section 20a. Carbon footprint fees and contributions/donations by individuals of not more than Php1000 shall be deposited in a bank for immediate use of the program. Utilization of said fund shall be subject to the approval of the University President.

Section 20b. All other funds such as environmental footprint fees, donation greater than Php1000 and grants regardless of the amount shall be deposited in a trust account (Environment Amelioration Fund) for use exclusively in the improvement and management of the environment with the approval of the University President.

Chapter 7 – Generated Provisions

Section 21. Amendment. This IRR maybe amended wholly or in part by a designated committee by the University President anytime it is deemed necessary.

Section 22. Repealing Clause. The penalties adopted form the enacted laws shall prevail over the policies promulgated by the University such as the University Code, Faculty Manual, Student Handbook, Memoranda and other issuances.

Section 24. Effectively. The IRR shall be in effect after the ADCO's approval and the Board of Regents.



ISO 9001:2015 CERTIFIED

CENTRAL LUZON STATE UNIVERSITY

Science City of Muñoz, Nueva Ecija Philippines
Tel. No. (6344) 940-7406; Fax (6344) 456-0107
E-mail Address: oubs@clsu.edu.ph
URL: <https://clsu.edu.ph>

Manila Office:
No. 7B, Nueva Ecija Street
Bago Bantay, Quezon City
Philippines

Office of the University and Board Secretary

EXCERPTS FROM THE MINUTES OF THE 231st REGULAR MEETING OF THE BOARD OF REGENTS (2022 THIRD QUARTER MEETING) HELD ON 29 SEPTEMBER 2022 VIA ZOOM

On motion duly seconded, the Board passed –

Resolution No. 30-2022

Approving the proposed **Policy on University Food Waste Management** subject to full and strict compliance with relevant government rules and regulations.

The subject policy is hereby proposed as a response to United Nations Sustainable Development Goals (SDGs) particularly SDG 12 (Responsible Consumption and Production) which complements SDG 2 (Zero Hunger). Specifically, this policy aims to:

- a. institutionalize food waste management as an integral part of the Ecological Solid Waste Management (ECOSWAM) of the CLSU Community-Based and Integrated Environmental Management Program (CBIEMP) managed by the Ramon Magsaysay Center for Agricultural Resources and Environment Students (RM-CARES);
- b. calculate and monitor the volume of food waste generated in the University annually to determine the Food Waste Index (FWI);
- c. create awareness on the social, economic and environmental impacts of food wastage through IEC materials and information dissemination using social media platforms with the end view of affecting behavioral change;
- d. prevent food waste at the consumption level through capability building of households and food service providers on meal planning, proper food storage, food processing and food recycling;
- e. establish and manage a community food pantry to house food donations for the less fortunate members of the community; and
- f. implement food waste management rules and regulations in the University.

APPROVED.

I hereby certify to the correctness of the foregoing.

JAYPEE S. DE GUZMAN
University and Board Secretary

“Excellent service to humanity is our commitment.”



PROPOSED POLICY ON UNIVERSITY FOOD WASTE MANAGEMENT (UFWM)

Rationale

The Food and Agriculture Organization (FAO) reported that around 800 million people worldwide still go hungry despite the technological advancement in food production (2021). In the Philippines alone, it was estimated that over two million people do not have access to adequate and nutritious food and 4.2 million families experienced involuntary hunger (Inquirer, 2021). This scenario caused the Philippines to fall into "moderate" category in terms of Global Hunger Index (GHI, 2021). The battle against famine remains unsuccessful due to mishandling or mismanagement of food resources.

As defined by FAO, food waste refers to the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers. On a global scale, Food and Agriculture Organization reported that 1.3 billion tones or one third of food that includes fruits, vegetables, meat, bakery, and dairy gets lost during the supply chain. UNEP (United Nations Environment Program) Food Waste Index Report (2021) estimated that food waste from households, retail establishments and the food service industries totaled 931 million tons each year. Of which, 61% is generated by the households while 21% and 13% are contributed by food services and retail stores, respectively. On a local scale, PhilMech data disclosed that postharvest losses in *palay* have reached 16.4 percent a year while Filipino households wasted 360.60 million kg of rice, equivalent to P15.15 billion which is enough to feed at least 3.28 million Filipinos (Business Mirror, 2018).

The result of the recent preliminary food waste survey conducted by Committee on Food Waste Management (2022) which was participated by faculty, staff and students in CLSU, revealed that 256 of the households (71.43%) wasted about half kilogram of food daily and most of which are rice and viands from plate leftovers and meal leftovers. This amount of food waste is enough to feed more than 100 less fortunate or food insecure individuals.

