



Supervisor of the Philippines
OFFICE OF THE PROVINCIAL GOVERNOR
Bayan Lungsod, Nueva Vizcaya
4500



RELEASED BY
DATE/TIME: 10/18/24 5:03
REFERENCE # 15-49

10/18/24 10:00:00 AM 10/18/24 5:03

PROVINCIAL DISASTER RISK REDUCTION AND MANAGEMENT OFFICE

NOTICE OF MEETING

FOR:

Vice Governor
Chair, SP Committee on Climate Change
and Disaster Risk Reduction
Chair, SP Committee on Environment
Chair, Committee on Public Health and
Social Welfare
Chair, SP Committee on Public Safety and
Peace and Order
Provincial DRRM Officer
Provincial DSD Officer
Provincial Director, DSO
District Engineer, DPWH 1st DEO
District Engineer, DPWH 2nd DEO
Provincial Engineer
Provincial Treasurer
Provincial Agriculturist
Provincial Veterinarian
Provincial General Services Officer
Provincial Health Officer
Provincial Budget Officer
Provincial ENR Officer
Provincial Planning and Development
Coordinator
Provincial ITD Chief
DENR - PENRO
Provincial Director, DTI
Schools Division Superintendent, DepED
Commanding Officer, 1st IB PNI Army
DSDO-IWAD

Provincial Officer, PROCEED
GAD Focal Person
Commanding Officer, ARESCOM
Provincial Director, NIPPO
Provincial Director, SFP
Provincial Director, TESDA
Provincial Manager, NFA
Provincial Manager, NIA
General Manager, NIVE.CO
Provincial Director, DOST
President, LNO Provincial Federation
President, League of Municipalities
Administrator, PSC - NV Chapter
Provincial Chief, PSA
Head, Independent Kabalikatan Civicon
Head, DeltaCom Nueva Vizcaya
Head, Pugal Lewis Philippines, Inc. NV
Executive Director, TRENGS
Chief, PAGAD
President, Saint Mary's University
President, NVSU
President, PLT College
President, King's College
President, Aldemgate College
Chief, PAGASA NV
President, PPSK
Chief, Provincial DGH Office
Provincial Officer, DICT
Provincial Manager, PIA
Provincial Administrator

SUBJECT: 4th Quarter NVDARM Council Regular Meeting

DATE: December 4, 2024

1. The Nueva Vizcaya Disaster Risk Reduction and Management Council (NVDORMC) will conduct its 4th Quarter Regular Meeting on December 20, 2024, 1:30 P.M. at the Highlander Resort, Solano, Nueva Vizcaya.
2. The agenda folder shall be uploaded a day before the meeting and may be accessed through this link: <https://bit.ly/3m5t8Cn> or you may scan:





Republic of the Philippines
Province of Nueva Vizcaya
Municipality of Bayombong
OFFICE OF THE MUNICIPAL MAYOR
Bayombong, Nueva Vizcaya
Contact No. 0928-001-8377



MARCH 19, 2024

DR. JOHN S. PALINA
President – Saint Mary's University
Bayombong, Nueva Vizcaya

Forwarded to

ATTENTION: MR. HANSEN T. VILLANUEVA

Dear Sir and Madam:

19 MAR 2024

Greetings!

Please be informed of an emergency meeting scheduled on March 20, 2024 at 9:00 AM to be conducted at the MDERMO Evacuation Center, Bayombong, Nueva Vizcaya.

AGENDA:

- * Discuss the detail for the Nationwide Simultaneous Earthquake Drill for 1st Quarter of 2024.

Your presence to the said activity is very much anticipated.

Thank you.

Respectfully yours,

Hon. ANTONIO SERGIO G. BAGASAO, CPA
Municipal Mayor/Chairman of MDERMC



BUREAU VOTARIA CHARGED WITH INSTRUCTION AND MANAGEMENT COUNCIL

RESEARCH OF THE UNIVERSITY OF

Futaba

SF Chair, Committee on Climate Change and
 DCE
 SF Chair, Committee on Environment
 Provincial Planning and Development
 Coordinator
 Provincial Health Officer
 Provincial Agricultural
 Provincial P&D Officer
 Provincial Veterinarian
 DENR F&M Officer
 Provincial Officer, DCE
 Chair, GO-PD
 Chair, P&D&A WY
 Chair, Provincial BOM Office
 Provincial Director, DOST
 Provincial Director, TESDA
 Provincial Director, DDI

General Manager, NWEI DO
District Engineer, DPMW 1st DSD
District Engineer, DPMW 2nd DSD
Provincial DPMW Office
Provincial Engineer
Provincial Manager, NWE
Chief, PSA 40
Executive Director, FIDMOS
President, IEP
President, DRI
President, RUCI
President, PLI College
President, King's College
President, Alcorn College

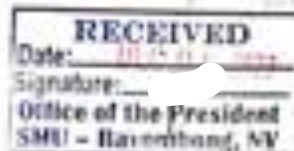
SUBJECT: Joint Prevention and Mitigation and Rehabilitation and Recovery Cluster, IP Quarter Briefing
DATE: November 20, 2023

5. Please be advised that the conduct of the Joint Disaster Prevention and Mitigation Cluster and Disaster Rehabilitation and Recovery Cluster of the Nueva Vizcaya Disaster Risk Reduction and Management Council (NVDMMC) will conduct its 4th Quarter Regular Meeting on December 11, 2021, 9:00 A.M. at the 301 Lualaba-Panukaling Center, Baguio City, Nueva Vizcaya.
6. The agenda items to be discussed are as follows:
- | Agenda | Related Cluster Activity |
|---|--------------------------------|
| Updates on Adaptive Capacity and Resilience Enhancement Project | For information of the Cluster |
| Presentation of Rehabilitation and Recovery Plan for ITY Egg | For information of the Cluster |
| Updates on Housing Inventory | For information of the Cluster |
| Report on the Utilization of DRRM Fund | For information of the Cluster |
7. The agenda items shall be uploaded a day before the meeting and may be accessed through the link: <https://www.scribd.com/document/595666666>
8. For additional information and concerns, you may contact the NVDMMC Secretariat through the number: (0913) 939221.

Sherry Miller, *plunk.*

David A. Taylor
 President, Environmental and Natural Resources Office
 Vice-Chancellor, Student Services and Multicultural Center

EDUARDO D'AMARAL, EE, Eng, MPA
 Principal Planning and Development Coordinator
 Vice-Chairman, Transit Distribution and Recovery Center





Republic of the Philippines
Province of Nueva Vizcaya
Municipality of Bayombong

**Municipal Disaster Risk Reduction
and Management Office**

24 Hours Emergency Hotline: 0917-638-4179
MMDRM.bay5390@gmail.com

We're Here, Because We Care

June 21, 2023

DR. JOHN OCTAVIOUS S. PRUNA
President
Saint Mary's University

Dear Sir,

Greetings,

In reference to the approved NDRRM Memorandum 006 s. 2023 titled "Resumption of face-to-face Conduct of Nationwide Earthquake Drill (NIED), the LGU of Bayombong hereby enjoins all LGU personnel and national government agency personnel present within the LGU to participate in the conduct of the 1st Quarter Simultaneous Drill scheduled on June 23, 2023 (Friday) at 9:00 AM.

During the 1st Quarter NIED conducted by the LGU, we requested the participation of the Saint Mary's University Marian Emergency Response Team (SMU MERT) to assist us in the rescue operations during the simulation exercise. This 1st Quarter scheduled NIED, we have proposed a rescue simulation exercise, and this will require additional rescue manpower.

In this regard, may we request the SMU MERT to be a part of the rescue team for the conduct of the 1st NIED in the LGU of Bayombong.

A meeting of the rescue group will be conducted tomorrow, June 21, 2023 at 9:00 AM, at the MDRRM office for the finalization of the activity. Any representative from invited rescue groups is requested to attend the meeting.

Very much anticipating your approval of this request.

Thank you.

Very truly yours,

LEONARDO M. MUNO, MPA
Acting MDRMAD

Noted:

HON. ANTONIO SERGIO G. BRASASO, CPA
Municipal Mayor

For Mayor's Handwritten V. J. Hamalby

TM AD

22 JUN 2023

Bayombong, Nueva Vizcaya

Dr. Pruna



Republic of the Philippines
PROVINCE OF NUEVA VIZCAYA
-oOo-



NUEVA VIZCAYA WATERSHED MANAGEMENT COMMITTEE (NVWMC)

Capital Compound, Bayombong, Nueva Vizcaya

Email Address: nvwmc@nv.gov.ph

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ANNEXES REFERRED

Annex 1: Information on
Annex 2: Information on

1. Assessment Characterization
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February 28, 2024

DR. JOHN OCTAVIOUS S. PALINA
President
Saint Mary's University
Don Mariano Marcos, Bayombong, Nueva Vizcaya

Dear Sir,

Environmental greetings!

The Nueva Vizcaya Watershed Management Committee (NVWMC) Secretariat are currently updating the NVWMC directories in the preparation and arranging activities for the committee. It requires the name of the agency/institution's head of office, contact details, permanent and alternate representatives to participate in various NVWMC activities and have the authority to make decision on behalf of the agency/institution.

In this regard, may we request your good office to **update your contact information** based on the required information on the sheet attached herewith.

Kindly send your response on or before **March 9, 2024**, through our email nvwmc2019@gmail.com or group chat the NV Watershed Management Committee.

We appreciate your continued support and cooperation.

Respectfully yours,

FOR HENRY R. PATRICIO
Head Secretariat, NVWMC

06-059-24
NVWMC-OCU
RELEASED
DATE: 2-28-2024
BY: [Signature]

ok; pls. update
from their submit
(ala Iya) - Tg.

RECEIVED
Date: **FEB 28 2024**
Signature: [Signature]
Office of the President
SMU - Bayombong, NV

* Permanent rep: Dr. Alan Mangun
Alternate rep: Dr. Ben Zafra

26 FEB 2024

104 - 2/27



Republic of the Philippines
PROVINCE OF NUEVA VIZCAYA
BAYOMBONG



**PROVINCIAL ENVIRONMENTAL AWARENESS AND EDUCATION
TEAM (PEAET)**

NOTICE OF MEETING

December 9, 2024

DR. JOHN OCTAVIOUS S. PALINA
President, Saint Mary's University
This Province

PENARO

RELEASED BY: EA
DATE: 10/10/2024
TIME: 9:16
REF. NO.: 912

Dear Dr. Palina,

Warm Environmental Greetings!

The Provincial Environmental Awareness and Education Team (PEAET) and its Technical Working Group (TWG) is set to convene its meeting on **December 16, 2024 @ 1:00 PM** to be held at Livelihood and Pabalubong Center, Magsaysay, Bayombong, Nueva Vizcaya.

Anent this, may we request you or your permanent representative to attend and discuss the following agenda to wit:

1. Post assessment on the recently conducted activities of the Environmental Awareness and Education Month celebration;
2. Other matters.

For confirmation, kindly contact Ms. Charmaine Joy Navarro @ cellphone number 09958697936 or email us at envdivisionnueva@gmail.com

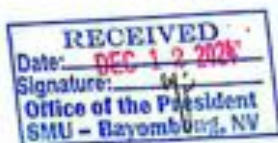
We highly appreciate your continuous support as our partner in this noble endeavor.

Very truly yours,

TITO A. YANQUILLO, RPF
Environment and Natural Resources Officer
Co-Chairperson, PEAET Team

Noted by:

HON. CASTILLO R. HIDALGO, JR.
Indigenous People's Mandates Rights (IPMR) Representative
Co-Chairperson, PEAET Team



* Permanent rep: Dr. Elsa Capocera
Alternate: Dr. Allen Marquez

For Dr. Elsa -
if available, Cor rep.)

12 Dec 24

* no available
representative
12/12



Republic of the Philippines
PROVINCE OF NUEVA VIZCAYA
Bayombong
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PROVINCIAL ENVIRONMENT AWARENESS AND EDUCATION TEAM

Contact No. (053) 222-2222 (ext. 442)

Email add: peaet@nueva-vizcaya.gov.ph

Province Capital Compound, Bayombong, Nueva Vizcaya
Website: <http://nueva-vizcaya.gov.ph>

October 11, 2023

DR. JOHN OCTAVIOUS S. PALINA
President, SMU/ PEAET Member
This Province

PENARC

RELEASED TO: *[Signature]*

DATE: 10-12-23

TIME: 2:45

REF NO: 3051

Dear Dr. Palina,

Warm Environmental Greetings!!!

The Provincial Environment Awareness and Education Team (PEAET) is set to convene its 3rd Meeting on October 20, 2023 @ 1:30 PM to be held at Pasaubong Center, Magsaysay, Bayombong, Nueva Vizcaya.

Ancient this, may we request **Dr. ELSA CAJUCOM** to attend the said meeting to discuss the following agenda to wit:

1. Presentation of the final activities for the Environmental Awareness Month Celebration 2023
2. Action Planning for the activities
3. Other Matters

We highly appreciate your continuous support as our partners in this noble endeavor.

Very truly yours,

SAMUEL G. BALINAWANG
BM, IPMR, Chairperson, PEAET



Forwarded to Dr. Cajucum

Provincial Environment Awareness and Education Team (PEAET)

CONFIDENTIAL / AUTHORIZATION

I WILL ATTEND I CANNOT ATTEND

I hereby authorize _____ as my representative to the meeting. He/she and participants will act on my behalf during the business meeting.

Signature _____
Representative of Member-Owner Related Office



Republic of the Philippines
PROVINCE OF NUEVA VIZCAYA
BAYOMBONG



**PROVINCIAL ENVIRONMENT AWARENESS AND EDUCATION TEAM
(PEAET)**

August 14, 2023

DR. JOHN OCTAVIOUS S. PALENA
President, Saint Mary's University (SMU)
This Province

PENARO

RELEASED BY: CA
DATE: 8/15/23
TIME: 8:14
RECEIVED: 8/15

Sir,

Warm Environmental Greetings!!!

The Provincial Environment Awareness and Education Team (PEAET) is set to convene its 2nd Meeting on August 18, 2023 @ 9:00 AM to be held at Pasabong Center, Magsaysay, Bayombong, Nueva Vizcaya.

Amerit this, may we request you or your permanent representative to attend the said meeting to discuss the following agenda to wit:

1. Discussion of the mechanics for the proposed contested activities for Environmental Awareness November Month Celebration;
2. Other matters.

For any queries, kindly contact For. Treya Ann A. Maria @ cellphone number and 0965-569-7145 or email us at enr@divisionenr.gov.ph

We highly appreciate your continuous support as our partners in this noble endeavor.

Very truly yours,

Permanent rep: Dr. Elia Capistrano

THEO A. PANGULI, RPT
Environment and Natural Resources Officer
Co-Chairperson, PEAET Team

Noted by:

BON SAMUEL C. BALANBRAWANG
Indigenous People's Mandatory Rights (IPMR) Representative
Co-Chairperson, PEAET Team





PMIS No. 1211590 "AI-based Analysis and Development of Wearable Navigating Technology for People with Blindness (Project e-Sense)"

Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE COUNCIL FOR INDUSTRY, ENERGY AND EMERGING
TECHNOLOGY RESEARCH AND DEVELOPMENT
General Santos Avenue, Bicutan, Taguig, City

MEMORANDUM OF AGREEMENT

Project Title: "AI-based Analysis and Development of Wearable Navigating Technology for People with Blindness (Project e-Sense)"

PCIEERD Project No.: 1211590

KNOWN ALL MEN BY THESE PRESENTS:

This MEMORANDUM OF AGREEMENT ("Agreement") is made and entered into by and between:

The **PHILIPPINE COUNCIL FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGY RESEARCH AND DEVELOPMENT (PCIEERD)**, a government agency under the Department of Science and Technology (DOST) created pursuant to the approved rationalization plan in accordance with the provision of Executive Order No. 366, hereinafter referred to as the "**DOST-PCIEERD**", the Funding Agency, with principal office at 4th and 5th Levels, Science Heritage Building, Bicutan, Taguig City, Metro Manila, Philippines represented in this Agreement by its Deputy Executive Director, **ENGR. NIÑALIZA H. ESCORIAL**;

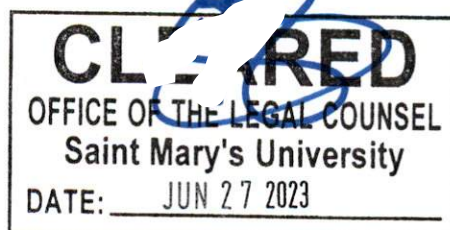
-and-

The **SAINT MARY'S UNIVERSITY (SMU)**, with official address at Bayombong, Nueva Vizcaya, Philippines, represented herein by its **University President, DR. JOHN OCTAVIOUS S. PALINA**, herein referred to as the "**SMU**" for the implementation of the above-mentioned project;

WITNESSETH:

WHEREAS, the above-mentioned research and development (R&D) project hereinafter referred to as the **PMIS No. 1211059 "AI-based Analysis and Development of Wearable Navigating Technology for People with Blindness (Project e-Sense)"** has been thoroughly evaluated by **DOST-PCIEERD** and was duly approved by the **PCIEERD Governing Council**, on April 25, 2023 through **GC Resolution/Confirmation No. 89, Series of 2023**;

NOW THEREFORE, for and in consideration of the foregoing premises, the **PARTIES** hereby agree to the following terms and conditions:



IV. PROJECT DURATION

The Project shall be completed within a period of **Twelve (12) months** and shall commence upon receipt of funds by the **SMU**.

V. FUND RELEASE AND UTILIZATION

The financial grant shall be released by the **DOST-PCIEERD** to the **SMU**, subject to applicable rules and regulations and availability of funds.

The **SMU** shall abide by the applicable rules and regulations on disbursement and utilization as mandated by the **DOST-PCIEERD** and existing government accounting and auditing rules and regulations, to include in particular but not be limited to, rules on direct and indirect costs.

VI. PROJECT PROPERTIES

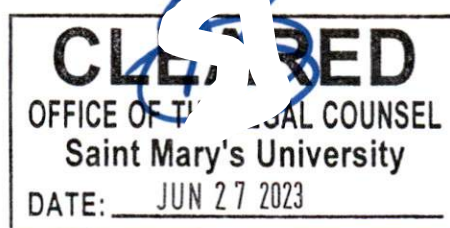
Project References: Mention of above-stated project in any and all publication, literature and information material in whatever media form shall state reference to the **DOST-PCIEERD** as Funding Agency, and **SMU** as the Implementing Agency. Failure on the part of any party to comply with this provision shall be ground for written documented protest; further, repeated non-compliance with this provision by one party shall allow the aggrieved party to inform affected third parties in writing and require proper attribution through publication, with cost charged against the offending party.

Intellectual Property (IP): Ownership and utilization of IPs and Intellectual Property Rights (IPRs) resulting from the project shall be governed by the Philippine Technology Transfer Act of 2009 (Republic Act No. 10055). The **SMU** and the Project Leader acknowledge that they have read, understood and hereby agree to be bound by the provisions of the said Act. In case of conflict with other laws, rules or regulations, the said Act shall prevail.

Records of Equipment: The Property Officer/s of the **DOST-PCIEERD** and **SMU** shall maintain a complete and updated record of all equipment purchased out of the grant funds. Inventory of equipment shall be conducted by the **DOST-PCIEERD** during the implementation of the project.

Ownership of Equipment: The **DOST-PCIEERD** shall initially own all equipment, including but not limited to the fabricated equipment, under its account until it may deem fit to transfer the same to other projects or implementing institutions, subject to existing government accounting and auditing rules. The **SMU** shall be accountable for the equipment duly receipted until the physical transfer/donation or disposition of ownership, as determined by the **DOST-PCIEERD**.

Upon request, the ownership of equipment may be transferred subject to the approval from **DOST-PCIEERD**. The **DOST-PCIEERD** reserves the right to transfer ownership of such government equipment subject to existing government accounting and auditing laws, rules and regulations.



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ENGR. ANGELINO A. PIMENTEL
Project Leader, SMU

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DR. RUBY RATERIA
Chief SRS, PCIEERD

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DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, PCIEERD

I. OBJECTIVES OF THE PROJECT

General objective:

The main objective of this study is to design and develop a wearable navigating technology for people with blindness using high-quality waterproof ultrasonic sensors that can notify via sound and/or vibration.

Specific objectives:

Specifically, the project aims to:

1. To design and customize the system for the wearable navigating technology module
2. To develop wearable navigating technology using ultrasonic waterproof sensors and microcontrollers
3. To test the timeliness, accuracy and reliability of the system of wearable navigating technology for waterproof sensors using an oscilloscope
4. To analyze the data gathered using inherently multioutput machine learning regression algorithms

II. OPERATION OF THE PROJECT

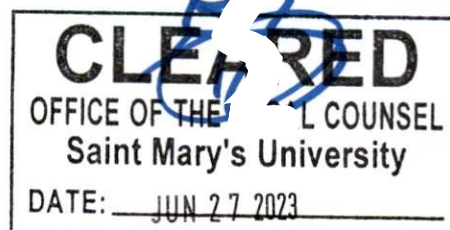
The Project shall be undertaken by the SMU in accordance with the approved project proposal (made part hereof as Annex "A") and the Revised DOST-GIA Guidelines (A.O. 011 S. of 2020) and DOST A.O. 014, s. of 2019 (the DOST M&E Protocol).

III. FUNDING ASSISTANCE

The **DOST-PCIEERD** shall provide grant in the amount of **One Million Pesos Only (PhP 1,000,000.00)** for **Twelve (12) months** to be expended based on the scheduled release of funds and as allocated in the approved Project Line-Item Budget (made part hereof as Annex "B"). Guidelines on the Grants-in-Aid Program as may be determined by the **DOST-PCIEERD** shall govern the implementation of the Project.

The activities, operation of books of accounts and records of the projects shall be subject to reasonable inspection by authorized representatives of **DOST-PCIEERD**. The **DOST-PCIEERD** reserves the right to discontinue the projects or its assistance at any time for cause as determined by the **DOST-PCIEERD**, to include but not be limited to, violation of the Grant Agreements, fraud or falsity in the SMU's warranties and representation as provided by the proponent or upon determining that the results which were obtained or reasonably expected do not justify further activity.

All income/interest derived from the program/projects, if any, and all unexpended balance shall be reported immediately and remitted to **DOST-PCIEERD** by the SMU after the termination of the program/projects.



ENGR. ANGELINO A. PIMENTEL
Project Leader, SMU

DR. RUBY RATERIA
Chief SRS, PCIEERD

DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, PCIEERD

VII. PROJECT DATABASE

The **SMU** shall periodically update the project details, periodic reports and other reportorial requirements, and project-related accomplishments on the **DOST-PCIEERD's** Project Monitoring and Information System (PMIS) database.

VIII. ACCOMPLISHMENT AND FINANCIAL REPORTS

The **SMU** shall submit to the **DOST-PCIEERD** all technical and financial reports as mandated by the **DOST-PCIEERD**, pursuant to applicable rules and regulations. The **GSU** shall likewise acknowledge the assistance of the **DOST-PCIEERD** in relevant project-related activities.

IX. GENERAL PROVISIONS

Amendment: This Agreement may only be amended in writing and by mutual consent of both parties.

Authority to Sign: Each person signing this agreement represents and warrants that he/she is duly authorized to sign this agreement. In the unlikely event that the person signing for the other party is not authorized to do so, the latter agrees to hold the other party/ies harmless for any cause or consequence of the absence/lack of authority to sign.

Arbitration: All disputes arising between and among the parties as to interpretation, operation or effect of any clause in the Agreement or any other difference between the parties shall first be resolved amicably. In case of failure, the Rules on Alternative Dispute Resolution (ADR) between national government agencies under Republic Act No. 9285 shall apply.

Indemnification: Each party shall indemnify, hold free and harmless, and defend at its own expense the other party/ies from and against all suits, claims, demands, and liabilities of any nature or kind, arising out of acts or omissions of the former, in the performance of any activity in connection with the program/project, including those that may be initiated by its employees, workers, agents, subcontractors, or by any other entity or persons against said party by reason of or in connection to the program/project.

Venue: The parties further agree that in case of legal action requiring court litigations that may arise in the enforcement of this Agreement, the venue of court litigation shall be in the Court of Competent Jurisdiction sitting in Taguig City only.

Separability Clause: If any part or provision of this Agreement is held invalid or unconstitutional, the other provisions not affected thereby shall remain in force and in effect.

X. COMPLIANCE WITH LAWS AND POLICIES

The **SMU** shall comply with the provisions of the Philippine Technology Transfer Act of 2009 (Republic Act No. 10055) and its Implementing Rules and Regulations (Joint DOST-IPO Administrative Order No. 02-2010), Guidelines on Intellectual Property Valuation, Commercialization and Information Sharing (Joint DOST-DTI-IPOPHL A.O. No. 001 s. 2012), DOST Intellectual Property Policy (DOST A.O. No. 004 s. 2015), Technology



ENGR. ANGELINO A. PIMENTEL
Project Leader, SMU

DR. RUBY RATERIA
Chief SRS, PCIEERD

DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, PCIEERD

ACKNOWLEDGEMENT

REPUBLIC OF THE PHILIPPINES}
CITY OF TAGUIG }S.S.

BEFORE ME, A Notary Public for and in the City of TAGUIG CITY JUL 07 2023
of _____ personally appeared:

NAME	Government Issued Identification Passport No.:	Date/Place Issued
ENGR. NIÑALIZA H. ESCORIAL Deputy Executive Director, PCIEERD	P4278835B	January 2, 2020, DFA, Manila
DR. JOHN OCTAVIOUS S. PALINA University President SMU	10665109700	July 11, 2019, BIR, Nueva Vizcaya
ENGR. ANGELINO A. PIMENTEL Project Leader, SMU	P0098950C	May 16, 2022, DFA, Pampanga

Known to me as the same persons who executed the foregoing Memorandum of Agreement and they acknowledged to me that the same is their free and voluntary act and deed and that of the entities they respectively represent.

This instrument, consisting of six (6) pages, including this page whereon this Acknowledgment is written, are signed by the parties together with their instrumental witnesses on each and every page thereof.

TO THE TRUTH OF FOREGOING, witness now my hand and seal on the date and place first above written.

Doc. No. 452
Page No. 92
Book No. XII
Series of 1023

RACHEL G. YAW. COPANUT-PANGWI
NOTARY PUB UNTIL Dec. 31, 2023/TAGUIG CITY
Not. Com. Appt. No. 18 (2022-2023)
2/F, Pacura Bldg. 427 M.L. Q. St., Lower Bicutan, Taguig City
PTR No. A-5675511/1-4-2023, Taguig City
IBP O.R. No. 181027-12/27/2022, RSM
MCLE Comp. No. VII-0007104/11-22-2021
ROLL No. 61627

ENGR. ANGELINO A. PIMENTEL
Project Leader, SMU

DR. RUFFY RAIVERTA
Chief, R&S, PCIEERD

DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, PCIEERD

ENGR. ANGELINO A. PIMENTEL
Project Leader, SMU

Transfer Protocol (DOST A.O. No. 009 s. 2015), Intellectual Property Management Protocol (DOST A.O. No. 004 s of 2016), Guidelines on the Constitution of the Fairness Opinion Board (FOB) and the Issuance of Fairness Opinion Report (FOR) under R. A. No. 10055 (DOST Memorandum Circular No. 003 s. of 2015), Guidelines on the Fast-Tracked Issuance of FOR under R. A. No. 10055 (DOST M. C. No. 007, s. of 2016), Adoption of the DOST Data Sharing Policy (DOST A. O. No. 003 s. of 2015) and its Implementing Guidelines, the DOST Administrative Order No. 009 Series of 2017 as amended by DOST Administrative order No. 011 Series of 2020 (Revised DOST-GIA Guidelines) and other applicable laws, rules and policies.

IN CONSIDERATION of the mutual covenant set forth above, witness our signatures this _____ day of _____, 2023, at _____, Philippines.

Funding Agency:

**PHILIPPINE COUNCIL FOR INDUSTRY, ENERGY AND EMERGING
TECHNOLOGY RESEARCH AND DEVELOPMENT (PCIEERD)**

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, DOST-PCIEERD

Implementing Agency:

SAINT MARY'S UNIVERSITY (SMU)

DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

Witness:

DR. RUBY RATERTA
Chief SRS, DOST-PCIEERD

Certified Funds Available:

MARISSA G. DALAY
Chief Accountant, DOST-PCIEERD

DR. RUBY RATERTA
Chief SRS, PCIEERD

DR. JOHN OCTAVIOUS S. PALINA
University President, SMU

ENGR. NIÑALIZA H. ESCORIAL
Deputy Executive Director, PCIEERD



REGION II TRAUMA AND MEDICAL CENTER

SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

MEMORANDUM OF AGREEMENT

KNOWN ALL MEN BY THESE PRESENTS:

This AGREEMENT is made and entered into this ____ day of ____ 2023 at Solano, Nueva Vizcaya, Philippines, by and between:

REGION II TRAUMA AND MEDICAL CENTER, a duly licensed and accredited tertiary level health care institution organized and existing under and by virtue of the laws of the Republic of the Philippines with principal address at **Brgy. Magsaysay, Bayombong, Nueva Vizcaya** represented by its **Medical Center Chief II**, **RAY P. SUANDING, MD, MHA, FPCP, FPCCP** hereinafter referred to as the "FIRST PARTY";

-and-

The **SAINT MARY'S UNIVERSITY OF BAYOMBONG**, an educational institution, with principal office address at **Don Mariano Marcos, Bayombong, Nueva Vizcaya** and represented by its University President, **JOHN OCTAVIOUS S. PALINA Ph D.** herein referred to as the "SECOND PARTY";

WITNESSETH: That-

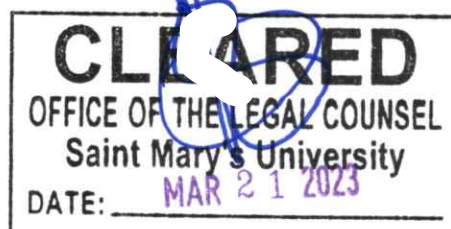
WHEREAS, both parties are cognizant of the fact that dependence on paid blood donation system through commercial blood banks has unduly exposed the Filipino people to risks of dreaded diseases such as malaria, syphilis, hepatitis B & C and HIV/AIDS and other blood transfusion transmissible diseases;

WHEREAS, one of the best ways to prevent contracting blood transfusion transmissible diseases is through voluntary blood donation;

WHEREAS, the **SECOND PARTY** has expressed its intention to provide assistance through the dissemination of relevant information that could enhance awareness on the necessity of voluntary blood donation;

NOW THEREFORE, for and in consideration of the foregoing premises, the **Parties** hereto agree as follows:

1. The **SECOND PARTY** shall hold voluntary blood donation activities at its premises involving its employees, students and constituents where applicable, and their family members or dependents and friends, the schedule of which shall be duly posted in the **Offices** concerned;



JOHN OCTAVIOUS S. PALINA, Ph D.
University President

RAY P. SUANDING, MD, MHA, FPCP, FPCCP
Medical Center Chief II

MICHELLE CLAIRE R. MAQUIGUIS, MD, FPSP
Head, Department of Pathology

AMABEL A. CALUB, MD, FPSF
Head, Blood Bank Section

MOISES ALEXANDER T. ASUNCION, Ph D
Vice President for Academic Affairs

GERARD J. FRANCIS, Ph D
NSTP Coordinator



REGION II TRAUMA AND MEDICAL CENTER

SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

2. Prior to the scheduled blood donation activities, there shall be a promotion and awareness campaign, which shall be arranged by the **SECOND PARTY** in coordination with the **FIRST PARTY**;

3. The **FIRST PARTY** shall provide the **SECOND PARTY** with all the necessary supplies and technical equipment for said blood donation activities as well as the necessary personnel for the blood extraction activities;

4. All potential blood donors shall be physically examined by the **FIRST PARTY** to determine their fitness for blood donation. The result of the examination shall be kept by the **FIRST PARTY** in strict confidentiality.

5. The **FIRST PARTY** shall further assume sole responsibility for the following:

- a. Determination of the physical health condition of potential blood donors;
- b. Blood extraction;
- c. Handling and storage of the extracted blood;
- d. Determination of the medical use of the extracted blood;

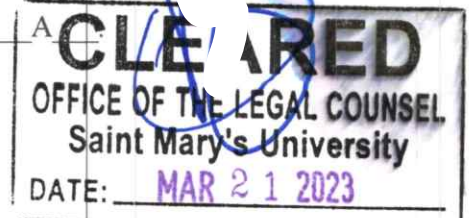
6. Both parties (**FIRST PARTY** and **SECOND PARTY**) and its officials and employees, shall be free from any and all liability, damages or prejudice, which the blood donors may suffer under this Agreement. Accordingly, **BOTH PARTIES** shall ensure that all potential blood donors sign the necessary written waiver before the blood extraction to absolve the parties herein from any liability, damages or prejudice that may result from the voluntary blood donation;

7. It is understood that the **SECOND PARTY** does not guarantee the fitness for any medical purpose of the blood extracted from the blood donors or whether the same is free from any and all diseases, defects and contamination;

8. The **SECOND PARTY** shall have to choose on the following options:

- a. **50%** of the total blood units collected (after successful donation and serological testing for TTI's has been done), which shall be free of charge for the screening fee and to be made available as needed upon requisition by its authorized personnel.
- b. **100%** of the total blood units collected (after successful donation and serological testing for TTI's has been done), shall be made available as needed upon requisition by its authorized personnel. Screening fee shall be charged per blood unit requested. The **Second Party** shall assume the payment of the screening fee.

9. The **SECOND PARTY** hereby chooses option letter



JOHN OCTAVIOUS S. PALINA, Ph.D.
University President

RAY P. SUANDING, MD, MHA, FPCP, FPCCP
Medical Center Chief II

MICHELLE CLAIRE R. MANION, MD, FSP
Head, Department of Pathology

AMABEL A. CALUB, MD, FPS
Head, Blood Bank Section

MOISES ALEXANDER MASUNCION, Ph.D.
Vice President for Academic Affairs

SHERVIN K. MARCIANO
LTP Coordinator

JOHN OCTAVIOUS S. PALINA, Ph.D
University President



REGION II TRAUMA AND MEDICAL CENTER



SAINT MARY'S UNIVERSITY

BAYAMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

10. This agreement shall be valid for a period of three (3) years reckoned from the date of the execution and renewable for another three (3) years at the option of the parties upon written request and mutual consent. However, this agreement may be terminated by either party for any violation of such terms and conditions after observance of due process or for any just or valid grounds upon written notice to the other party or may be terminated by mutual agreement for any cause.

11. The provisions of the school's manual, policies, advisories, declarations, instructions, and other applicable declarations of the University shall have a suppletory application to this Agreement.

If any provision of this Agreement is held invalid or unlawful, the other provisions not affected hereby shall remain valid and subsisting.

RAY P. SUANDING, MD, MHA, FPCR, FPCCP
Medical Center Chief II

MICHELLE CLAIRE R. MANIOQUE, MD, FPSP
Head, Department of Pathology

AMABEL A. CALUB, MD, FPSP
Head, Blood Bank Section

MOISES ALEXANDER CASUNCION, Ph.D
Vice President for Academic Affairs

SHERWIN A. MARCIANO
NSTP Coordinator





REGION II TRAUMA AND MEDICAL CENTER



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

IN WITNESS WHEREOF, the Parties have hereunto signed this Agreement on the day and at the place above-written.

By:

JOHN OCTAVIOUS S. PALINA, Ph D.
President

SAINT MARY'S UNIVERSITY
(Partner Agency/Institution)

By:

RAY P. SUANDING, MD, MHA, FPCP, FPCCP
Medical Center Chief II

REGION II TRAUMA AND MEDICAL CENTER

SIGNED IN THE PRESENCE OF:

AMABEL A. CALUB, MD, FPSP
Head, Blood Bank Section

MICHELLE CLAIRE R. DELA CRUZ, MD, FPSP
Head, Department of Pathology

DR. MOISES ALEXANDER T. ASUNCION
Vice President for Academic Affairs

SHERWIN A. MARCIANO
NSTP Coordinator

ACKNOWLEDGEMENT

REPUBLIC OF THE PHILIPPINES)
_____) S.S.

BEFORE ME, a Notary Public for and in _____, Philippines, on this ____ day of _____ 20__ personally appeared the following:

Name	Valid ID	Date / Place Issued
_____	_____	_____
_____	_____	_____

both known to me and to me known to be same persons who executed the foregoing instrument and who acknowledge to me that the same is their free act and voluntary deed and that of the entities they respectively represent.

This instrument consisting of three (3) pages, including this page bearing the acknowledgement has been signed by the parties and their instrumental witnesses on each and every page thereof and relates to a Memorandum of Agreement.

WITNESS MY HAND AND NOTARIAL SEAL affixed at the place and on the date first above written.

Doc. No. 1843
Page No. 52
Book No. 11
Series of 2023

May 19, 2023

GEOFFREY ANGELO V. NOSCAL
NOTARY PUBLIC
BAYOMBONG, NUEVA VIZCAYA
NOTARIAL COMMISSION NO. 18-21
IBP NO. 199691; 1-19-22
PTR NO. 2600310; 1-3-22
ROLL NO. 66137
NR 11-VI-0004355

250790
2706782



**PHILIPPINE RED CROSS
NUEVA VIZCAYA CHAPTER**



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This contract entered into by and between:

The **PHILIPPINE RED CROSS NUEVA VIZCAYA**, an independent, autonomous, non-government organization duly existing by virtue of the laws of the Republic of the Philippines, with its National Headquarters located at No. 37 EDSA corner Boni Avenue, Mandaluyong City and its local office located at Capitol Compound, Bayombong, Nueva Vizcaya represented by its **Board of Director Chairman, MA. NONETTE O. TIAM**, herein after referred to as the "**PRC - NV**".

-and-

SAINT MARY'S UNIVERSITY OF BAYOMBONG, with principal office at Don Mariano Marcos, Bayombong, Nueva Vizcaya, and represented in this act by **DR. JOHN OCTAVIOUS S. PALINA**, University President, hereinafter referred to as "**SMU**"

WITNESSETH

Whereas, the **PRC** operates a network of blood service facilities nationwide, with capabilities to provide manpower and logistics support to **Saint Mary's University of Bayombong**, necessary for mobile blood donation (MBD) activities as well as issuing blood to members in need dependent on the blood service facility categories.

NOW, THEREFORE, for and in consideration of the foregoing, the parties hereto agree, as follows:

1. The **PRC** and **SMU** shall have mutual coordination for the conduct of mobile blood donation at least twice a year in places convenient to both parties. **SMU** will schedule a regular blood donation activity to ensure continuous and ready availability of blood for its members for the whole year. **SMU's** representatives, **SHERWIN A. MARCIANO**, shall provide the **PRC-NV** in advance, a scheduled date, a convenient venue, and a number of donors prior to Mobile Blood Donation activities.
2. The **PRC-NV** shall undertake the necessary screening procedures, provide sufficient supplies, materials, and equipment for blood donation activities in coordination with **SMU's** representative, **Mr. Sherwin A. Marciano**,
3. The **PRC-NV** and **SMU** through its representative, **Mr. Sherwin A. Marciano**, shall undertake the promotion and dissemination of information to generate support and participation among its members, families, and the public;

CLEARED
OFFICE OF THE LEGAL COUNSEL
DATE: FEB 22 2023



**PHILIPPINE RED CROSS
NUEVA VIZCAYA CHAPTER**



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

4. In cases of emergencies or usual blood needs, the **PRC-NV** shall undertake appropriate measures, through coordination with designated **SMU's representative-Mr. Sherwin A. Marciano**, to provide and make available sufficient blood units to its members upon presentation of necessary documents such as but not limited to the following:
 - (a) **Certificate of Indigency** from the barangay where he/ she is a resident or Certificate of Endorsement from **SMU**;
 - (b) **Blood request form** from the hospital where the Patient/s is/are admitted;
 - (c) Request letter addressed to the Governor for the payment of screening fee;
 - (d) photocopy of any valid Identification Card of the patient or his/her relative or representative;
 - (e) **Blood Samaritan Referral form** duly signed/ approved by the **AUTHORIZED SIGNATORY OF SMU**.
5. **Saint Mary's University's Representative Mr. Sherwin A. Marciano** in coordination with **PRC-NV**, will maintain a pre-determined stock level of blood at their blood service facilities (BSFs) intended solely for issuance and distribution to its members. The (name of partner) through its representative, will monitor and make a report on the status of blood stocked at PRC BSFs.
6. In the absence of needed blood type or blood component, SMU will refer patient(s) to nearby **PRC BASF** and the chapter will facilitate payment of Blood Processing Fee.
7. If the patient is admitted in a hospital outside the province of Nueva Vizcaya, the **PRC-NV**, upon receipt of blood request and referral form from the **Saint Mary's University's representative, Sherwin A. Marciano**, will coordinate to PRC BSF nearest to the hospital where the patient is admitted including Blood Processing Fee
8. In the event that the stocked blood units are about to expire, the PRC will have the authority to dispense said blood units to other clients/hospitals for purpose of humanitarian assistance;
9. The **PRC-NV** shall provide assistance to employees and dependents of **Saint Mary's University's representative, Mr. Sherwin A. Marciano**, members depending on the availability of blood. A corresponding blood processing fee is collected from every recipient unless specified coverage by partner under the Blood Samaritan Program.
10. The **PRC-NV** and **SMU** shall maintain a system of liaison thru designated representative/s to maintain effective and efficient coordination in the implementation of this MOA.
11. The **SMU** shall defend, indemnify and hold **PRC-NV** harmless from and against, and compensate PRC for any and all losses, damages, liabilities, claims, judgments, settlements, fines, costs and expenses (including attorney's fees and expenses of investigation) of any nature whatsoever incurred to, or arising out of, or in connection with the **Saint Mary's University's** breach of any of the terms and

CLEARED
OFFICE OF THE COUNSEL
DATE: _____



**PHILIPPINE RED CROSS
NUEVA VIZCAYA CHAPTER**



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

conditions herein, or falsity of or inaccuracy in any its representations or warranties.