Sustainable Development Goal (SDG) 12 on sustainable consumption complements the goal of eliminating global hunger by effective and efficient utilization of earth's resources so that nothing is wasted. Alleviating food wastage could cut global emission by 8-10%, conserve valuable land and resources and save enough food to feed hungry people.

As a response to the challenge of SDG 12, there is a need to formulate and institute the policy on food waste management which would be a great stride towards its realization in the university.

The policy is in consonance with CLSU Community-Based and Integrated Environmental Program (CBIEMP) and Section 15 of Republic Act 9003 or the Ecological Solid Waste Management Act of 2000 which emphasizes that practical applications of environmentally sound techniques of food waste minimization such as, but not limited to, resource conservation, segregation at source, recycling, resource recovery, including waste-to-energy generation, re-use and composting.

Section 1. Scope

University Food Waste Management shall cover food loss which occurs from agricultural production and food waste from food distribution and food consumption within the campus

Section 2. Definition of Terms

For common understanding, the following terms are defined.

Food - any edible substance whether processed, semi-processed or raw that is intended for human consumption.

Inedible (or non-edible) food – are the bones, shells, peels, rinds, trimmings and pits/stones which are not meant for human consumption.

Food waste - refers to food that completes the food supply chain up to the final product, of good quality and fit for consumption, but still doesn't get consumed because it is discarded, whether or not after it is left to spoil or expire. Food waste typically (but not exclusively) takes place at retail and consumption stages in the food supply chain (UN Environmental Program). It refers to the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers (FAO). From retailers to consumers

Food Loss - refers to food that gets spilled, spoilt or otherwise lost, or incurs reduction of quality and value during its process in the food supply chain before it reaches its final product stage. Food loss typically takes place at production, post-harvest, processing, and distribution stages in the food supply chain (from farm production to food retailing)

Food surplus - refers to food that is redistributed for consumption by people, or processed into shelf-stable food products.

Substandard produce/products –are substandard agricultural produce such as undersized, oversized, deformed and bruised.

Food processing – any method used to turn fresh foods into processed food products such as or a combination of various processes including washing, chopping, pasteurizing, freezing, fermenting, canning, drying, cooking and many others (Flores, et al. 2010)

Meal Leftovers– food taken on the plate that is uneaten. prepared or cooked food that is not consumed or untouched which can be recycled into another dish

Plate Leftovers – are the foods taken on the plate but not fully consumed.

Leftovers after storing – unused or unconsumed food stored in the refrigerator or freezer.

Food waste management – refers to the holistic management approach in reducing food waste at a source through hierarchical interventions.

Meal Planning – is the process of utilizing the available time, energy and money effectively and efficiently to produce meals suited for nutritional requirements, preferences and serving portions of the household members.

Food waste reduction– efforts made in minimizing the amount of food that get wasted in each level of the supply chain by valorization, processing, food recycling, meal planning, proper food storage and information dissemination through IEC materials and social media platforms.

Food Waste Index (FWI)- is the measure of the amount of food wasted in tons.

Food donation is the act of giving or sharing excess food to other people by donating in the community pantry before they get spoiled.

Food recycling– is the process of utilizing meal leftovers or untouched foods to produce new dishes or new food products.

Food service providers – refers to canteen and restaurant operators/managers and food vendors.

Households – refer to the faculty members and staff dwelling in the cottages and CLSU villages as a family.

Feedstocks – are the inedible, spoiled or expired food that are used for anaerobic digestion to produce biofuel.

Composting - the biological degradation process of solid organic materials under controlled moist, self-heating, and aerobic conditions to obtain a stable material that can be used as organic fertilizer. This may include inedible parts of the food such as fruit peels, skins, vegetable trimmings, stems, etc. and spoiled foods.

Section 3. Objectives

The primary objective of UFWM is to effectively reduce the amount of food waste being generated within the campus from farm to table. Specifically, it aims to:

1. institute Food Waste Management as an integral part of the Ecological Solid Waste Management (ECOSWAM) of CLSU Community-Based and Integrated Environmental Management Program (CBIEMP) managed by the Ramon Magsaysay Center for Agricultural and Environmental Studies (RM-CARES);
2. Calculate and monitor the volume of food waste generated in the university annually to determine the Food Waste Index (FWI) as required by SDG12.3.
3. Create awareness on the social, economic and environmental impacts of food wastage through IEC materials and information dissemination using social media platforms with the end view of affecting behavioral change.
4. Prevent food waste at the consumption level through capability building of households and food service providers on meal planning, proper food storage, food processing and food recycling.
5. Establish and manage Community Food Pantry to house food donations for less fortunate members of the community.
6. Implement food waste management rules and regulations in the university.