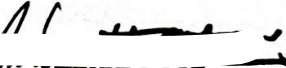
12. PRC-NV and SMU agree that any information or data Containing Personal Information or Sensitive Personal Information (collectively, "Personal Data"), as defined under Republic Act No. 10173, otherwise known as the Data Privacy Act of 2012 ("Data Privacy Act), Implementing rules and regulations, and related issuances by the National Privacy Commission ("NPC"), which the Parties, or their related parties, may obtain, collect, receive, transmit, derive, process or otherwise have access to directly or indirectly, during the negotiation, execution, implementation or termination of this Agreement shall be subject to the provisions of the Data Privacy Act, its implementing rules and regulations and the relevant issuances of the NPC.


13. That in case of violation of the provision of this Memorandum of Agreement, earnest effort for settlement shall be conducted between the parties prior to the filing of any legal remedy before the courts of law;

Venue of all legal actions or litigations arising by virtue of this Memorandum of Agreement shall be brought exclusively within the territorial jurisdiction of the Province of Nueva Vizcaya whatever cause of action it might be, to the exclusion of all other venues;


14. This agreement shall take effect on the day and date of its execution and shall continue for one (1) year; Provided, that the same may be renewed by either Party for an equal or greater period by providing the other Party with a written notice within thirty (30) days prior to the expiration of the same; Provided, further, that the Parties may terminate this Agreement on the basis of breach or default by any of them by providing the defaulting or breaching Party with a written notice within fifteen (15) days from such default or breach and the defaulting or breaching Party fails to remedy such default or breach within five (5) days from receiving the written notice of the same.


IN WITNESS WHEREOF, the parties hereunto affixed their signature this _____ at _____.


MA. NONETTE O. TIAM
Chairman, Board of Directors
PRC- Nueva Vizcaya Chapter


DR. JOHN OCTAVIOUS S. PALINA
President
Saint Mary's University
Bayombong, Nueva Vizcaya

Signed in the presence of:


RANDY OBLANCO
Chapter Administrator
PRC Nueva Vizcaya Chapter


SHERWIN A. MARCIANO
NSTP Coordinator
SMU, Bayombong, Nueva
Vizcaya

CLEARED
OFFICE OF THE LEGAL COUNSEL
FEB 27 2024



**PHILIPPINE RED CROSS
NUEVA VIZCAYA CHAPTER**



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES
NATIONAL SERVICE TRAINING PROGRAM

Republic of the Philippines)
Province of Nueva Vizcaya) S.S.

ACKNOWLEDGEMENT

BEFORE ME, a Notary Public for and in (address) personally appeared the following persons:

NAME	GOV'T ISSUED ID NO.	DATE/PLACE ISSUED/EXPIRATION DATE
DIR. MA. NONETTE O. TIAM	LTO-B0 1-99-033680	5/27/2023
DR. JOHN OCTAVIOUS S. PALINA	TIN-106-651-097-000	7/11/2017-Bayombong, Nueva Vizcaya

All known to me and to me known to be the same persons who executed the foregoing instrument which they acknowledge to me to be their free and voluntary act and deed and that of the entities they represent. This Instrument refers to a Memorandum of Agreement between PRC and (name of partner) consisting of ____ (.) pages including this page where this Acknowledgment is contained, signed by the parties and their instrumental witnesses on each and every page thereof sealed with my Notarial seal.

WITNESS MY HAND AND SEAL on the date and place first above written.

NOTARY PUBLIC

CLARIZA S. IDIO

Notary Public until December 31, 2023
Comm. No. 02-21 (VI), 03/10/22; Nueva Vizcaya
PTR No. 2707287, 01/03/23; Nueva Vizcaya
IBP Lifetime No. 15943, 01/05/17; Nueva Vizcaya
Roll No. 60779, 03/26/12; Nueva Vizcaya
MCLE Compliance No. VII-0011073 until 04/14/25

Doc No. 192
Page No. 46
Book No. XIV
Series of 2023

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This agreement made and entered into this ___ day of March 2024 at Bayombong, Nueva Vizcaya and among:

The **MUNICIPAL LGU OF BAYOMBONG**, a local government unit established and existing under the laws of the Republic of the Philippines with office at the Municipal Building duly represented herein by the Municipal Mayor, the **Hon. ANTONIO SERGIO G. BAGASAO**, hereinafter referred to as the **MUNICIPALITY**.

-and-

The **SAINT MARY'S UNIVERSITY OF BAYOMBONG**, a duly recognized and authorized higher education institution with office address at Ponce Street, Bayombong, Nueva Vizcaya, duly represented herein by the President, **DR. JOHN OCTAVIOUS S. PALINA**, hereinafter referred to as the **UNIVERSITY**.

WITNESSETH THAT:

WHEREAS, pursuant to the relevant provisions of Republic Act No. 9003, otherwise known as the Ecological Solid Waste Management Act of 2000, Local Government Units (LGUs) are primarily responsible for the implementation and enforcement of the provisions thereof within their respective jurisdictions:

WHEREAS, the **MUNICIPALITY** and the **UNIVERSITY** desire to establish an arrangement for the disposal of waste generated from said office, provided that proper segregation and reduction of waste be implemented:

NOW THEREFORE, for, in consideration of the foregoing premises, and by way of formalizing and confirming their respective roles and obligations, the Parties hereby agree as follows:

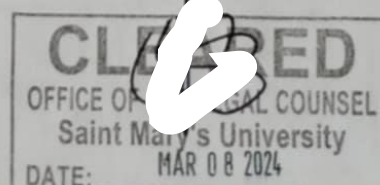
I. SUBJECT MATTER/OBJECTIVE

The Parties agree that this Memorandum of Agreement shall have for its overriding objective the effective management, to include segregation at source, establishment of MRFs for recyclable and biodegradable wastes and collection, transport, and disposal of segregated wastes.

II. OBLIGATIONS OF THE PARTIES

A. Obligations of the MUNICIPALITY

1. Conduct collection without delay of PROPERLY SEGREGATED RESIDUAL WASTE every Wednesday and RECYCLABLE WASTE every Thursday ONLY at the College and Junior High School/Science High School (JHS/SHS) Departments.
2. Monitor and evaluate the enforcement of proper segregation of waste at source according to the following categories:
 - Biodegradable;
 - Recyclable;
 - Residuals;
 - Special/Hazardous
3. Ensure segregated collection and transport of the wastes to approved facilities.



4. Guarantee the thorough collection of ALL waste types and ensuring that the areas from which waste is collected are left in a clean and sanitary condition.

B. Obligations of the UNIVERSITY

1. Ensure the implementation of proper waste segregation in the facility
2. Ensure that wastes to be collected by the MUNICIPALITY are properly segregated.
3. Ensure that the **UNIVERSITY** implements the following measures:
 - a. Waste segregation and waste minimization at source to include waste reduction, re-use, and recycling.
 - a.1 Establish receptacles and enforce proper segregation of waste at source according to the following categories:
 - o Biodegradable;
 - o Waste papers,
 - o Other recyclable;
 - o Residual; and
 - o Special waste as defined under RA 9003.
 - a.2 Establish within the university's compound a Materials Recovery Facility for recyclable wastes.
 - a.3 Establish within the facility's compound a Temporary Containment Area for residual wastes.
 - b. Ensure that the segregated wastes for disposal are placed in sacks or receptacles prescribed by the MUNICIPALITY.
 - c. Pay to the concerned LGU the prescribed environmental fees based on Updated and Approved Ten Year SWM Plan, Municipal Ordinance No. 05 series of 2004 and Municipal Environment Code of 2009.

1. 375.00 – per truckload *
2. 200.00 – Environmental Fee/month *

*Subject to increase of Tipping Fee and Environmental Fee/month upon the approval of the updated Municipal Ordinance on Fees and Charges (Revenue Code)

- d. Ensure general cleanliness within the facility's compound and its premises.

V. 'NO SEGREGATION NO DISPOSAL'

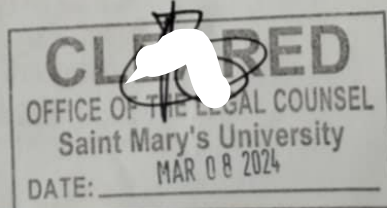
The Parties hereby agree that the MUNICIPALITY shall not allow disposal of non-segregated waste at the Bayombong SLF by the **UNIVERSITY**.

IV. AMENDMENT

This Agreement may be amended, altered, modified, or supplemented by written agreement of all the Parties.

V. ASSURANCE OF AUTHORIZED SIGNATORIES

Each party warrants that the individual signing this Memorandum of Agreement on its behalf is duly authorized to do so and that this Agreement constitutes a legal, valid, and binding obligation of the party, enforceable against it in accordance with its terms.



VI. ENTIRE AGREEMENT

This agreement embodies the whole understanding and agreement between the Parties, superseding and nullifying all prior verbal or written agreements or understandings not expressly incorporated herein. Any prior arrangements, agreements, representations, or undertakings are hereby overridden and of no continuing effect.

VII. TERMINATION

This Agreement may be terminated by either party if the other fails to fulfill its obligations as outlined herein. In such an event, the aggrieved party shall issue a written notice of non-performance, detailing the specific failures. The party in breach will then have thirty (30) days from receipt of the notice to rectify the specified issues. Failure to remedy the cited failures within this period grants the aggrieved party the right to terminate the agreement immediately upon issuing a second written notice.


VI. EFFECTIVITY

This Agreement shall take effect upon the signing hereof and shall remain in full force and effect unless terminated as provided in Section V or by written agreement of the Parties.

IN WITNESS WHEREOF, the Parties have hereunto affixed their signatures on the date and at the place first above written.

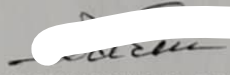
THE LGU OF BAYOMBONG

Represented By



ANTONIO SERGIO G. BAGASAO, CPA
Municipal Mayor

SAINT MARY'S UNIVERSITY

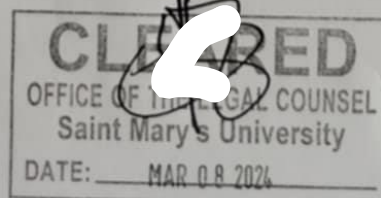
Represented By


DR. JOHN OCTAVIOUS S. PALINA
University President

Signed in the presence of:


MARILYN A. JUAN
MGADH, MENRO


DR. ZAYDA S. ASUNCION
Principal, SMUJHS/SHS



ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES)
_____) S.S

BEFORE ME a Notary Public for and in _____ this _____
day of _____ at _____ personally
appeared MAR 26 2024

Name	CTC No./ID No.	Issued On	Issued At
Antonio Sergio G. Bagasao	PHI - 94 - 030058	SEPT. 9, 2019	BAY., P.V.
Dr. John Octavious S. Palina	21594653	FEB. 4, 2022	Solano, P.V.

known to me and to me known to be the same persons who executed the foregoing instrument and acknowledged to me that the same is their free and voluntary act and deed and of the offices they represent.

This instrument consisting of four (4) pages, including this page, refers to the Memorandum of Agreement between the LGU of BAYOMBONG, NUEVA VIZCAYA and SAINT MARY'S UNIVERSITY, Bayombong, Nueva Vizcaya and has been signed by the parties and their witnesses on each and every page thereof.

IN WITNESS WHEREOF, I hereby affix my signature and notarial seal on the date and at the place above written.

Doc. No. 266 :
Page No. 53 :
Book No. 01 :
Series of 2024.

ATTY. JOHN SERGIO G. BAGASAO
NOTARY PUBLIC
UNTIL DECEMBER 31, 2025
PTR NO. 281897 / NOV. 17, 2023 (FOR 2024)
IBP LIFE MEMBER NO. 9213445 07/26/13
ROLL NO. 32535 / TIN 122-386-908
MCLE COMP. NO. VII-0017407 (VALID UNTIL 4/14/2026)
NOTARIAL COMMISSION NO. II-23
BAYOMBONG, NUEVA VIZCAYA

MEMORANDUM OF AGREEMENT

This agreement made and entered into by and between:

ST. MARY'S UNIVERSITY OF BAYOMBONG, a private Catholic education institution duly organized and existing in accordance with the laws of the Republic of the Philippines with office address at Bayombong, Nueva Vizcaya with TIN No. 000-542-627-000, represented in this act by its President, **Dr. John Octavious S. Palina**, hereinafter referred to as the **FIRST PARTY**,

-and-

R2 SAFEWASTE MANAGEMENT SERVICES, a hazardous waste transporter duly organized and existing in accordance with the laws of the Republic of the Philippines with business address at Ipil Street, District 1, Cauayan City, Isabela, represented in this act by its Proprietor, **Mr. Samuel B. Castillejos**, hereinafter referred to as the **SECOND PARTY**,

WITNESSETH: That

WHEREAS, the **SECOND PARTY** is a **DENR-EMB** registered transport service provider of Hazardous Wastes with registration number **OL-TP-R2-31-000044** operating in compliance with the laws, rules and regulations on environmental protection of the Republic of the Philippines;

WHEREAS, the **FIRST PARTY** seeks to engage the services of the **SECOND PARTY**, recognizing its established credibility and expertise in handling hazardous waste transportation;

WHEREAS, the **SECOND PARTY** warrants to the **FIRST PARTY** that the hazardous waste it has collected will be diligently transported to a registered Treatment, Storage, and Disposal (TSD) Facility for appropriate treatment, and subsequently disposed of in a sanitary landfill in full compliance with legal mandates. Additionally, the **SECOND PARTY** further warrants that all its licenses or accreditations are established and diligently complied with in accordance with relevant laws, rules, and regulations, ensuring comprehensive adherence to regulatory standards.

NOW, **THEREFORE**, for and in consideration of the foregoing and the covenants herein set forth, both **PARTIES** enter into this agreement subject to the following terms and conditions:

TERMS AND CONDITIONS:

1. The **SECOND PARTY** shall collect the hazardous waste of the **FIRST PARTY** and transport it to a **DENR-EMB** registered TSD Service provider for treatment and final disposal;
2. The **FIRST PARTY** will be responsible for the absolute segregation and containment of the following:
 - A. Medical sharps in a puncture proof and lockable container;
 - B. Blood, body fluids and other pathogenic wet waste in a plastic and sealable Med-Bin provided by the **SECOND PARTY** for free;
 - C. Dry hazardous waste in Yellow Heavy Duty plastic bags that are suitable for microbial destruction through autoclaving.

If any one of the **SECOND PARTY's** collectors will be wounded or injured ex. puncture or cut in the skin because the **FIRST PARTY's** employees did not follow the segregation requirement by disposing sharps in the yellow trash bags for dry hazardous waste and not in the sharps containers, it shall be the **FIRST PARTY's** responsibility to give him proper medical treatment.

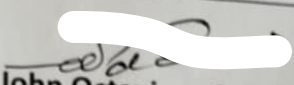
- OFFICE OF THE ATTORNEY GENERAL
COUNSEL
AUG 14 2024

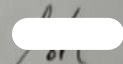
period of one (1) year from the date of notarization.

20. This Memorandum of Agreement shall take effect immediately upon signing hereof and is null and void if not signed by **BOTH PARTIES** and their witnesses and if not duly notarized.

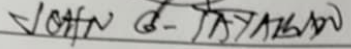
CLEAR
OFFICE OF THE LEGAL COUNSEL
DATE: AUG 14 2024

IN WITNESS WHEREOF, we have hereunto affixed our signatures this _____ at _____


Dr. John Octavious S. Palina
For the FIRST PARTY


Mr. Samuel B. Castillejos
For the SECOND PARTY


SIGNED IN THE PRESENCE OF:



ACKNOWLEDGMENT

Republic of the Philippines)
) S.S.

BEFORE ME, a Notary Public in and for the _____ this _____
date personally appeared:

Dr. John Octavious S. Palina CRN 0001-0877488-5 issued on
January 4, 2023.

Mr. Samuel B. Castillejos,

Driver's License No. B02-00-049262 issued at Mabalacat City on June 23, 2022.

that they are the same persons who executed and voluntarily signed the foregoing Memorandum of Agreement which they acknowledged before me as their free and voluntary act and deed and that of the parties represented.

The foregoing Memorandum of Agreement consisting of three (3) pages including the page on which this acknowledgment is written, has been signed on every page by the parties and the witnesses.

WITNESS MY HAND AND SEAL, this AUG 19 2024, in the _____.

Doc. No. 7
Page No. 2
Book No. CCC XIV
Series of 2024


EPIFANIA GALIMA, III
Notarial Commission No. 25-23
Notary Public until 12-31-2025
Saint Mary's University
Roll of Attorney's No. 57855
IBP Lifetime, 1086895, 1/4/18;
PTR No. 2800834, 12/1/2023

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

SAINT MARY'S UNIVERSITY, a private institution of higher learning with principal address located at **BRGY. DON MARIANO MARCOS, BAYOMBONG, NUEVA VIZCAYA**, represented herein by **DR. JOHN OCTAVIOUS S. PALINA, PhD, DBA**, in his capacity as University President, hereinafter referred to as "**SMU**",

-and-

BARANGAY DON MARIANO MARCOS, a local government unit of the Municipality of Bayombong, Nueva Vizcaya, represented herein by Punong Barangay, **HON. NORRIS JOHN S. OKAMOTO**, hereinafter referred to as "**Barangay DMM**".

Witnesseth:

WHEREAS, there is need to ensure the protection of the public health and environment in SMU;

WHEREAS, it is the imperative duty of SMU to ensure proper segregation, collection, treatment and disposal of solid waste;

WHEREAS, Barangay DMM offered to assist the SMU in the collection and disposal of its solid waste;

NOW THEREFORE, THE PARTIES AGREE ON THE FOLLOWING:

1. Responsibility of SMU:

- a. Pay Eight Hundred Pesos (Php 800.00) per truck load for the hauling of segregated waste and additional Four Hundred Pesos (Php 400.00) for the segregation of unsegregated waste; and

2. Responsibility of Barangay Don Mariano Marcos:

- a. Collect the garbage and comply with the rules and regulations of the University while inside the campus.

3. The schedule for hauling of garbage shall be mutually agreed upon by both parties.

This Agreement shall take effect upon signing by all the parties and shall be effective for a period of one (1) year unless otherwise terminated or upon satisfaction of the objectives by which this agreement has been forged.

Signed this _____ day of JUN 20 2024 2024 in Bayombong, Nueva Vizcaya.

DR. JOHN OCTAVIOUS S. PALINA, PhD, DB
SMU President

HON. NORRIS JOHN S. OKAMOTO
Punong Barangay - DMM

WITNESSES:

BARSON VILLANUEVA

ALEXANDER J. CUPMAN JR.

CLEARED
OFFICE OF THE LEGAL COUNSEL
DATE: JUN 11 2024

Republic of the Philippines]
Province of Nueva Vizcaya] S.S.
Municipality of Bayombong]

ACKNOWLEDGEMENT

Before me, Notary Public for and in the Province of Nueva Vizcaya, on the date and at the place above-stated, personally appeared:

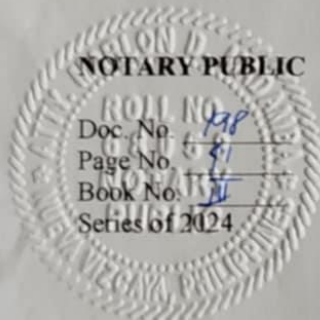
Competent Evidence of Identity

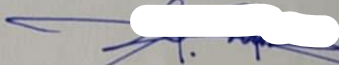
1. DR. JOHN OCTAVIOUS S. PALINA, PhD, DB
2. HON. NORRIS JOHN S. OKAMOTO

With the above-indicated competent evidence of their identities, and they acknowledged before me that the same is their free and voluntary act and deed.

Hereby certify that the foregoing instrument, consisting of two (2) pages including this page on which this acknowledgement is written, pertains to a MEMORANDUM OF AGREEMENT, and that the same signed by parties on each and every page thereof.

Witness my hand and seal on JUN 20 2024 day of _____ in Bayombong, Nueva Vizcaya, Philippines.




ATTY. MARLON DACANAY MADAMSA
NOTARY PUBLIC- NUEVA VIZCAYA
Comm. No. 17-22 until 12/31/2024
Roll No. 068058
MCLE COMP. No. VII-0011868 4/14/2025
IBP O.R. No. 393607: (for 2024)
PTR NO. NV 2838454: (for 2024)
Bayombong, Nueva Vizcaya

**Saint Mary's University
Bayombong, Nueva Vizcaya
Campus Safety And Disaster Preparedness
EMERGENCY PREPAREDNESS PLAN
INSTITUTIONAL**

CHAPTER I: AUTHORITY

- a. CHED Memorandum Circular No.09 s. 2013;
- b. PDRRM Act of 2010 – RA 10121

CHAPTER II. RATIONALE

Aside from the mandate of the Commission on Higher Education Memorandum Circulars and Existing Rules and Regulations of Regulating Agencies, Saint Mary's University in pursuit of its mission and vision adopts the following procedures to arouse awareness and consciousness of its stakeholders on the emergency procedures in case of earthquake, fire , flooding, typhoon or bomb threat incidents and other emergency situations . The procedures are designed to reduce the risk of injuries/death and to minimize property damages in case of these emergencies.

The teams involved must be aware of their respective duties and functions in order to have coordinated activities during emergency situations.

**CHAPTER III
RESPONSIBILITIES OF**

SMU DISASTER RISK REDUCTION MANAGEMENT COMMITTEE

Chairperson:

1. Shall convene the committee as needed to effectively coordinate the efforts on disaster preparedness emergency operation and recovery and rehabilitation activities
2. Shall call on all concerned office, agencies and instrumentalities of the government and Civil Society Organizations for their assistance when needed

Assistant Chairperson

- Assist the chairperson
- Perform the duties of the Chairman in her/his absence

Team Leader

- Serves as the Head of the assigned Team and give instruction to the Team members as per ordered by the Chairperson/Assistant Chairperson or act for him/her in his/her absence and perform such duties the Chairman/Assistant Chairman may assigned

First Aid Team

- Keeps the first aid kit ready at all times
- The members of the Medical and Rescue Team shall set an accommodating environment for the clientele
- Provide all needed materials and services for the victim's fast recovery

Evacuation & Rescue Team

- In case of emergency the Evacuation Team shall quickly alert all building occupants and direct them in getting out of the vicinity to the designated emergency exit.
- Organize them to the designated evacuation area
- The members of the team should conduct final and quick check of rooms and offices to ensure that all occupants have vacated the place and buildings
- Quickly conduct head counts at the evacuation area
- Other related works requested by the Chairman

Communication & Information Team

- In case of emergency, the Communication Team shall notify the School Officials, personnel and teachers regarding the status and situation of the calamity using any available means of communication
- The team leader or members shall activate the alarm system of the school to give emergency signal to all occupants
- Relay important information to the different teams
- Follow-up the call to the local Rescue units, BFP and PNP,
- Update bulletin boards, reports and other information materials, leaflets, fliers and other necessary materials
- Other related works requested by the Chairman

Transportation Team

- Get ready for all transportation equipment
- Responsible for the transport needs

- Determine the transportation needs and requirements
- Other related works requested by the Chairman

Site and Security Team

- Provides security to all evacuees, victims, and the whole area from looting
- Does other related work requested by the Chairman

Logistic, Damage and Control Team

- Check for any possible victim to be identified for proper tagging (**Red:** Severely injured, **Orange:** mildly injured, **Green:** Tolerable)
- Record all injured victims
- Having done with the injured people, the team needs to check too the affected area for reporting

Fire Brigade Team

- Go to the affected area as instructed by the Chairperson for the initial fire-fighting operations
- Report any outcome to the Chairperson

Supply Team

- Make an inventory of all equipment and medicines ready for use in case of emergency
- report to the Chairperson any lacking materials for appropriate action
- Issue the requested materials needed by the first aid team as approved by the Chairperson
- Counter check the inventory of materials after the event

Evacuation and Recovery Team

- Ensure the security and safety of the school populace
- Bring the identified victims in the recovery section of the school for proper action
- Assists the paramedics in case services are needed

Search and Rescue Team

- The sweepers will go around the school to check for possible victims as well as students who are trapped and need help
- Report to the Incident Command Post (ICP) for immediate action

Chapter IV

OPERATION PROCEDURES

General Operation

- A. Population at risk will be evacuated in accordance to procedures established by the CSDP Committee
- B. Priorities shall be determined prior to rescue and evacuation efforts.
- C. Rescue and evacuation shall be done as a necessity and as a major responsibility of the CSDP Committee
- D. The Chairperson shall call the evacuation order and executes other necessary actions need.
- E. The Assistant Chairperson calls the shots for evacuation in the absence of the Chairperson.
- F. The sweepers of the CSDP act as the overseers for the whole area.

Phases Of Operation

Phase I (Preparatory Stage)

- A. Re-organization/Re-activation of SMU CSDP Committee.
- B. Information dissemination from SMU CSDP Committee to students, faculty and staff, parents and nearby occupants from the school.
- C. Undertake all necessary preparation as required in the plan.
- D. Organization and provision of specialized training on disaster response team.
- E. Massive information drive and education campaign.
- F. Improvement of communication and warning system.
- G. Conduct of evacuation drills and exercise.
- H. Updating of contingency and evacuation plans.
- I. Development of an effective disaster response at the lower level.
- J. Improvement of the monitoring and feedback mechanism.

Phase II (Disaster Period)

- A. Full activation of the SMU CSDP Committee and its other linkages
- B. Provision of emergency services such as relief, rescue and evacuation, transportation, emergency and medical care and communication warning.
- C. Provision of timely information on actual disaster incidents.

- D. Conduct of situation survey and damage assessment.
- E. Close monitoring and supervision on the different teams for possible support and assistance.
- F. Submission of reports.

Phase III
(Post Disaster Period)

- A. Conduct SMU CSDP Committee meeting for final evaluation of the situation.
- B. Determine rehabilitation requirements for disaster victims.
- C. Preparation of final report.
- D. Restoration, repair and rehabilitation of damaged infrastructure.
- E. Conduct post disaster assessment and review the existing plan

Levels of Emergency Alert Status





I. EMERGENCY PREPAREDNESS PLAN

A. WHAT TO DO IN CASE OF EARTHQUAKE

1. Procedures

- If indoors, seek refuge in a doorway, or under a desk or table.
- Watch out for falling objects.
- Keep calm and don't panic.
- Listen to the teacher's instructions.
- Walk out of the classroom in an orderly manner.
- While walking along the corridors to the nearest exit of the building, be alert and look out for falling debris.
- Quietly but quickly proceed to the designated evacuation area for the class and wait for further instructions from the teacher.
- NEVER go back to the building once you are outside. Buildings shall be inspected by engineers for possible damage after an earthquake. Basic Education students should stay in the open area and wait for their parents/guardians to pick them up.
- If outdoors, move quickly away from buildings and other structures.

- j. If in an automobile, stop in the safest place available, preferably away from power lines, structures and trees.
- k. For the teacher/head of office, make sure all students/personnel are accounted for in the designated evacuation area.

DON'T RUN, DON'T SHOUT, DON'T PUSH.

2. Phases of an Earthquake Drill

Phase 1. Alarm

A pre-arranged signal such as a siren/bell should be known to all. During the drill, the siren/bell indicates earthquake or shaking. Students and employees will be alerted by this signal.

Phase 2. Response

While the siren/bell is ongoing, everyone should move away from windows, glass or light fixtures. In this phase, everyone should perform “duck, cover and hold” under desks, tables or chairs. Remain in this position until the “shaking” stops.

Phase 3. Evacuation

Once the “shaking” stops, everyone should evacuate the school building and proceed, using predetermined routes, to identified evacuation areas.

Phase 4. Assembly

At the designated evacuation area, students must be grouped together according to the class where they belong.

Phase 5. Head Count

Teachers should check and make sure all students and staff are accounted for. and Heads of offices

Phase 6. Evaluation

An evaluation of the drill must be conducted to identify problems encountered during the drill and how this can be corrected in future earthquake drills.

3. Earthquake Drill Situations/Assumptions

- a. An earthquake might happen at any time when students and employees are inside the buildings and premises. Earthquake may cause injury /or loss of lives and damage properties due to its shaking effect and of falling objects. Students or occupants may rush in securing for their safety. Stampede may occur during this situation.
- b. Fire might occur as a result of accident, nature or incendiary origin within the school campus at any time. Fire may also originate from adjacent

buildings or structures and spread towards the school buildings which poses danger to employees and students.

4. Objectives of an Earthquake Drill

General:

To reduce the risk of injuries and damage to properties.

Specific:

1. To arouse consciousness and awareness of the stakeholders as well as the members of the Emergency Response Team of the procedures during emergency situation;
2. To execute the procedure in a minimum period or at the fastest time possible;
3. To get a maximum beneficial result;
4. To be familiarized with the teams' respective responsibilities during emergency situation; and
5. To familiarize the stakeholders of the exit and evacuation routes to the evacuation areas.

5. Execution of an Earthquake Drill

A. Before Any Emergency

1. A regular review of this emergency procedures shall be done by all the stakeholders and task groups; and
2. A drill shall be executed at least four times every school year;

Procedures for Day time Earthquake Drill

1. First Alarm
 - a. The Classroom Teachers/Instructors shall immediately direct their students to drop, duck, cover and hold beside their chairs away from glass windows and falling objects;
 - b. Immediately, the members of the ERT shall organize themselves in their respective stations and wait for further instruction from the Emergency Ground Commander (EGC);
2. Second Alarm (Situation Temporarily Stabilized)
 - a. When the ground shaking is stabilized, the Emergency Ground Commander (EGC) orders evacuation; and
 - b. The Evacuation Team and Security Team are activated.

3. Third Alarm (Injuries Noted)

- a. When there is a report of injury, third alarm is immediately raised by the Emergency Ground Commander (EGC); and
- b. The Rescue Team and Medical Team are activated.

6. College Campus earthquake (and Fire) Evacuation Plan and Persons in-charge

BUILDINGS	PERSON/S OR UNIT/S-IN-CHARGE	ASSEMBLY AREA
<u>CLUSTER A</u> 1. Administration building 2. Mary, Seat of Wisdom Chapel 3. Jubilee Library 4. Tonus gym including canteen 5. Carpentry shop, PPPDMO office 6. JVD Building	1. Mr. Samuel Damayon (Left wing –A building Mr. Windel Taguiling (Right wing – A Building) 2. Sr. Aileen Adjaro, SIHM 3. Mr. David Cabonero 4. Mrs. Rodora Tipay 5. Mr. Sherwin Marciano 6. Dr. Regina Ramel	Oval (in front of the 4 pillars) Center of oval in front chapel Oval in front of chapel
<u>CLUSTER B</u> 1. CL building 2. RT building 3. Main library (Van Bauwel) 4. Jurgens building (UB) 5. Sacred Heart Center	1. Dr. Felipe Nantes Jr. 2. Dr. Clara Gonzales 3. Mr. Jason Maslang 4. Dr. Joman Baliton 5. Mrs. Joan Zipagan	Oval (in front of the 4 Oval in front of Registrar’s office
<u>CLUSTER C</u> 1. Hantson building 2. Tanchoco building 3. S building 4. New Engg Building 5. Fr. Sargeant building 6.	1. Mr. Melencio Bernardino Jr. 2. Mrs. Michelle 3. Mrs. Biverly Tomas 4. Miss Elizabeth Ramos 5. Mr. Dante Tamayo 6.	Oval (in front of the Engineering stage)

1. CNS building 2. Med Lab Science & Pharmacy laboratories	1. Dr. Elsa Cajucom 2. Mr. Gabriel Erana	
<u>CLUSTER D</u> 1. Medical & dental clinics 2. St. Joseph's Inn 3. Balai na Alumni 4. De Buscherre Hotel 5. Apo Pilo building	1. Mrs. Grace Marabut 2. Mr. Angelito Buccahan 3. Mr. Peter Tom Callang 4. Mr. George Guiab 5. Mr. Antonio Sugay	Oval in front of Apo Pilo
Ladies' Dorm	1. Sr. Aimee Bantiyan, SIHM	space in front of the dorm
Men's Dorm	1. Mr. Reiner Dulawan	Basketball court
Elementary school	1. Dr. Cristeta Aduca 2. Mr. Rod Dacles	Quadrangle
High school	1. Dr. Zayda Asuncion 2. Mr. Jimmy Valdez	Quadrangle
ALL BUILDINGS (University-wide)	1. Dr. John Palina 2. Dr. John Tayaban 3. Mr. Hansen Villanueva	Oval

Responsibilities of the Person-In-Charge

1. **Before the drill**, the person-in-charge takes care of disseminating information regarding Campus Safety and Disaster Preparedness activities.
2. Coordinate with the occupants in the building regarding planned drills.
3. **During a particular drill**, he/she acts as the team leader in evacuating the building.
4. Reports to the Ground Commander (VP for Administration) the status of evacuation (e.g. all occupants were accounted for)
5. **After the drill**, takes part in the evaluation of the drill conducted together with the members of the Campus Safety and Disaster Preparedness Committee.
6. Suggest or recommends actions that must be taken in order to improve the drill as well as the University's preparedness for risks, disasters and natural calamities.

B. WHAT TO DO IN CASE OF FIRE

a. First Alarm (Discovery of Fire)

The first person who notices the fire shall immediately raise the alarm. He/she shall ring the fire bell or buzzer in accordance with the pre-arranged fire incident ring code (1 long and pulsating ringing for at least 30 seconds). He/she shall subsequently report the incident to the nearest guard post. The Security Guard who received the alarm shall immediately notify the Emergency Ground Commander (EGC).

- a. The Emergency Ground Commander upon receipt of the alarm shall alert all the members of the SMU-CSDP Committee and assess the situation;
- b. The team leaders of the respective group shall organize his/her members in their respective station ready for operation upon instruction of the EGC
- c. The firefighting team shall upon receipt of the alarm, immediately proceed to the scene of fire and conduct immediate fire suppression activities using portable fire extinguishers available at all floor levels. The Team Leader shall supervise the firefighting activity and render report to the Emergency Ground Commander'
- d. The EGC shall direct the Communication Team to notify the Fire Department if needed; and
- e. The Security Force (SF) shall post duty guards at the scene not to allow unauthorized persons in the area.

b. Second Alarm (Uncontrolled Fire)

- a. When fire spreads toward adjacent rooms or parts of the building or at the ceiling, upon report of the Fire Fighting Team Leader, the EGC shall raise second alarm. The necessity for occupants to evacuate shall be immediately ordered;
- b. The EGC shall activate the members of the **Evacuation Team (ET)** to lead the occupants to the Evacuation Area, in accordance with the evacuation procedure; and the **Salvage Team (ST)** to bring-out files, documents and other valuables to the Dumping Area, in accordance with the order of priority; and

Salvage Priority

First Priority (Red)

- Student records
- Financial records
- Investigation reports
- Legal documents
- Electronic files
- Cash
- Other Documents of the same value

Second Priority (Blue)

- Computer Units
- Laboratory equipment
- Cash register machines
- Other valuables not falling on 1st priority

Third Priority (Yellow or White)

- School supplies
- Table and chairs
- Linen/curtains
- Other valuables not falling on 2nd priority

- c. Other members of Security Team shall be posted at the Evacuation Area and Dumping Area.

c. Third Alarm (Injuries Noted)

- a. When injuries were reported as a result of the fire or rushing of occupants in the course of evacuation, upon report of the Evacuation Team Leader, the Emergency Ground Commander shall raise third alarm.
- b. The EGC shall activate the Rescue Team (RT) and the Medical Team (MT) to respond immediately at the scene and perform their respective functions.
- c. The Rescue Team shall assess the condition of the victims and ***if necessary***, first aid shall be done in accordance with the rescue and first aid procedures before bringing the victims to the Medical Area where the members of the Medical Team are stationed to extend immediate medical attention and proper disposition; and
- d. Other members of the Security Team shall also be dispatched at the Medical Station;

At any time of the operation, when the members of the fire department arrive, the authority of the Emergency Ground Commander ceases and the responsibility shall be turned over to the most senior fire officer who arrives at the fire scene and same shall assume responsibility as the Fire Ground Commander.

At any time, in the absence of the Fire Ground Commander, when the situation is stabilized, the Emergency Ground Commander may declare the situation "UNDER CONTROL".

C. WHAT TO DO IN CASE OF FLOODS?

1. Students in the ground floor should go up to the second floor.
2. The Committee on Campus Safety and Disaster Preparedness of the University will direct the subsequent operations to the different team leaders.

3. property evacuation team helps in carrying valuable instruments like computer and scientific instruments to the second floor
4. Upon direction of the Emergency Ground Commander, the **Security Team** directs people from nearby communities to the gym which will serve as Center of operation during floods.

D. WHAT TO DO IN CASE OF TYPHOONS OR HEAVY RAINS OR STRONG WINDS

1. The University shall follow the directives of the local LGU (Municipal or Provincial) on suspension of classes and /or work if the order includes private schools.
2. The University President may order suspension of classes and/or work upon recommendation of the CSDP and AB based on the local weather condition.
3. When Typhoon signal No. 1 is raised over Bayombong, classes in grade school is suspended. Teachers, administrators and staff shall work in campus.
4. When Typhoon signal No. 2 is raised over Bayombong, classes in junior high school and senior high school shall be suspended. Teachers, administrators and staff shall work in campus complete non-teaching tasks.
5. When Typhoon signal No. 3 is raised over Bayombong, classes and work in all levels shall be suspended.

E. WHAT TO DO WHEN EMERGENCY HAPPENS IN THE NIGHT

- a. IMMEDIATE ACTION
 - a.1 Security Guard (Main Gate), calls the officers/persons concerned:
 - Fire Department
 - Police Department
 - MDRRO
 - CICM fathers in CICM House
 - VP Administration
 - Security guards in all campuses and dorms
 - -other in-campus residents (ex. guests)
 - a.2. VP Administration calls emergency team leaders:
 - Building Supervisor
 - Head, PPDMO
 - Coordinator, NSTP

a.3. Coordinator, NSTP calls ROTC officers to proceed to place of emergency to secure premises and properties.

a.4. Dorm Master in Male dormitory mobilizes the employees and students in dorm to proceed to area of emergency.

b. IN CASE OF FLOOD

b.1 Roving guard

- gets the keys (from the University Housekeeper/Security Guard) to the offices affected

- shuts off the main electric switch

- divides Male dormers into groups to detach computers in the offices to bring them to the second floor and lock them in for security and safety.

b.2. Security Guards

- Upon approval of the VPA, direct people from the community who are affected by the flood to the bleachers in the SMU Tonus Gym

- make sure that all male dormers and people in the campus are accounted for and are safe.

- coordinate operation with authorities in the area

c. IN CASE OF EARTHQUAKES

c.1. everybody must seek cover under tables, beds, beams, etc

c.2. go out to the oval after the first big jolt. A bigger one might be coming

c.3 in case of big earthquakes, the oval will serve as center of operation and first aid for in-campus residents and neighbors

c.4. security guards must secure the campus against bad elements who might take advantage of the situation

d. IN CASE OF FIRE

d.1. Security uses fire extinguisher to put off fire

d.3. security guard must put off the main electric switch

d.4. security guard must secure the place and look out for possible looters

d.5. male dormers should try to save what could be saved from the neighboring rooms without endangering their lives until the fire trucks arrive.