Section 4. The Conceptual Framework of Food Waste Management

As depicted in Figure 1, each level of the food supply chain produces food waste from agricultural food production to food consumption. The goal of UFWM is to make intervention at the identified food supply chains based on the hierarchy reflected in the inverted pyramid, giving top priorities on food waste prevention, reduction and food donation so that least amount of food waste would reach the lowest level of the hierarchy. Surplus and substandard produce from RMCARES, UBAP and Hydroponics for example can be processed into value added marketable food products. Food waste could be prevented at the consumption level through capacity building of the households, students, canteen/restaurant operators/managers and ambulant vendors on proper food storage, meal planning; and information dissemination to educate and create awareness on the negative impacts of food wastage with the end view of affecting behavioral change. Amount of food waste could be reduced by equipping the households, students and foodservice providers with knowledge and skills on basic food processing and food recycling. Recipes will be developed for most common meal left-overs and make them

available in social media and or distribute during the training. Unsold and about to expire or spoil food could be donated to community food pantry. Meal left-overs from the household and food service providers can be transformed into new appetizing dishes through food recycling. Only spoiled food, plate waste and inedible parts such as fruits and vegetables peels, trimmings, eggshells, etc. will be utilized as feedstock for biofuel production and composting. Food waste tracking or monitoring will be employed to each level of food supply every year until the Food Waste Index (FWI) is halved as stated in SDG 12.3 which is targeted to be achieved by 2030.

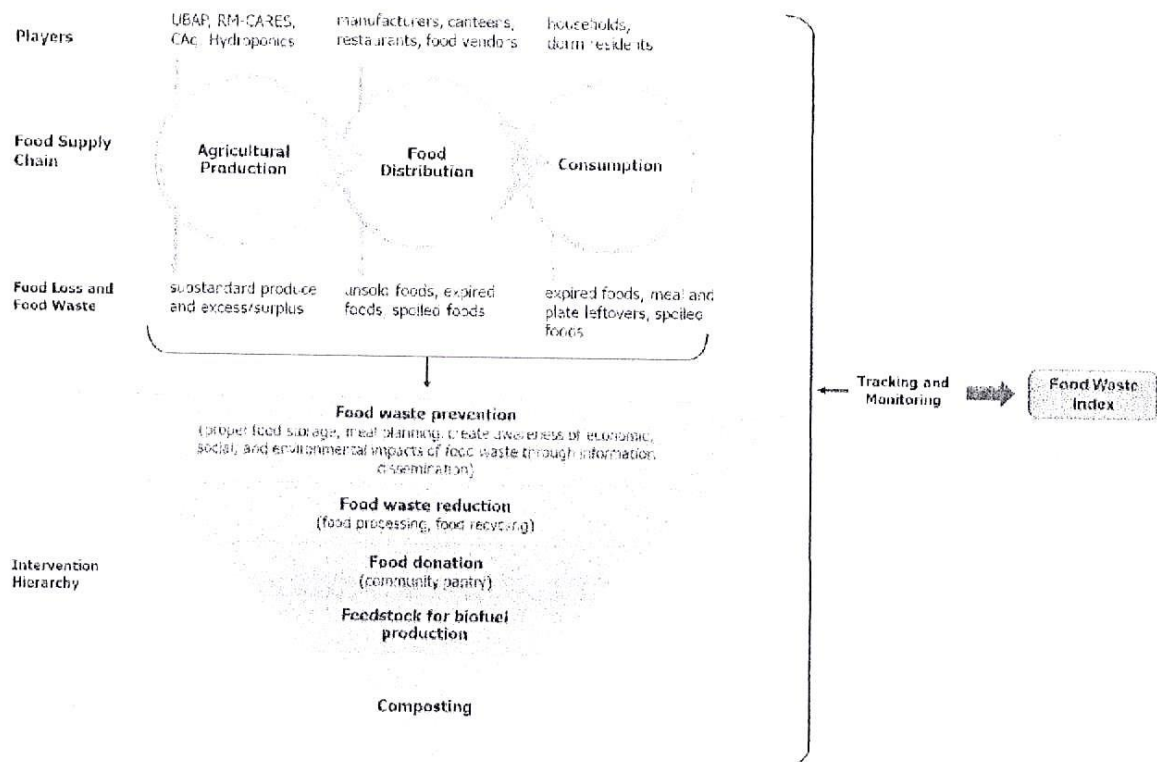


FIGURE 1. Conceptual Framework of University Food Waste Management

Section 5. Composition of the University Food Waste Management

The UFWM shall be attached to the Office of the Vice President for Academic Affairs and shall consist of the following units:

1. Ramon Magsaysay Center for Agricultural Resources and Environment Studies (RMCARES) as the lead unit

2. College of Home Science and Industry
3. Physical Site and Development Services
4. University Student Supreme Council
5. Recognized Students' Organization
6. Collegian
7. StratCom

Section 6. Sources of Funds

- 6.1. The Office of the President shall allocate funds to execute the implementation of University Food Waste Management.
- 6.2. Food Waste Tracking and Monitoring shall be funded by University Gender and Development Office.

Section 7. The Implementing Rules and Regulations

1. Food Waste Prevention. The most preferred way to manage food waste is to avoid wasting of food at the onset.
 - 1.1. Training/seminar workshop on proper food storage and meal planning will be conducted by the Department of Food Science and Technology among canteen operators/managers, food vendors, student-dormers and household representatives.
 - 1.2. Information Dissemination. The CLSU community will be educated on proper food waste management to create awareness on the social, economic and environmental impacts of food wastage through social media platforms such as CLSU webpage and fb page and distribution of IEC materials. This component will be handled by University StratCom and Collegian.
 - 1.3. Encourage the community members to engage in preventing food waste by recognizing or incentivizing their effort through awards or token which will be held annually based from Food Waste Index report.
 - 1.4. Organize Food Waste Patrol (FWP) from Students' Organization, USSC and dormitory set of officers who will perform the following:
 - 1.4.1. Patrolling of food service establishment and ambulant vendors (c/o Students' Organizations) and dormitories (Dormitory Officers/Leaders) concerning the enforcement of regulations regarding food waste handling and disposal found in Section 5, no.5

- 1.5. Establishment of Community Food Pantry. This facility shall be equipped with a food shelf and refrigerator for donated food items that are still of good quality.
 - 1.5.1. There shall be a dedicated room/office for Community Food Pantry
 - 1.5.2. Community Food Pantry shall be managed by USSC.
 - 1.5.3. Donated food items shall be for less fortunate students and job order personnel.
 - 1.5.4. Card for donor recipients will be provided for them to have access with the donated food items.
 - 1.5.5. Donor recipients have to sign the log book and indicate the food items received, the date and their signature.
 - 1.5.6. Community pantry will be opened from Monday to Friday, 10:00am to 5:00pm.
2. Food Waste Reduction. To minimize the amount of meal leftover foods that will end up as feedstock to biodigester or compost pit, the following will be implemented:
 - 2.2. Recipes for most common meal left over foods will be developed by the faculty members of the Department of Hospitality and Tourism Management. This shall be made available either through university website and fb page or pamphlets.
 - 2.3. Training on food processing and food recycling will be conducted by DFST and DHTM faculty among the Food service providers and household representatives and dormitory residents.
3. Food Waste Processing for Biofuel (Aerobic Digestion) and Biofertilizer (Composting).
 - 3.1. PPSDS shall be the overseer of the collection, segregation and transfer of food waste to the food waste processing area.
 - 3.2. There shall be an appropriate receptacle or storage tank/s to hold the collected food waste which can be made up of fiber glass or glass-lined steel (Miller and Coker, 2021) situated in the most suitable area in the campus.
 - 3.3. The collected food waste can either be used as feedstocks for biodigester or composting.
 - 3.4. Food service providers, house parents, student leaders and household representatives shall be required to attend the seminar on food waste collection, segregation and transfer that will be conducted by the committee on food waste management.
 - 3.5. Color coded trash bins with known volume will be provided by the university to each dormitory, cottage house and food service provider. In

addition to the three-color coded trash cans, orange trash can will be provided and dedicated for spoiled/expired and plate left over foods only. Green trash can will be used for inedible food waste.