F. After Any Incident

1. At the Evacuation Area, the Classroom Teacher/Instructor shall immediately account his/her students;

2. Office Heads shall account their respective subordinates;

3. Respective Team Leaders of the MERT shall likewise do the same and render report to the EGC; and

4. The EGC shall after receipt of the reports from the members of the Team of the MERT immediately consolidate the data and make an incident report to the President and copies shall be furnished to the BFP, PNP and other government agencies concerned upon request.

Chapter IV. CONCEPT OF OPERATION:

This EPP shall be operational in all buildings and campuses of Saint Mary's University including its Men's and Ladies' dormitories.

This EPP drills shall be executed at least four times every school year and applied during emergency situations.

CHAPTER V STRUCTURE

Committee on Campus Safety and Disaster Preparedness (CCSDP)

Institutional Campus Safety and Disaster Preparedness Committee

Vice President for Administration - Chairperson

Head, Safety and Pollution Control Office - Assistant Chairperson

Members:

Dean of Student Affairs and Services

Safety & DRMM coordinators in basic education

Academic Deans

Basic Education Principals

Associate Dean of Student Affairs and Services for Men/Women

Head, PPPDMO

Dept Head, Criminology

MERT Adviser

University Medical Teams

NSTP Coordinator

Head, Security Agency

Union President

SCC President

Functions:

1. Ensures that safety and security measures are in place in all buildings and facilities of the University at all times;
2. Makes the necessary plans and procedures for proactive, quick and effective response to any calamity disaster or major emergency cases that may affect the University;
3. Coordinates with other external agencies for disaster preparedness programs and activities for an effective and quick response to any calamity and disaster that may affect may the University;
4. Conducts the necessary disaster-preparedness drills and activities that will facilitate effective response to calamities and other emergencies;
5. Supervises emergency operations within the campuses and immediate vicinity during a calamity or disaster;
6. Regularly inspects and submits report to the University President regarding the safety and security assurance of the University; and
7. Submits reports to the University President regarding the safety and security assurance of the University buildings and facilities after a calamity or disaster

CSDP- Teams, Responsibilities & Team Leaders

TEAM/LEADER	RESPONSIBILITIES
INCIDENT COMMANDER (University President):	1. Provides overall direction of the University's Campus Safety & Disaster Plan (CSDP).
GROUND COMMANDER Vice President for Administration	2. Coordinates the University's emergency response.
CONSTRUCTION TEAM Head, PPDMO	Quickly set up the Incident Command Post and Medical Tent when disaster strikes or during emergency drills.
EVACUATION TEAM -Leader Assigned per building -Each class teacher is responsible for his/her class. -Each unit head is responsible for the person in the unit.	-Activate the appropriate warning signal -quickly alert all building occupants and direct them in getting out of the vicinity to the designated emergency exit. Organize them to the designated evacuation area

	<p>conduct quick check of rooms and offices to ensure that all occupants have vacated the place and buildings</p> <p>Quickly conduct head counts at the evacuation area</p>
MEDICAL/FIRST AID TEAM (University Physician/Nurse and MERT Adviser and members	<ol style="list-style-type: none"> 1. Extends immediate medical care to a person who has been injured or who needs medical attention. 2. Refer to R2TMC any critically injured person
MENTAL HEALTH TEAM Head-Guidance Office	-Provides Psychological First Aid to those mentally affected by the disaster
BUILDING INSPECTION TEAM Head, PPDMO & Head, CE Dept	-Conducts inspection for structural integrity of buildings -Gives decision on whether a building is safe for re-entry.
SEARCH AND RESCUE TEAM Adviser, MERT and members	-Seek out reported victims, provide First Aid and bring to the Medical Post - -conduct final and quick check of rooms and offices to ensure that all occupants have vacated the place and buildings
SECURITY TEAM (ADSAS Men & Security Agency officers and guards, ROTC officers	Secures the place of incidence in order to prevent further harm to victims of disaster and to secure the area from theft/looting.
FIRE FIGHTING TEAM (Head and faculty Criminology	Secures fire safety in the event of an emergency. <p style="text-align: center;">1.</p>
SALVAGE TEAM (PPDMO and General Services Supervisor and staff	Assist in moving out Tagged physical assets (in case of fire)
EVACUATION TEAM - Assigned faculty and staff per building	1. Aids in directing students and personnel to the evacuation area.
COMMUNICATION TEAM (President's secretary/CETSO head	1.Informs proper authorities of the disaster and communicates to responders for

	<p>immediate assistance.</p> <p>Set up Public address system (Mic & Speaker or Megaphone) for use by the Ground Commander</p> <p>Relay important information to the different teams</p> <p>Makes updated record of victims</p>
TRANSPORTATION TEAM (Drivers team leader)	Provides vehicles to transport students, personnel, and/or equipment.
DOCUMENTATION TEAM (Adviser, The Marian), Teacher's Center staff	<p>-Documents and prepares reports of the emergency drill or actual disaster</p> <p>-Provides updates in the SMU Social Media page after clearance with the VP Admin.</p>

Senior High School Campus Safety and Disaster Preparedness Committee (to be activated if events /activities are exclusive to SHS)

Chairperson : Principal (Ground Commander)
Vice Chairperson: DRRM,Safety & Sanitation Coordinator
Members: Academic Coordinators
Non-Academic Coordinators
Guidance Shepherds
Staff and Personnel

First Aid Team: Medical Staff and Guidance Shepherds

- To give immediate care to a person who has been injured or who has gotten suddenly ill.

Site Security Team:

To secure the place of incidence in order to prevent further harm to victims of disaster and to secure the area from looting.

Fire Safety Team:

- To protect vertical structure and its students from danger of fire by conducting periodic inspections for where wooden materials, faulty electrical wiring and other combustible materials that may cause fire.

Evacuation Team:

- To ensure the immediate rescue and transfer of victims of a calamity from danger to safer place

Communication Team: Principal's secretary

To inform the VPA of an ongoing disaster and to communicate to emergency responders for immediate assistance as directed by the principal

Junior High School Campus Safety and Disaster Preparedness Committee

Chairperson: Principal (Ground Commander)
Vice Chairperson: DRRM, Safety & Sanitation Coordinator
Members: Academic Coordinators
Non-Academic Coordinators
Guidance Shepherds
Staff and Personnel

First Aid Team: Medical Staff and Guidance Shepherds
To give immediate care to a person who has been injured or who has gotten suddenly ill.

Site Security Team:
To secure the place of incidence on order to prevent further harm to victims of disaster and to secure the area from looting.

Fire Safety Team:
To protect vertical structure and its students from danger of fire by conducting periodic inspections for where wooden materials, faulty electrical wiring and other combustible materials that may cause fire.

Evacuation Team: class advisers
To ensure the immediate rescue and transfer of victims of a calamity from danger to safer place

Salvage Team:
Assist in moving out Tagged physical assets in case of fire or flood

Communication Team: Principal's Secretary and registrar
To inform VPA and head SPCO of an ongoing disaster and to communicate to LGU emergency responders for immediate assistance when directed by the Principal or VPA

Grade School Campus Safety and Disaster Preparedness Committee

Chairperson: Principal
Vice Chairperson: DRRM, Safety & Sanitation Coordinator
Members: Academic Coordinators
Non-Academic Coordinators
Guidance Shepherds
Staff and Personnel

First Aid Team:

To give immediate care to a person who has been injured or who has gotten suddenly ill.

Site Security Team:

To secure the place of incidence in order to prevent further harm to victims of disaster and to secure the area from looting.

Fire Safety Team:

To protect vertical structures and its students from danger of fire by conducting periodic inspections for wooden materials, faulty electrical wiring and other combustible materials that may cause fire.

Evacuation Team:

To ensure the immediate rescue and transfer of victims of a calamity from danger to safer place

Communication Team: Principal's secretary

To inform the VPA and Head, SPCO of an ongoing disaster and to communicate to LGU responders for immediate assistance when directed by the Principal or VPA.

A..EMERGENCY HOTLINES-SMU

- 1.SMU Medical Clinic – **0975-821-6142 ; Landline: 392-6696**
2.Security Agency – **0965-299-3545, 0936-247-6147 Landline: 392-6268**

- 4.Safety & Pollution Control Office – 0906-692-8935 / 0999-670-9934
5. Vice President for Administration-CP: 0917-655-8950 Landline:362-3098

B. emergency hotlines -external

4. MDRRMO – 0917-658-4579
5. PDRRMO – 0917-599-0020 0919-069-4462
6. PNP Bayombong – 0915-311-6455 0998-598-5279
7. NVPO – 0917-540-5290
8. Red Cross – 0917-507-9950
9. PIHO – 0917-157-6153
10. BFP Bayombong – 0915-172-1574
11. MHO Bayombong – 0935-372-8950
12. R2TMC – 0906-819-5569, Landline: (078) 321-2090

CHAPTER VII. EFFECTIVITY

This updated EPP shall take effect AUGUST 1, 2024.

Prepared by:

(SGD)DR. JOHN TAYABAN

VP for Administration

Chairman, Campus Safety and Disaster Preparedness Committee

APPROVED:

(SGD)DR. JOHN OCTAVIOUS S. PALINA

University President

I. COMMITTEE ON DECORUM AND INVESTIGATION (CODI)

Composition:

The Vice President for Administration recommends to the University President the appointment of the chair and members of the Committee on Decorum and Investigation (CODI) based on the SMU Anti-sexual Harassment Policy and Implementing Guidelines.

Functions:

1. Receive and investigate complaints on sexual harassment following the prescribed procedure ;
2. submit a report of its findings and recommendations to the Committee on Arbitration;
3. lead in the discussions on sexual harassment in the university in order to prevent occurrence of sexual harassment; and
4. Other functions as specified in the SMU Anti-sexual Harassment Policy and Implementing Guidelines.

J. CAMPUS SAFETY AND DISASTER PREPAREDNESS COMMITTEE (CSDPC)

Composition:

Chairman: Vice President for Administration

Vice Chairman: Head, Safety and Pollution
Control Officer

Members:

Dean of Student Affairs and Services

Academic Deans

Basic Education Principals

Director, HRDO

Director, PPPDMO

ADSAS for Men/Women

Department Head, Criminology

University Medical Teams

NSTP Coordinator

DRRM & Safety Coordinators

Head, Security Agency

General Services Supervisor
Adviser & President, Marian Emergency
Response Team
Adviser, Senior High School Emergency
Response Team
President, Student Central Council
ROTC Corps Commander

Functions:

1. Ensures that safety and security measures are in place in all buildings and facilities of the University at all times;
2. Makes the necessary plans and procedures for a proactive, quick and effective response to any calamity, disaster or major emergency cases that may affect the University, employees and students;
3. Coordinates with other external agencies for disaster preparedness programs and activities for an effective and quick response to any calamity and disaster that may affect the University;
4. Conducts the necessary disaster-preparedness drills and activities that will ensure effective response to calamities and other emergencies;
5. Supervises emergency operations within the campuses and immediate vicinity during and after a calamity or disaster;
6. Regularly inspects and submits reports to the University President regarding the safety and security assurance of the University and immediately after every calamity or disaster.

K. PERSONNEL SELECTION, RANK AND TENURE COMMITTEE (PSRTC)

Composition:

Chairman: University President
Members: Vice Presidents

Marian C.A.R.E.S. Program

(Excerpt from the Administrative and Employment Manual for Academic Personnel in Higher Education (AEMAP, 2023 Ed., In-Campus Development Activities, Art. E, pp. 215-217)

The Marian C.A.R.E.S. Program intends to provide avenues for values formation and wholistic wellness of members of the Marian academic community. This program intends not only to promote the physical, psychoemotional, social, and spiritual well-being of all members of the academic community but also to nurture their innate potentials. The whole day of Wednesdays (except during major exam days) shall be reserved for non-class activities for students, faculty members and staff.

The formation program is geared towards:

1. **Spiritual Formation** - by providing meaningful experiences that will deepen participants' relationship with God through **Eucharistic celebrations, creative prayer services and activities, recollections, and other similar activities.**

2. **Well-Being** - by providing psycho-emotional and social support, like the following but not limited to:

i. **Team and Community-Building** to include faculty and personnel meetings and capacitation workshops.

ii. **Routine Counseling** by the Guidance Counselors where participants are assisted with their concerns as well as to get to know them better.

iii. **Disaster Risk Reduction Management** through participation in earthquake or fire drills or similar resilience or disaster preparedness activities..

iv. **Enhancement Activities** that provide opportunities for the participants to hone their skills, abilities and talents.

v. **Outreach Activities** that instill community engagement by participants towards those in need

3. The following are the themes of the Marian C.A.R.E.S. program:

i. **Christian Faith**

ii. **Appreciation, Affection, and Affiliation**

iii. **Risk Reduction**

iv. Enhancement of Skills

v. Social Responsibility

4. Institutional Marian C.A.R.E.S. activities for employees must be coordinated with respective supervising Vice Presidents.

5. Marian C.A.R.E.S. activities (for students and employees) are scheduled for priority following the letters of C.A.R.E.S.:

i. First and Fifth Wednesdays are Christian Formation days. The period 3:30-5:00pm every Wednesday remains to be Campus Ministry period.

ii. Second Wednesday is for activities on Appreciation, Affection and Affiliation. Hence school/college or departmental faculty meetings are prioritized on this day.

iii. Third Wednesdays can be prioritized for Risk Reduction and Mitigation and other activities for Enhancement of Skills and Personal Attributes. Skills trainings for behaviors during calamities and disasters and for occupational safety may be held during this Wednesday.

iv. Fourth Wednesday priorities are on Social Responsibility and Community Engagement activities.

6. Out-of-campus extension activities on Wednesdays may be participated in by faculty members. Participation of nonacademic personnel on Wednesday extension service may be allowed only if office or unit operations are not disrupted in any way. Social responsibility activities can also be conducted on Saturdays with most students, faculty and nonacademic personnel.

7. Wednesdays should not be thought of a non-school day, albeit a non-class day that may call for students and faculty to be in campus for relevant activities that delve with the themes.

8. Scheduling non-class activities on Wednesdays aims to avoid unnecessary disruption of classes on class days.

9. Activities on other themes may still be conducted on any Wednesday. However, reservation of university facilities may be based on the priority theme scheduled on which Wednesday. For example, on the first and fifth Wednesdays, activities on other themes must give way to Eucharistic celebrations, Christian formation, campus ministry activities, class recollections or retreats, creative liturgies, in-campus activities of the Christian Faith Education (CFE) Department, etc. for the use of facilities of choice (e.g. Rev. Cornelius Tonus Gymnasium, Sacred Heart Center/Open Stage, Grade School Gymnasium, Junior High School Gymnasium, Aula Maria, Conference Halls, Functions Rooms, Amphitheatre, Four Pillars Stage, Patios).



Data Backup and Disaster Recovery Policy

1. Purpose The purpose of this Data Backup and Disaster Recovery (BDR) Policy is to ensure the protection and availability of critical data, maintain business continuity, and minimize the impact of data loss in the event of unexpected incidents at Saint Mary's University

2. Scope This policy applies to all employees, contractors, and stakeholders who have access to Saint Mary's University data and information systems.

3. Data Assessment and Prioritization The CICT unit, in collaboration with relevant stakeholders, shall conduct a periodic assessment of all data types within the organization. Data will be categorized based on its importance and criticality, and appropriate Recovery Time Objectives (RTO) and Recovery Point Objectives (RPO) will be determined for each data category.

4. Data Backup Strategy

- The CICT shall implement a multi-tiered data backup strategy to safeguard critical data.
- Automated daily backups will be performed for high-priority data, including academic records and research data. Weekly backups will be conducted for medium-priority data, such as financial information, and low-priority data like administrative documents.
- Backups will be stored on both on-site and off-site locations to ensure redundancy and protect against on-site disasters.
- Cloud-based storage solutions will be utilized to maintain copies of critical data in a secure and remote location.

5. Disaster Recovery Strategy

- A detailed disaster recovery plan will be established, outlining procedures to address various disaster scenarios, including natural disasters, cyberattacks, hardware failures, and human errors.
- A designated disaster recovery team will be responsible for executing the recovery plan in the event of a disaster, and communication protocols will be defined to ensure efficient coordination.
- Alternative operational locations will be identified in case of facility unavailability to resume critical services.

6. Security and Access Control



- To maintain data confidentiality and integrity, data at rest and during transmission will be encrypted using industry-standard encryption algorithms (e.g., AES-256).
- Role-based access control (RBAC) will be implemented to manage user access to data and information systems.

7. Backup and Recovery Testing

- The CICT will conduct regular testing of data backups and recovery procedures to verify their effectiveness.
- Simulated disaster scenarios will be periodically performed to evaluate the university's readiness to respond to real-world incidents.
- Testing results will be documented, and improvements will be made based on the findings.

8. Monitoring and Alerting

- Continuous monitoring of backup processes and system health will be implemented to proactively identify and address issues.
- Automated alerting mechanisms will be established to notify IT staff of any backup or recovery failures.

9. Employee Training and Awareness

- Regular training sessions will be conducted for all employees and stakeholders to familiarize them with the BDR plan and their roles during a disaster.
- Employees will be educated on the importance of data security and the impact of their actions on the BDR process.

10. Plan Maintenance and Review

- The CICT will be responsible for maintaining and updating the BDR plan to ensure its relevance and effectiveness.
- The plan will be reviewed annually to align with changes in the organization's infrastructure and data landscape.

11. Compliance and Policy Enforcement Non-compliance with this policy may result in disciplinary actions, up to and including termination, in accordance with [Organization Name]'s policies and procedures.



12. Policy Review This Data Backup and Disaster Recovery Policy will be reviewed and updated as necessary to reflect changes in business requirements, technology, and best practices.

Research and Technical Assistance for Early Warning Systems

1. [Slow Onset Event \(SOE\) Nueva Vizcaya](#)
2. Galicia, R. J. A., Mendoza, J. A., Toletntino, N. C. M., & Bautista, M. K. S., RCE. (2024). *A proposed slope protection along Diffuday-Bonifacio Provincial Road, Quezon, Nueva Vizcaya*. In Saint Mary's University (Ed.), *SMU Research Abstracts 2023* (Vol. 11, p. 132). Saint Mary's University. <https://doi.org/10.5281/zenodo.17411298>
3. Doria, C. J. J., Espinas, K. C. L., Ingusan, V. S., & Lampa, D. J. T., BSCE. (2024). *Evaluation of flood control structures and community resilience of selected barangays of Bayombong, Nueva Vizcaya: A comprehensive flood vulnerability assessment*. In Saint Mary's University (Ed.), *SMU Research Abstracts 2023* (Vol. 11, p. 131). Saint Mary's University. <https://doi.org/10.5281/zenodo.17411298>
4. Val, I. M. A., Razo, K. M. T., Pumihic, A. S., Ambrocio, A. J. R. C., & Tiam, A. J. C., MSCE. (2024). *SIRIB: A proposed hybrid library at Northeastern College Brgy. Villasis, Santiago City, "An integration of green building concept to environmental sustainability."* In Saint Mary's University (Ed.), *SMU Research Abstracts 2023* (Vol. 11, p. 130). Saint Mary's University. <https://doi.org/10.5281/zenodo.17411298>
5. Gañalongo, R. C. D., Ancheta, J. C. D., Jose, D. M. N., & Tiam, A. J. C., MSCE. (2024). *ARAKUP: A proposed adaptive residential structure with rotating envelope system in Dingalan, Aurora, subject to strong rain and wind hazard*. In Saint Mary's University (Ed.), *SMU Research Abstracts 2023* (Vol. 11, p. 129). Saint Mary's University. <https://doi.org/10.5281/zenodo.17411298>
6. Blance, J. A., Cabagay, V. A. P., Taguiling, J. M. D., Yasay, J. R. B., & Alindayu, J. T., MSCE. (2024). *Utilization of wastepaper as a partial replacement of cement for papercrete masonry bricks*. In Saint Mary's University (Ed.), *SMU Research Abstracts 2023* (Vol. 11, p. 126). Saint Mary's University. <https://doi.org/10.5281/zenodo.17411298>



Document Code	LMC-FO-015
Revision	01
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NARRATIVE/DOCUMENTATION REPORT

Project Title:	Disaster Risk Management with Focus on Waste Management and Disaster Risk Financing (with SAB)
Date:	July 10, 2024
Time:	8:00 AM – 3:00 PM
Team Composition:	
Project Leader:	
Project Staff/Members:	Mr. Samuel Damayon Mr. Luther F. Castillo Mrs. Gayle Mercado Dr. Christopher Allen S. Marquez Darrel James M. Tela, BSBA FM 3 Kailee A. Bulawan, BSBA MM 2 Roselle B. Dalde, BSBA FM 2 Athena Mairi Riose M. Hernando, BSBA FM 2
Narrative	
<p>On July 10, 2024, the School of Accountancy and Business (SAB) class under Mrs. Gayle Mercado and the School of Graduate Studies (SoGS) class under Dr. Christopher Allen S. Marquez joined forces to conduct a seminar-workshop titled “Disaster Risk Management with a Focus on Waste Management and Disaster Risk Financing” at Ipil-Cuneg, Bayombong, Nueva Vizcaya. This collaborative initiative aimed to educate and empower the community by equipping them with essential knowledge and practical skills for disaster preparedness and recovery.</p> <p>The activity highlighted the pressing reality that disaster risk management is no longer optional but a vital necessity, particularly in vulnerable communities. With a strong focus on two critical components—waste management and disaster risk financing—the seminar emphasized their interconnected roles in mitigating risks and ensuring sustainable recovery during and after disasters.</p> <p>A key feature of the program was the donation of trash bins to the community, accompanied by a hands-on session on proper waste segregation. Organizers emphasized how responsible waste management not only promotes environmental sustainability but also reduces the risk of flooding and other calamities exacerbated by improper waste disposal. Residents were encouraged to adopt waste segregation practices as a proactive step toward disaster risk reduction.</p> <p>The seminar also tackled disaster risk financing, providing insights into how financial preparedness can help communities recover more effectively. Participants were guided on strategies for resource allocation, including setting aside funds for emergency response and long-term recovery. These lessons aimed to instill a culture of financial literacy and preparedness among the attendees, empowering them to build resilient households and communities.</p> <p>Throughout the session, the residents actively engaged in discussions and practical activities, demonstrating their eagerness to learn and apply the concepts in their daily lives. The program fostered a sense of collective responsibility among the participants, encouraging them to work together in building a disaster-resilient community.</p>	



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Documentation



Prepared by:	
Date Submitted:	



SAINT MARY'S UNIVERSITY

BAYOMBONG, NUEVA VIZCAYA, PHILIPPINES

UNIVERSITY RESEARCH CENTER

Document Code	URC-FO-060
Revision	02
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FORM ON PROJECT PROPOSAL WRITING FORMAT AND INDIVIDUAL REPORT OF FACULTY RESEARCH UTILIZATION (FIVE-MONTH FACULTY RESEARCH UTILIZATION GRANT)

Lead Researcher:

Elsa L. Cajucum, Ph.D.

Signature

Collaborators:

Lorna C. Aban, MAEd.

Gloria Vicky A. Antonio, M.Ed.

Regidor Almendral

Michael S. Catacutan

Research Title:

Project SHARE: Soil and H₂O Amendments and Restoration Efforts for Sustainable Farming in Dupax del Sur

Inclusive Date(s) of Utilization: August 2023-December 2023

School: School of Health and Natural Sciences

Department: Center for Natural Sciences

Research Utilization (Project) Title:

Project SHARE: Soil and H₂O Amendments and Restoration Efforts for Sustainable Farming in Dupax del Sur

Executive Summary:

Nueva Vizcaya is Cagayan Valley's vegetable capital and the country's next "salad bowl" (Department of Agriculture, 2011). In particular, Dupax del Sur is one of the main vegetable producers. The income of most families is derived from rice farming, onion planting, and vegetable cultivation. Thus, it is inevitable for farmers to use fertilizers to boost crop yield. Farmers across the municipality use a variety of fertilizers to grow crops and to improve and increase the crop yield in every cropping season. Applying these inorganic fertilizers repeatedly for decades pollutes the soil and the water reservoir near it. Excessive use of fertilizers could potentially cause groundwater contamination.



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Among the most pervasive pollutants of freshwater globally today are phosphate and nitrate (Khan & Ghouri, 2011). Sources of nitrates include runoff or seepage from fertilized lands, municipal and industrial wastewater, refuse dumps, animal feedlots, septic tanks, private sewage disposal systems, drainages, and decaying plant debris. Nitrates and phosphates are surplus nutrients that contaminate the soil and affect fertility.

The study aimed to raise knowledge and awareness of sustainable farming, considering the conventional means of utilizing fertilizers versus non-conventional ones, which may ensure the soil and water quality that farmers will need to grow their crops. Project SHARE aimed to disseminate the previous research findings through Information, Education, and Communication (IEC) materials on soil and water amendments.

Title of Research:

ASSESSMENT OF NITRATE AND PHOSPHATE CONTENT OF FARM SOIL AND GROUNDWATERS IN AN AGRI-MUNICIPALITY IN NUEVA VIZCAYA: BASIS FOR MLGU RESTORATION EFFORTS AND EUTROPHICATION CONTROL PROGRAM

Research Abstract:

Water safety and quality are essential, especially to human health, agriculture, aquaculture, industry, and all life forms. Effective crop production depends on an adequate supply of nutrients through fertilizer application to achieve maximum yield. However, soil nutrients need to be appropriately managed to meet the fertility requirements of crops without adversely affecting the quality of our valuable water resources. This research assessed the level of concentration of nitrates and phosphates in farmland soil and groundwater in two selected agro-ecosystem barangays in Dupax del Sur, Nueva Vizcaya, to ascertain the degree of anthropogenic influence via the application of fertilizer and other agro-chemicals to farmlands by farmers. The study shows that the dissolved nitrate concentrations of both irrigation water sources and farmland soils for both barangays are below the recommended levels set by the respective standards referenced in the study - with the data showing no statistically significant difference in nitrate concentrations in the two barangays. Also, the study indicates that the soil phosphate concentrations on all sampled farmlands in both barangays are below the recommended levels set by the standards referenced in the study. However, the dissolved phosphate concentrations in all sampled irrigation water sites are significantly above the recommended levels. The differences in soil and water phosphate concentrations can be due to having a separate irrigation source that has experienced multiple runoffs and leaching events, increasing its dissolved phosphate.



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Description of the Research Utilization Project (Scope):

Project SHARE aims to disseminate the research findings to the farmers in the two BLGUs in Dupax del Sur through Information, Education, and Communication (IEC) materials on farm soil and groundwater amendments, specifically about organic farming.

Project Locale and Beneficiaries:

With the initial data gathered, information is needed to help farmers practice sustainable farming through soil and water amendment and restoration efforts. The target farmers are members of the Mangayang-Iñeangan-Duppes Irrigation Association, Inc. and Gabut Farmers Rice and Onion Growers Association, respectively.

Dupax del Sur is one of the main vegetable producers of Nueva Vizcaya. Farmers across the municipality use a variety of fertilizers to grow crops and to improve and increase the crop yield in every cropping season.

The two neighboring barangays, Mangayang and Gabut, are divided by the Magat River, a stream, and hectares of farmlands owned by both barangay residents. Farming is the main livelihood for almost all families. The farmers from Mangayang are members of the Mangayang-Iñeangan-Duppes Irrigation Association, Inc. The farmlands cover an area from 0.8 hectares (8,000 sq. meters) to 1.5 hectares (15,000 sq. meters) with a mean area of 1.15 hectares (11,500 sq. meters). The common crop planted in Mangayang is sweet potato, commonly called camote. Rice is also grown on two farms, while corn is on one farm. As one farmer shared, camote is a better alternative to rice since the profit is greater, considering the very low price of rice bought by traders. Vegetables such as tomato, pepper, kentucky beans, string beans, winged bean (pallang), and bottle gourd (upo) are also planted as additional crops. The only farm visited in Gabut is planted with squash and red onions.

Rationale:

Nueva Vizcaya is Cagayan Valley's vegetable capital. In particular, Dupax del Sur is one of the main vegetable producers. The income of most families is mainly derived from rice farming, onion planting, and vegetable cultivation.

Farmers across the municipality use a variety of fertilizers to grow crops and to improve and increase the crop yield in every cropping season. Applying these inorganic fertilizers repeatedly for decades pollutes the soil and the water reservoir near it. Excessive use of fertilizers could cause groundwater contamination. Based on the interview, the plant growers are hesitant to use organic fertilizer, particularly the vermicompost given free by



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the Department of Agriculture. Also, the interview revealed that all the sampled farmers commonly use urea fertilizer.

The findings of the study will be beneficial for the environment and the community. Farmers will be aware of the potential risks of continued usage of inorganic or chemical fertilizers. Hence, they will be encouraged to use alternative fertilizers for more sustainable farming. Concerned government agencies could raise awareness about this phenomenon. This could enable them to devise restoration efforts and formulate eutrophication control programs for affected areas. The researchers also believe that the study will help promote sustainable farming and is also aligned with risk reduction and mitigation, one of the components of SMU's Project WEALTH VERSION 2.0. This academic endeavor is also associated with the United Nations' Sustainable Development Goals (SDGs) 2, 6, 12, and 13. SDG2 is No hunger: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture; SDG6 is Clean Water and Sanitation: Ensure availability and sustainable management of water and sanitation for all; SDG12 is Responsible Consumption and Production: Ensure sustainable consumption and production patterns; and SDG13 is Climate Action: Take urgent action to combat climate change and its impacts (UN, n.d.).

General and Specific Objectives:

General:

The study aims to raise knowledge and awareness of sustainable farming, considering the conventional means of utilizing fertilizers to the non-conventional ones which may ensure the soil and water quality that farmers will need to grow their crops.

Specific:

1. To disseminate initial research findings on the nitrate and phosphate content of the farm soil and groundwaters
2. To consult an expert/ agriculturist from the DA on the content of IEC materials
3. To develop/ design IEC materials on soil and water amendments and restoration
4. To evaluate the IEC materials for validity and appropriateness
5. To distribute the IEC materials to the beneficiaries/ farmers

Expected Results:

Consultation meetings with the beneficiary and BLGU and the utilization of the IEC materials on soil and water amendment and restoration efforts.



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Strategic Activities:

Activities	Workplan	Deliverables
Research Dissemination	The target audience are the farmers who are members of the Mangayang-Iñeangan-Duppes Irrigation Association, Inc. and Gabut Farmers Rice and Onion Growers Association (GFROGA).	Research Findings
Consultation with Expert/s	Researchers invite/ set an appointment with an agriculturist	Draft of IEC materials
Crafting of the IEC Materials	Researchers meet to develop/ design the needed IEC materials	IEC materials are subject to evaluation by experts (language editor, DA, among others)
Distribution of the IEC Materials	Meet with the BLGU and beneficiaries for the presentation and distribution of the IEC materials	Final IEC materials (brochure/pamphlet/ flyer/infographics/ poster)

Narrative of Utilization:

Before the research dissemination to the target beneficiaries, the study was presented by Dr. Elsa L. Cajucom during the 10th HCU Thailand e-Conference on June 29, 2023, via Zoom under the Science and Technology cluster.



The research paper was presented by Dr. Elsa L. Cajucom during the 10th HCU e-Conference on June 29, 2023.



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While waiting for the confirmation of the two barangay captains, the team conducted online research about organic farming. At the same time, one of the researchers gathered insights about organic farming from a professor from a state university. After finalizing the content draft, IEC materials such as a brochure and a poster were crafted using Canva Tools. The researchers worked as a group on the layout and design of the IEC materials.

Ang lupa ay buhay at
ang lupa ay buhay.

3. ... iba't ibang...

ANG KARAM NG ORGANIKONG PAGSASAKA:

1. Pagpapalaki ng pangunahing klasa ng halaman (mga gulay, munggo) at hindi sa lumang halaman (mangroves).
2. Pagpapalaki ng halaman (mga gulay, munggo).
3. Sukat na taniman (intercropping).
4. Mula-hating pagpapalaki (home gardens).
5. Pag-iwas sa iba-ibang hayag, kasama ang halaman (jornal integration).
6. Pagpapalaki ng pagpapalaki ng lupa sa pamamagitan ng pagpapalaki (mulching), paggamit ng green manure at mga binuak na halaman sa parte ng halaman (compost, dami ng hayag, abo, at natural na paratol (organic mineral rich)).
7. Pagpapalaki at pagpapalaki ng mga halaman nagtataguyod sa mga pangunahing mababaw (pest resistant plants).
8. Paggamit ng mga tradisyonal na kasaning ng buhay at ng hayag.
9. Natural na pamamagitan ng pagpapalaki at pagpapalaki ng mga peste.
10. Paggamit ng mga halaman gamit bilang pestisidyo (natural pest control).

1. isang halaman lamang...

The research team then subjected the IEC materials to critique and evaluation.

A member of the SMU language editors proofread the content. Filipino language editing in the materials was conducted by a Filipino teacher with a MAT degree in Filipino.

After the review and validation, the researchers produced 50 copies of brochures and two sets of tarpaulins for the poster.

Language editing snippets of the IEC material (brochure) sent by the expert validator

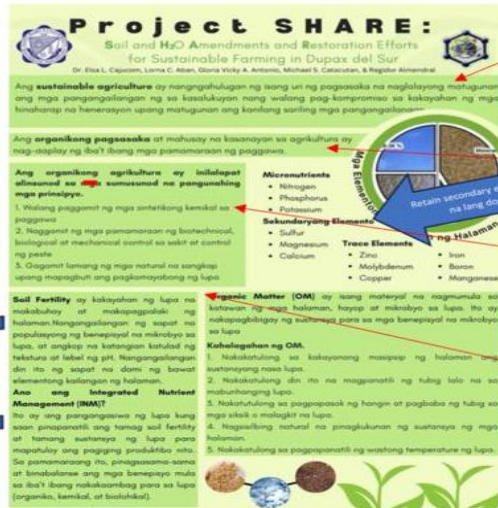


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Ang sustainable agriculture ay isang uri ng pagsasaka na naglalayong matugunan ang mga pangangailangan sa kasalukuyan nang walang pagkompromiso sa kakayahang ng mga susunod na henerasyon upang matugunan ang mga sariling pangangailangan.

Ang organikong pagsasaka at mahusay na kasanayan sa agrikultura ay gumagamit ng iba't ibang pamamaraan ng paggawa.

Ang organikong...

1. Hindi paggamit...
2. Paggamit ng *biotechnical*, *biological* at *mechanical* na pagpuksa sa sakit at mga peste
3. Paggamit lamang ng natural na sangkap upang mapanatili ang kayabungan ng lupa

Ang organic matter..

Kahalagahan ng OM

1. May kakayahang makuha ng halaman ang sustansiyang nasa lupa.
2. Napapanatili nito ang tubig lalo sa mabuhanging lupa.
3. Napapapasok nito ang hangin at napabababa ang tubig sa mga siksik o malagkit na lupa.
4. As is doc..
5. Nakatutulong sa pagpapanatili ng wastong temperatura ng lupa.

Ang soil fertility ay tumutukoy sa kakayahang ng lupa na mabuhay at mapalaki ang mga halaman. Nangangailan ito ng sapat na bilang ng benepisyal na mikrobyo sa lupa at angkop na katangian tulad ng tekstura at lebel ng ph. Nangangailangan din...

Ito ay ang pangangasiwa ng lupa kung saan pinananatili ang tamang taba at sustansiya nito upang patuloy ang pagiging produktibo nito. Sa pamamaraang ito....

Language editing snippets of the IEC material (poster) sent by the expert

IEC MATERIALS on Organic Farming

A. Brochure



B. Poster

Inspired by Mission,
Driven by Excellence

Second Floor, Rev. John Van Bauwel Building
SMU Main Campus, Ponce Street,
Bayombong, 3700 Nueva Vizcaya, Philippines
smu.edu.ph / stmarysuniversityresearch@gmail.com
09755114139 / 09654317801



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Project SHARE:

Soil and H₂O Amendments and Restoration Efforts
for Sustainable Farming in Dupax del Sur

Dr. Elsa L. Cajucom, Lorna C. Aban, Gloria Vicky A. Antonio, Michael S. Catacutan, & Regidor Almendral

Ang **sustainable agriculture** ay ay isang uri ng pagsasaka na naglalayong matugunan ang mga pangangailangan sa kasalukuyan nang walang pagkompromiso sa kakayahan ng mga susunod na henerasyon upang matugunan ang mga sariling pangangailangan.

Ang **organikong pagsasaka** at mahusay na kasanayan sa agrikultura ay gumagamit ng iba't ibang pamamaraan ng paggawa.

Ang **organikong agrikultura** ay inilalapat alinsunod sa sumusunod na pangunahing mga prinsipyo.

1. Hindi paggamit ng mga sintetikong kemikal sa paggawa
2. Paggamit ng *biotechnical, biological at mechanical* na pagpuksa sa sakit at mga peste
3. Gagamit lamang ng mga natural na sangkap upang mapagbuti ang pagkamayabong ng lupa

Ang **Soil Fertility** ay tumutukoy sa kakayahan ng lupa na mabuhay at mapalaki ang mga halaman. Nangangailan ito ng sapat na bilang ng benepisyal na mikrobyo sa lupa at angkop na katangian tulad ng tekstura at lebel ng pH. Nangangailangan din ito ng sapat na dami ng bawat elementong kailangan ng halaman.

Ano ang Integrated Nutrient Management (INM)?

Ito ay ang pangangasiwa ng lupa kung saan pinananatili ang tamang taba at sustansiya nito upang patuloy ang pagiging produktibo nito. Sa pamamaraang ito, pinagsasama-sama at binabalanse ang mga benepisyo mula sa iba't ibang nakakaambag para sa lupa (organiko, kemikal, at biyolohikal).

Ang **Organic Matter (OM)** ay isang materyal na nagmumula sa katawan ng mga halaman, hayop at mikrobyo sa lupa. Ito ay nakapagbibigay ng sustansiya para sa mga benepisyal na mikrobyo sa lupa.

Kahalagahan ng OM

1. May kakayahang makuha ng halaman ang sustansiyang nasa lupa.
2. Napananatili nito ang tubig lalo sa mabuhang lupa.
3. Napapapasok nito ang hangin at napabababa ang tubig sa mga siksik o malagkit na lupa
4. Nagsisilbing natural na pinagkukunan ng sustansiya ng mga halaman.
5. Nakatutulong sa pagpapanatili ng wastong temperatura ng lupa.

Mga Elementong Kailangan ng Halaman



Micronutrients	Secondary Elements	Trace Elements
<ul style="list-style-type: none">• Nitrogen• Phosphorus• Potassium	<ul style="list-style-type: none">• Sulfur• Magnesium• Calcium	<ul style="list-style-type: none">• Zinc• Molybdenum• Copper• Iron• Boron• Manganese

1. Pinapabuti ang kakayahang magamit ang sustansiyang nasa pataba at sustansiyang sadyang nasa lupa.

2. Itinutugma ang pangangailangan ng halaman sa sustansiyang ibinibigay ng iba-ibang pataba.

3. Nagbibigay ng balanseng nutrisyon sa epekto ng iisang klase ng pataba.

4. Pinagaganda at pinapanatili ang pisikal, kemikal, at biyolohikal na paggana ng lupa.

5. Nakabubuti para sa kapaligiran.

Mga Bahagi ng INM

1. **Kompost**
 - Binubulok na organikong materyal.
2. **Vermicompost**
 - Kompost na pinapabilis ang pagpapabulok sa tulong ng mga bulati
3. **Ipot**
 - Dumi ng hayop
4. **Vermicast**
 - Ipot ng bulati
5. **Organikong Pataba**
 - Ipa (rice hull/husk)
 - Crop residue
6. **Biofertilizer**
 - Pataba na ang sangkap ay mga mikrobyo (bakteryal o amag)
7. **Intercropping**
 - Pagitanim nang salitan ng hilera ang dalawang magkaibang halaman.
8. **Crop Rotation**
 - Pag-iba-iba ng itinatanim na halaman sa iisang bahagi ng lupa.
9. **Green Manure**
 - Paghahalo ng dahon at katawan ng mga halaman sa lupa.

Mga DAPAT ISAALANG-ALANG sa paggamit ng Sintetikong Pataba

1. Mas makabubuti kung nakapagpasuri ng lupa (soil analysis).
2. Maglagay ng tamang dami ayon sa pangangailangan ng halaman.
3. Maaring paghalu-haluin ang mgkakaibang klase ng abono ngunit dapat mailagay din kaagad sa lupa.
4. Iwasan ang pahasik na paglalagay ng abono lalo na kung may sapat na pagitan sa mga halaman, maliban sa palay.
5. Ilagay ang abono 3-4 sentimetro ang layo sa puno o kaya ay sa ilalim ng buto.
6. Kung maasim (acidic) ang lupa, maglagay ng wastong dami ng apog (agricultural lime), at bawasan ang gamit ng kemikal na pataba.