- 3.6. Food waste and inedible parts accumulated in the food service establishments shall be brought to the designated processing area daily by the following:

- 3.6.1. Food Service Providers – Staff/janitor
- 3.6.2. Dormitories – PPSDS
- 3.6.3. Cottage houses – Household member

4. Requirements for biofuel and biofertilizer production

- 4.1. There shall be an In-charge of the biodigester operation and maintenance.
- 4.2. Means of biofuel distribution and utilization will be established by the assigned expert.
- 4.3. Composting will continue to be taken care of by RM-CARES

5. Prohibited Acts and the corresponding penalties. The following acts related to food waste handling and disposal will be sanctioned by the FWMT:

- 5.1. Dumping of food waste in the open land fill.
- 5.2. Mixing of food waste with other degradable wastes such as inedible foods (pit, bones, fruits and vegetables peelings and trimmings, etc.) and non-degradable wastes.
- 5.3. Fines and Penalties – Any person who committed any of the prohibited act (1) shall, upon conviction, be punished with a fine of not less than three hundred pesos (P300.00) but not more than one thousand pesos (P1,000.00) or render community service for not less than one (1) day to not more than fifteen (15) days

6. Food Waste Tracking/Monitoring. This component will be handled by food waste management committee

- 6.1. Conduct annual action research on food waste in the campus from GAD funding on the amount of food waste generated from the households, dormitory residents, canteen operators and ambulant vendors with funding from UGADO.
- 6.2. Dormitory residents and households as respondents of the study will be selected through stratified random sampling technique while all the canteen operators and ambulant vendors will be in total enumeration.
- 6.3. Research assistant will be hired to perform the actual weighing and categorization of food waste, recording and tabulation of data.

- 6.4. Determine/compute Food Waste Index (FWI) – The level of food waste will be expressed as an index relative to level of food waste in the baseline year (UNEP).

Computation:

100 = would indicate the level or amount of food waste produced as the baseline year.

50 = would indicate that food waste is reduced by half (as targeted in SDG12.3 “By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses”).

$$FWI = FWBY - \frac{FWSY}{FWBY} \times 100$$

Where:

FWI = Food Waste Index

FWBY = Amount of Food Waste (kg) in the baseline year

FWSY = Amount of Food Waste (kg) in the succeeding year/s

6.5. Reports

The committee shall submit a report to the Office of the University President through the Vice President for Academic Affairs every end of the year on the Food Waste Index (FWI) and accomplishments of the committee.

EFFECTIVITY

The proposed policy shall take effect immediately upon the approval of CLSU Board of Regents.

References:

Floros J, Newsome R, Fisher W, et al. (2010). Feeding the world today and tomorrow: the importance of food science and technology. *Comprehensive Reviews in Food Science and Food Safety* 9(5), pp. 572–599

Global Food Waste Index (GFWI) – peer reviewed annual publication designed to comprehensively measure and track progress of the global, regional, and country levels

State of Food Insecurity and Nutrition in the World 2020 online summary,

Philippine Daily Inquirer. The Philippines' hunger nightmare: Inquirer. July 19, 2021.

Food waste, postharvest losses where millions remain hungry. October 18, 2018.

Jim Miller and Craig Coker. 2021.

Committee on University Food Waste Management:

- JUDITH P. ANTONINO
- GELLA PATRIA L. ABELLA
- ARIEL JOEL G. BARZA
- VERJUN J. DILLA
- CARLO RAUL C. DIVINA
- FELICIDAD V. DOMINGO
- RAFFY B. FAJANELA
- LORENZ FAJARDO
- JONATHAN L. GALINDEZ
- VENUS Q. LAGMAY
- JANICE C. LAFORTEZA
- MA. ELIZABETH C. LEOVERAS
- MICHAEL C. MABALAY
- MARIA ROSIE MANANGAN
- REMEDIOS Z. PANUYAS
- PABLO J. RAFAEL
- LAURENCE C. RAMOS
- ALJOHN R. SANTOS
- DAN PAUL B. TORRES
- DANA G. VERA CRUZ



Board Secretary



ISO 9001:2015 CERTIFIED

CENTRAL LUZON STATE UNIVERSITY

Science City of Muñoz, Nueva Ecija Philippines
Tel. No. (6344) 940-7406; Fax (6344) 456-0107
E-mail Address: oubs@clsu.edu.ph
URL: <https://clsu.edu.ph>

Manila Office:
No. 7B, Nueva Ecija Street
Bago Bantay, Quezon City
Philippines

Office of the University and Board Secretary

CERTIFICATION

The Administrative Council, during its meeting on 26 May 2022, **APPROVED** the **University Food Waste Management** subject to full and strict compliance with all existing University policies and relevant government rules and regulations.

I hereby certify to the correctness of the foregoing resolution.

JAYPEE S. DE GUZMAN
University and Board Secretary

“Excellent service to humanity is our commitment.”