Mga Sanggunian:

Food and Agriculture Organization of the United Nations (n.d.). What is Organic Agriculture? <https://www.fao.org/organic/oa-fao/oa-fao/en/>

Yamang Lupa Program Region IV-A <https://www.facebook.com/viccolabazon/>

Zamora, O.B. (2009). *Likas-kaya at Organikong Pagsasaka*. PRM and UPLB-College of Agriculture, M ind-Builders Publishing House, Quezon City.



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Communication letters were given to the two barangays for the proposed schedule of dissemination and distribution of IEC materials among the target farmer-beneficiaries, and upon the confirmation of the two barangays, Team Project SHARE conducted the dissemination and distribution of IEC materials on November 11, 2023. During the onsite activity, an interview was conducted. The sampled farmers were briefly interviewed about organic farming and their insights on the provided IEC materials. In addition, some farmers were also interviewed through brief phone calls conducted in the afternoon after their farm work.

Documentation of Utilization



Distribution of Posters



Since Mr. Pedro Gudoy, the farm leader of Brgy. Mangayang attended a burial on November 11, 2023, the Brgy. Treasurer received a copy of the research findings, 25 pcs of the brochure, and the poster to be posted in the farmers' venue of their meetings. During the house meeting, the study's findings on the sampled farmlands in their barangay were also discussed. It was explained that the farmers' continuous use of synthetic fertilizers significantly affects the soil quality. Thus, the team advocates the use of organic farming towards sustainable farming.

Meanwhile, the team went to the house of Hon. Jon Agoot, Brgy. The Brgy. Captain of Gabut distributed the IEC materials and provided a copy of the research findings.



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Distribution of Brochure



The researchers visited the sampled farmland owners in barangays Mangayang and Gabut to give brochures for an information drive about Organic Farming.

Feedback from Clients/Beneficiaries

The team gathered some testimonials from the farmland owners. Below are their insights about the IEC materials they received.



"Samuel"
Mangayang

Bukod sa babasahin tungkol sa organikong pagtatanim, sana magkaroon pa ng simpleng diskusyon na magaganap mismo sa bukid.



"Peter"
Mangayang

Mayat nga adda ti bas-basaen tunggal panagaramat ti organic farming.



"Antonina"
Mangayang

Nagadun ti nagal-ala ti adalen da ngem tatta lang ajay adda ngsibli tapnu ipakaam-mu ti resulta. Kastuy kuma.



"Leonardo"
Gabut

Nangin-ngina gamin ti rganic fertilizer kesa jay synthetic. Ngem, makatulong nga makanayun ti impormasyon jay papel nga inted yu.

On November 15, 2023, Brgy. Captain Jheremie Mangaong communicated the farmers' request to conduct a short forum on Organic Farming. As an extended activity, Team Project SHARE shall organize a forum in collaboration with the Department of Agriculture-NV.



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(To be filled up by the Faculty Researcher / Lead Researcher / Lead Extensionist)

ELSA L. CAJUCOM, Ph.D.

Faculty Lead Researcher / Lead Extensionist

(Signature over Printed Name)

Noted:

LORNA C. ABAN, MAEd

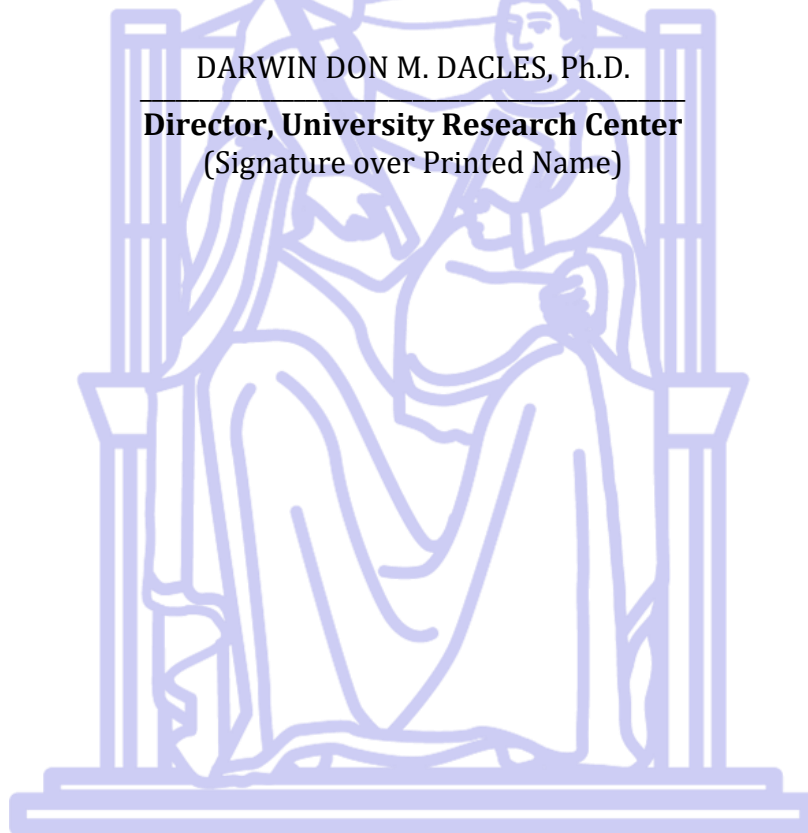
Research Coordinator

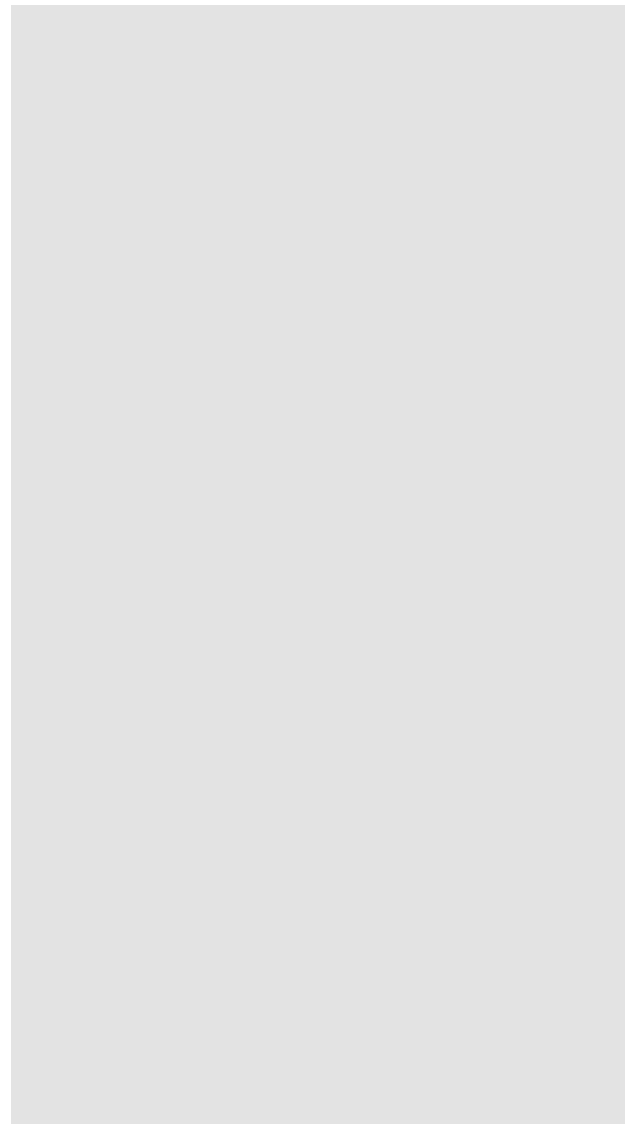
(Signature over Printed Name)

DARWIN DON M. DACLES, Ph.D.

Director, University Research Center

(Signature over Printed Name)





NUEVA VIZCAYA: AN IMPACT CHAIN ANALYSIS ON THE EFFECTS OF SLOW ONSET EVENTS ON VEGETABLES

Engr. Myrna B. Grospe, Nueva Vizcaya State University

Engr. June C. Quipo, Nueva Vizcaya State University

Engr. Jefrie T. Alindayu, Saint Mary's University

Engr. Angelino A. Pimentel, Saint Mary's University

This study will focus on the impacts of long-term slow onset events on vegetables in Synergy project areas in the province of Nueva Vizcaya. Specifically, this study aims to achieve the following:

1. **Vulnerability assessment** of areas vastly planted with the crops that is potentially at high risk to the effects of slow onset events, specifically temperature and rainfall;
2. Create a **crop sensitivity chart** separately each identified appropriate for the project sites;
3. Produce a **crop impact chain** with clear biophysical impacts, socio-economic impacts and adaptations considering the most important climatic stimuli; and,
4. Conduct **correlation analysis** on the selected climatic stimuli and crop productions in the synergy areas.

RESEARCH LOCALE 1:
KAYAPA, NUEVA VIZCAYA

Kayapa, officially the Municipality of Kayapa is a 3rd class municipality in the province of Nueva Vizcaya, Philippines. Kayapa is 61 kilometres (38 mi) from Bayombong, 266 kilometres (165 mi) from Manila, and 78 kilometres (48 mi) from Baguio City.



Municipality	Kayapa, Nueva Vizcaya
Barangay count	30
Population	26,469 (As 2020) 5.32% of Nueva Vizcaya's total population.
Land Area	740.20 km ² (285.79 sq mi) 15.38% of Nueva Vizcaya's total area.

Research Methodology

The researchers visited the Mayor of Kayapa, N. V. to discussed the objectives of the research and ask permission for data gathering.



September 13, 2023

HON. ELIZABETH D. BALASYA

Municipal Mayor
Kayapa, Nueva Vizcaya

THRU: **Municipal Agriculture Office**
Municipality of Kayapa

Dear Sir/Ma'am,

Greetings of Peace!

We, the researchers from Saint Mary's University and Nueva Vizcaya State University are currently conducting a research entitled **"NUEVA VIZCAYA: AN IMPACT CHAIN ANALYSIS ON THE EFFECTS OF SLOW ONSET EVENTS ON VEGETABLES"**. The research will focus on the impacts of long-term slow onset events on vegetables in the province of Nueva Vizcaya. Slow onset events, such as sea level rise, rainfall, temperature, acidification, and desertification, among others, are gradual yet greater and long-term and its impacts may unfold over years or decades. Thus, monitoring of SOE impacts calls for a more serious and immediate attention.

In lieu with this, we would like to request that your good office allow us in accessing data available in your office that is relevant to the study. We would like also to ask your assistance to help us conduct survey and group focal discussions with farmers in the municipality. Rest assured that the research findings will be forwarded to your office, which will be very beneficial to farmers and essential in policy making and agenda development.

Thank you for your positive response.

Respectfully yours,

Engr. Myrna B. Grospe, PhD

Faculty Member, College of Engineering
Nueva Vizcaya State University
Cp #: 0977 642 4644

Engr. Jeffrey T. Alindayu, MSCE

Department Head, Civil Engineering & Architecture
Saint Mary's University
Cp #: 0919 294 3888

Engr. June Quiipo

Head, PAGASA AGROMET Station
Nueva Vizcaya State University

Engr. Angelino A. Pimentel, MSECE

Department Head, Electronics Engineering
Head, Technology Transfer & Business Dev. Office
Saint Mary's University

RESEARCH LOCALE 2:
DUPAX DEL NORTE, NUEVA VIZCAYA

Dupax del Norte is a 3rd class municipality in the province of Nueva Vizcaya, Philippines. It is bounded by the town of Kasibu in the north, Alfonso Castañeda in the east, Dupax del Sur in the south, and Bambang in the west.



Municipality	Kayapa, Nueva Vizcaya
Barangay count	15
Population	33,295 (As 2020) 6.69% of Nueva Vizcaya's total population.
Land Area	347.30 km ² (134.09 sq mi) 7.21% of Nueva Vizcaya's total area.



The researchers visited the Office of the Mayor in Bambang, Nueva Vizcaya to discuss the objectives of the research and ask permission for data gathering.

September 13, 2023

ATTY. TIMOTHY JOSEPH E. CAYTON
Municipal Mayor
Dupax del Norte, Nueva Vizcaya

THRU: **Municipal Agriculture Office**
Municipality of Dupax del Norte

Dear Sir/Ma'am,

Greetings of Peace!

We, the researchers from Saint Mary's University and Nueva Vizcaya State University are currently conducting a research entitled **"NUEVA VIZCAYA: AN IMPACT CHAIN ANALYSIS ON THE EFFECTS OF SLOW ONSET EVENTS ON VEGETABLES"**. The research will focus on the impacts of long-term slow onset events on vegetables in the province of Nueva Vizcaya. Slow onset events, such as sea level rise, rainfall, temperature, acidification, and desertification, among others, are gradual yet greater and long-term and its impacts may unfold over years or decades. Thus, monitoring of SOE impacts calls for a more serious and immediate attention.

In lieu with this, we would like to request that your good office allow us in accessing data available in your office that is relevant to the study. We would like also to ask your assistance to help us conduct survey and group focal discussions with farmers in the municipality. Rest assured that the research findings will be forwarded to your office, which will be very beneficial to farmers and essential in policy making and agenda development.

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Department Head, Civil Engineering & Architecture
Saint Mary's University
Cp #: 0919 294 3807

Engr. June Quipo
Head, PAGASA AGROMET Station
Nueva Vizcaya State University

Engr. Angelino A. Pimentel, MSECE
Department Head, Electronics Engineering
Head, Technology Transfer & Business Dev. Office
Saint Mary's University

Available Data

- **BASE MAPS**

- Slope

- Elevation

- Landcover

- Landslide

- Rainfall Irrigation

- **SECONDARY DATA**

- Temperature

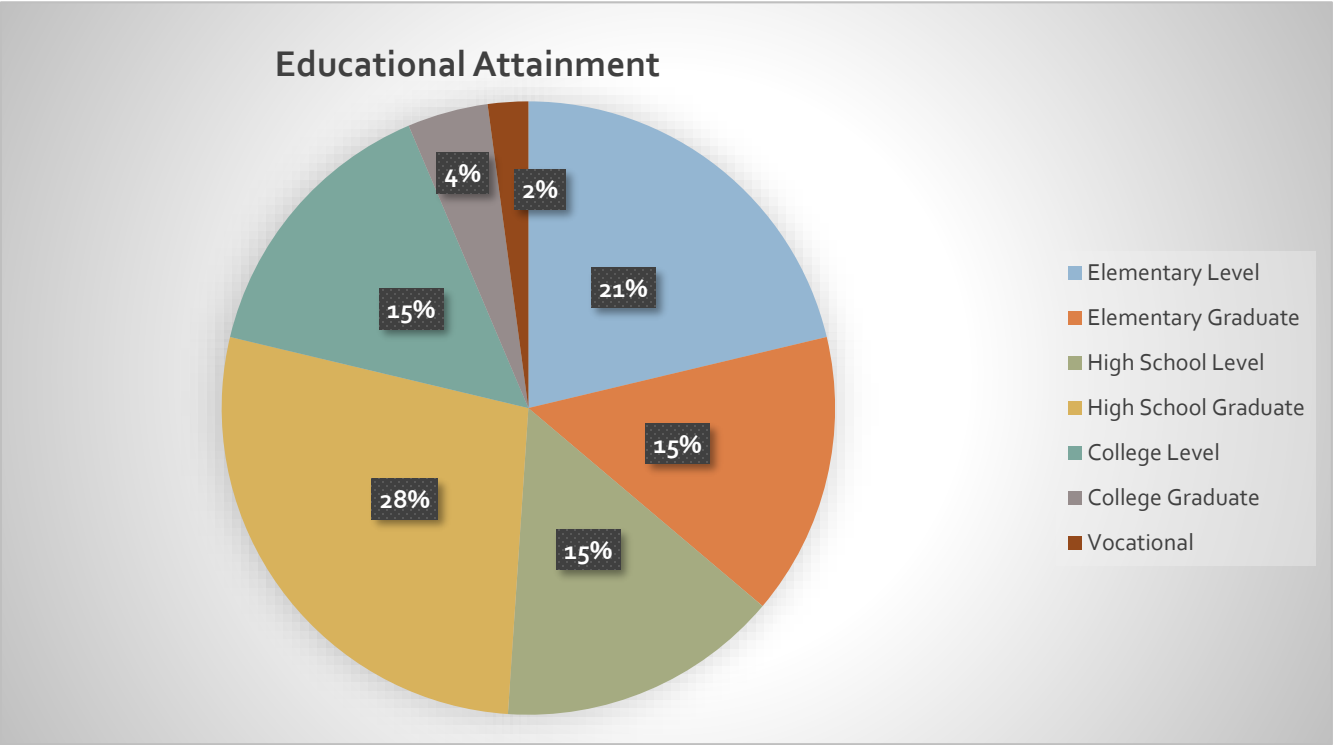
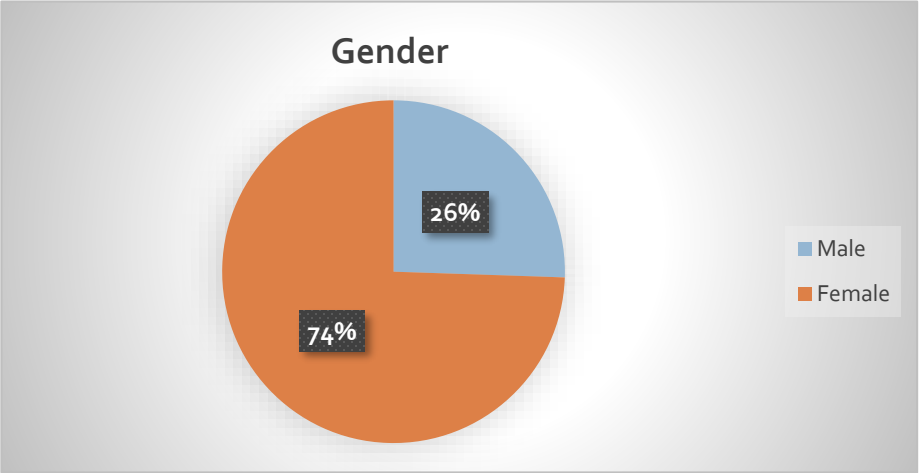
- Annual Rainfall

- Monthly Rainfall

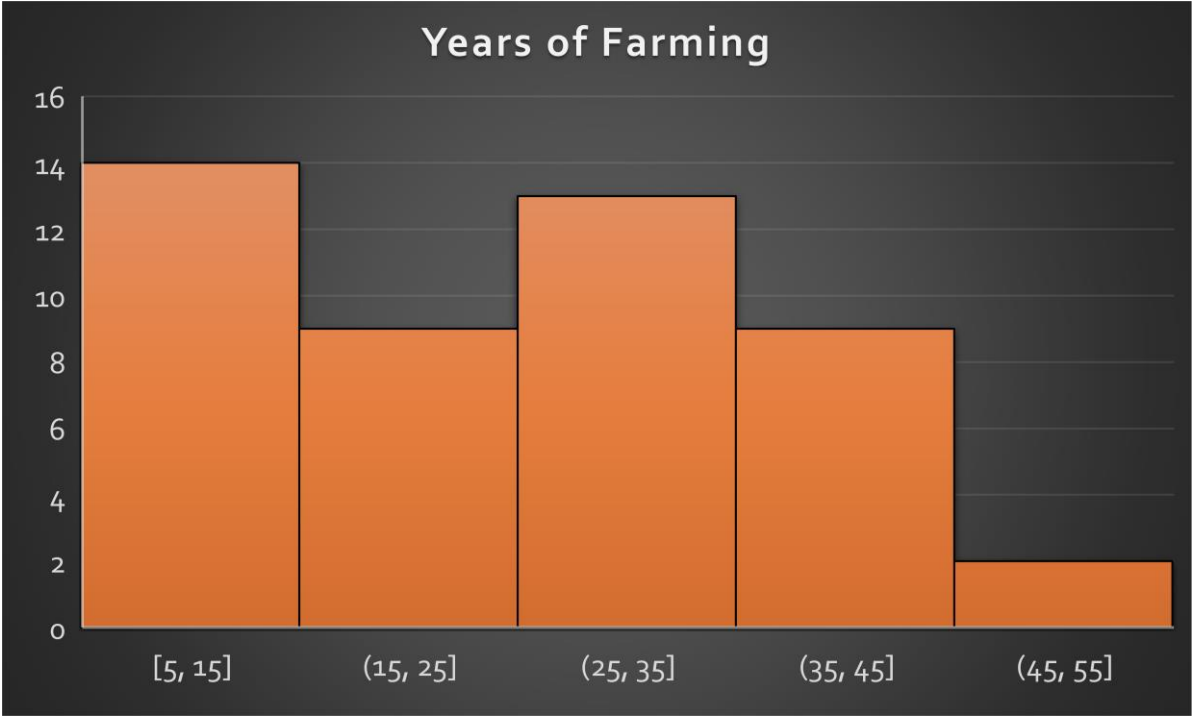
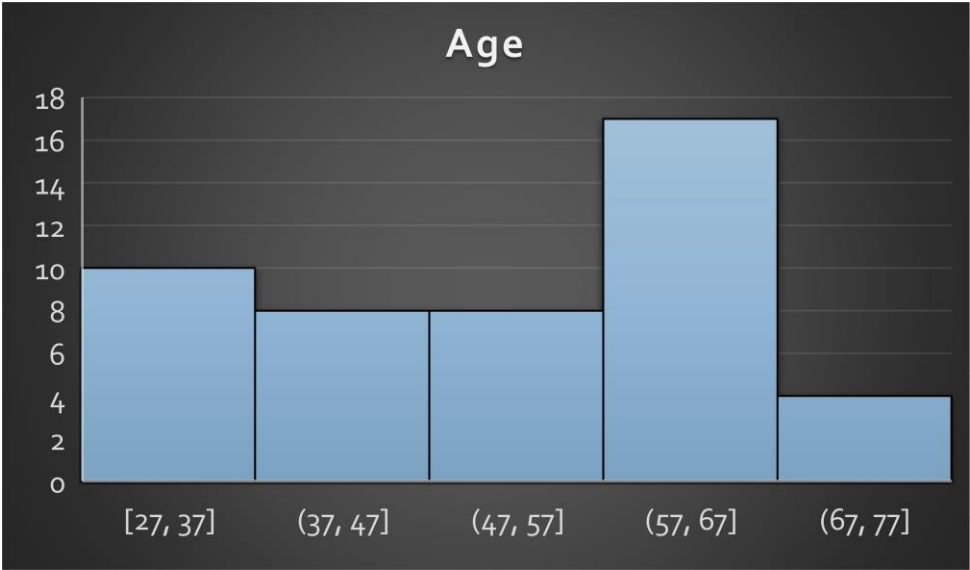
- Vegetable Productions

- **INTERVIEWS**

Profile of Respondents

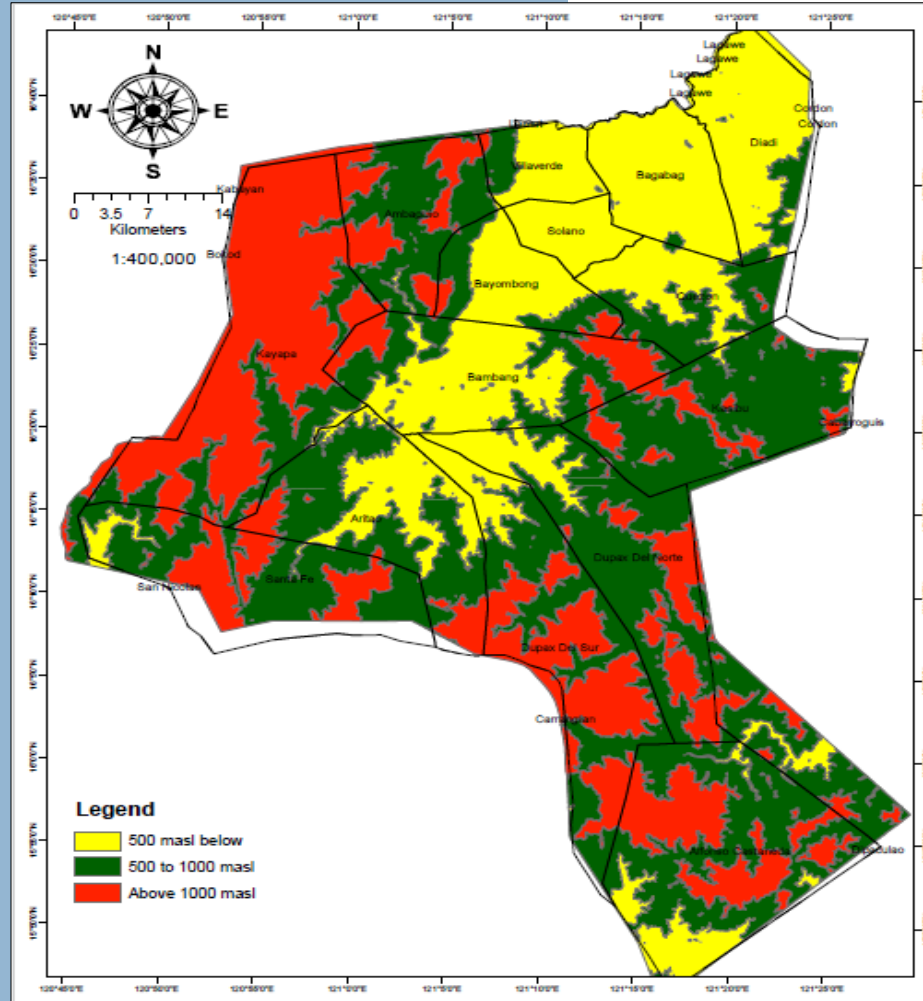


Profile of Respondents



Results & Discussion

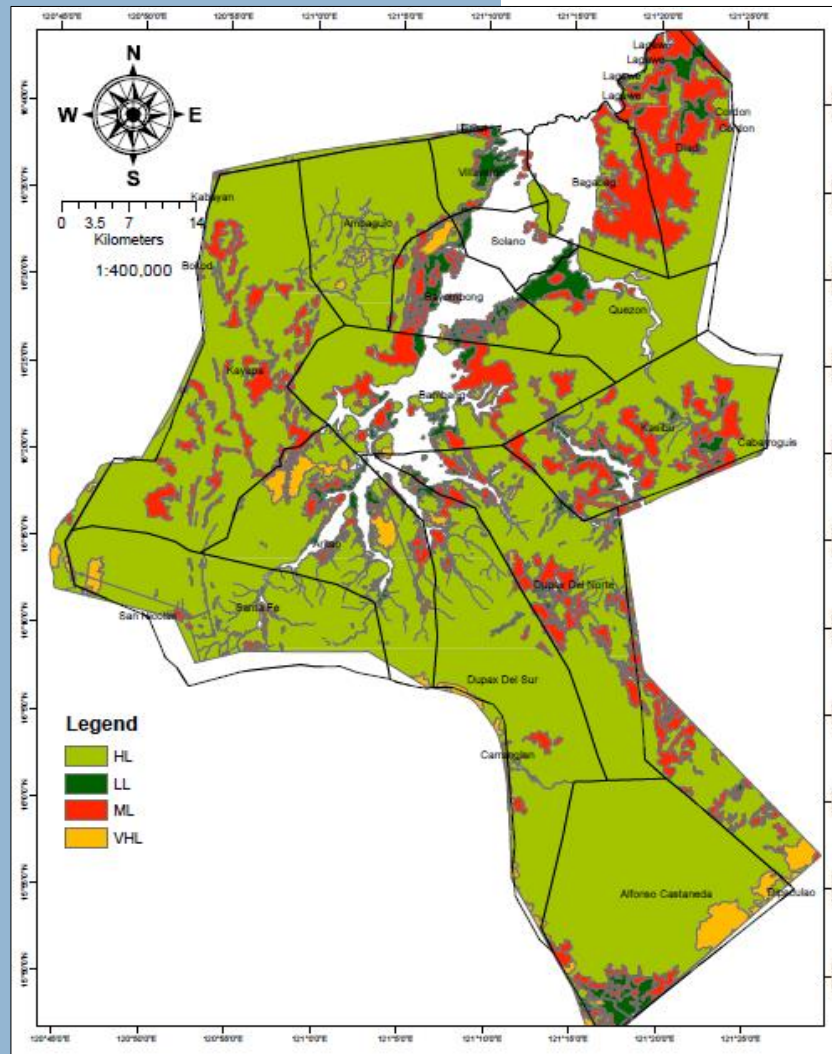
ELAVATION MAP OF NUEVA VIZCAYA



As shown, **Kayapa** is mainly located above 1000 meters above sea level with the highest elevation at 2030 masl. The elevation of **Dupax del Norte** varies but most parts are at elevation of 500 masl and above.

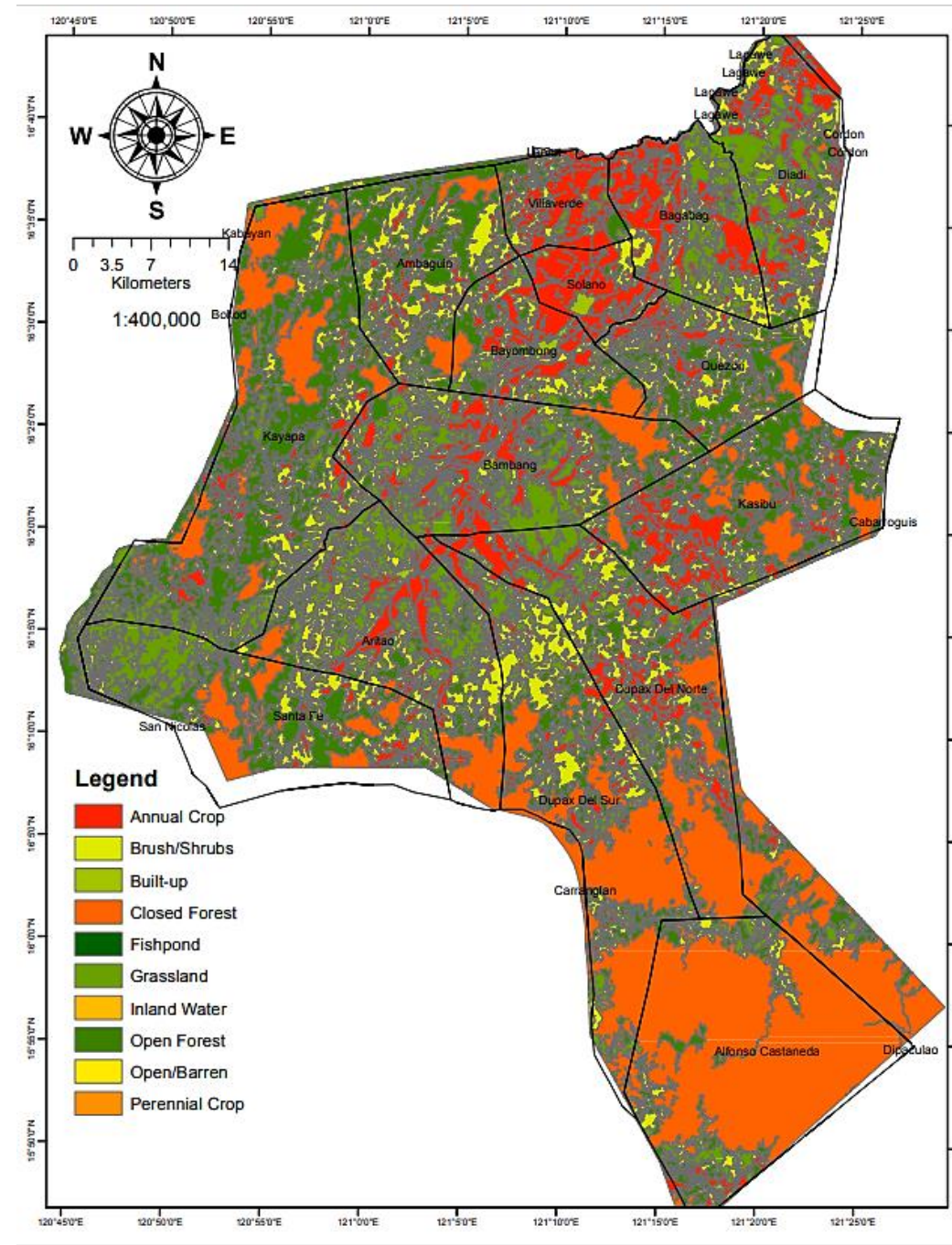
SOURCE: Nueva Vizcaya Provincial Planning and Development Office (NV-PPDO)

PROBABILITY OF THE OCCURRENCE OF LANDSLIDE IN NUEVA VIZCAYA

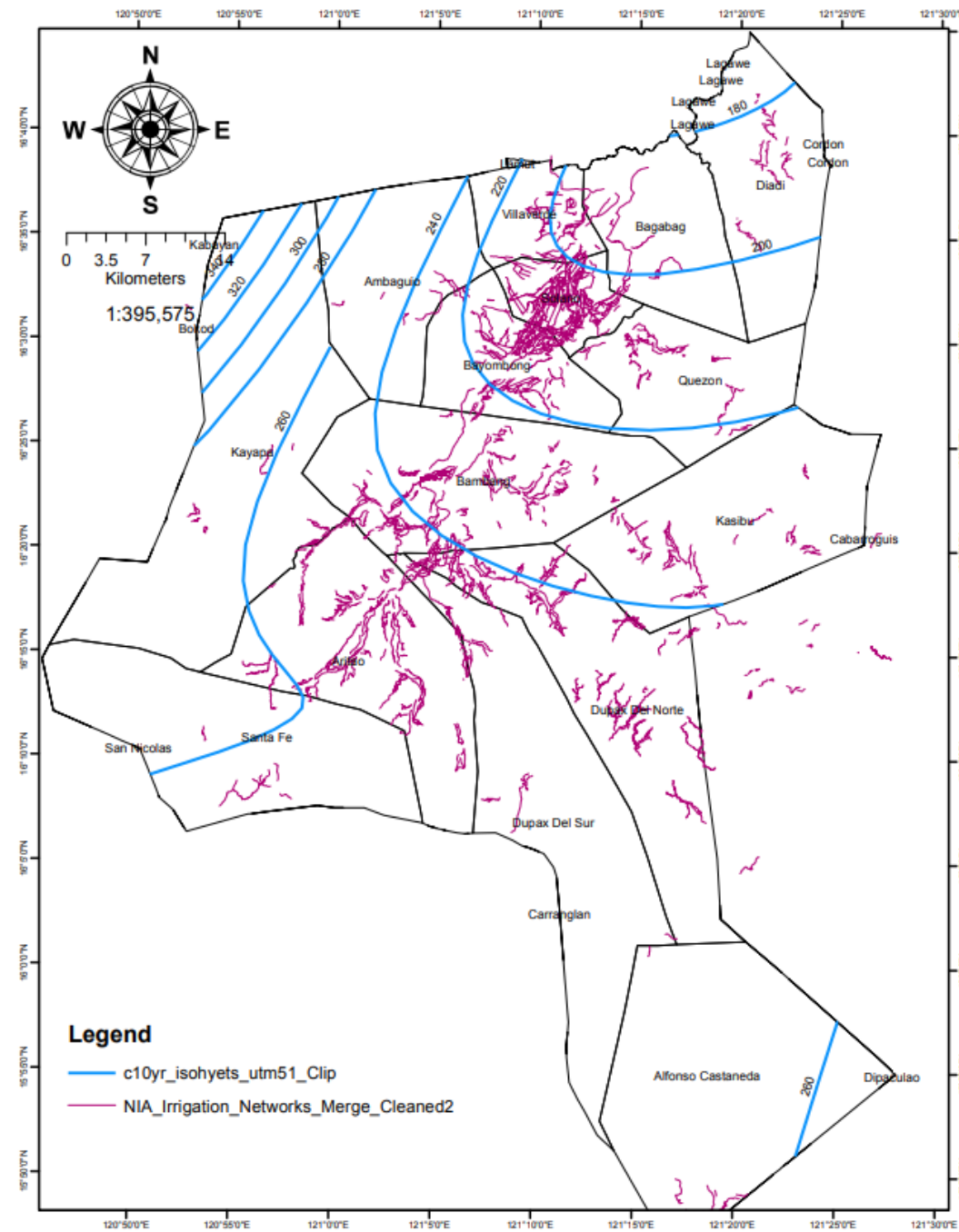


The figure shows that most parts of the province, including Kayapa and Dupax del Norte are **moderate to highly susceptible to landslide** due to mountainous terrain with steep to very steep landforms.

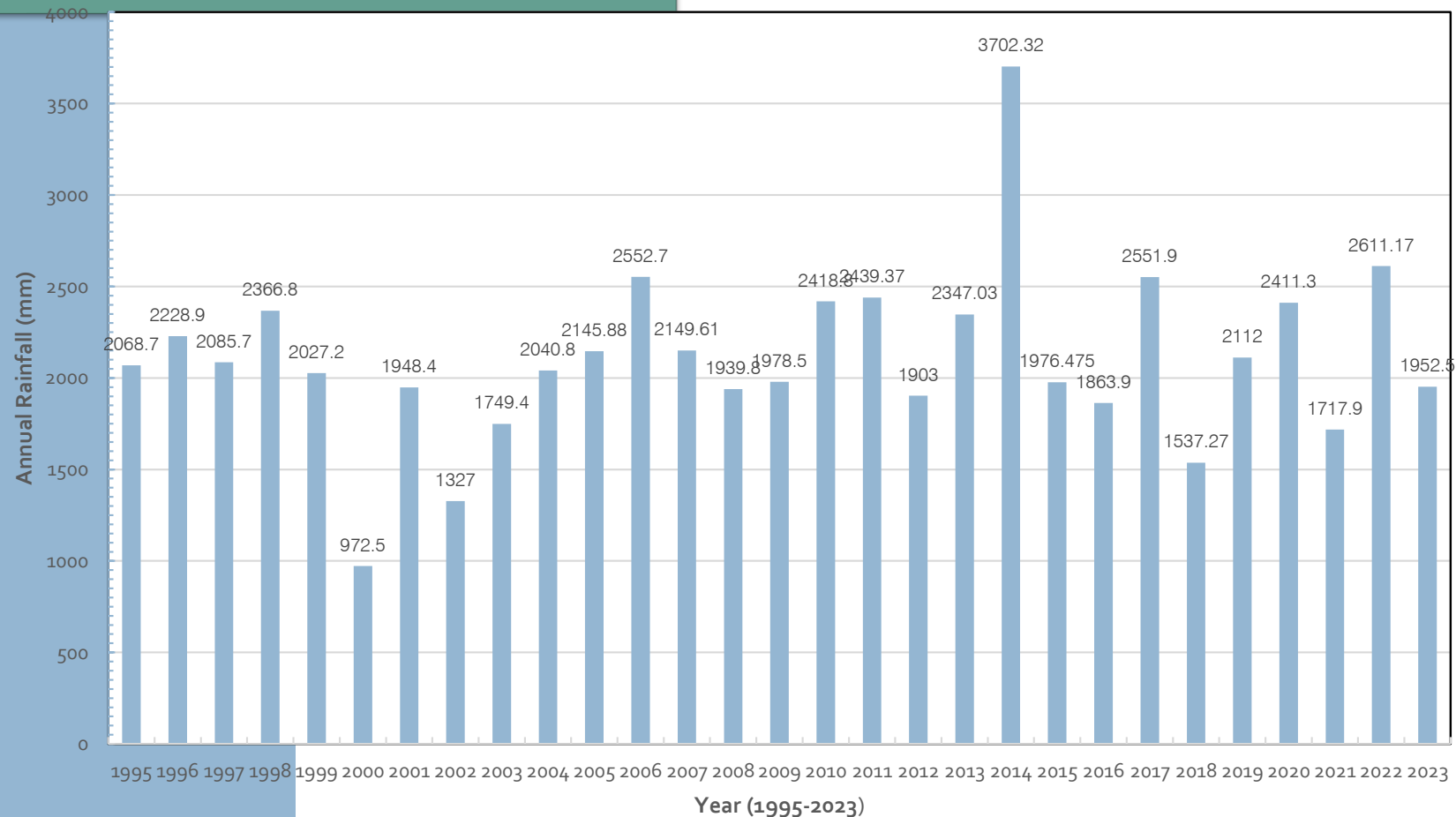
LANDCOVER IN NUEVA VIZCAYA



RAINFALL MAP OF NUEVA VIZCAYA

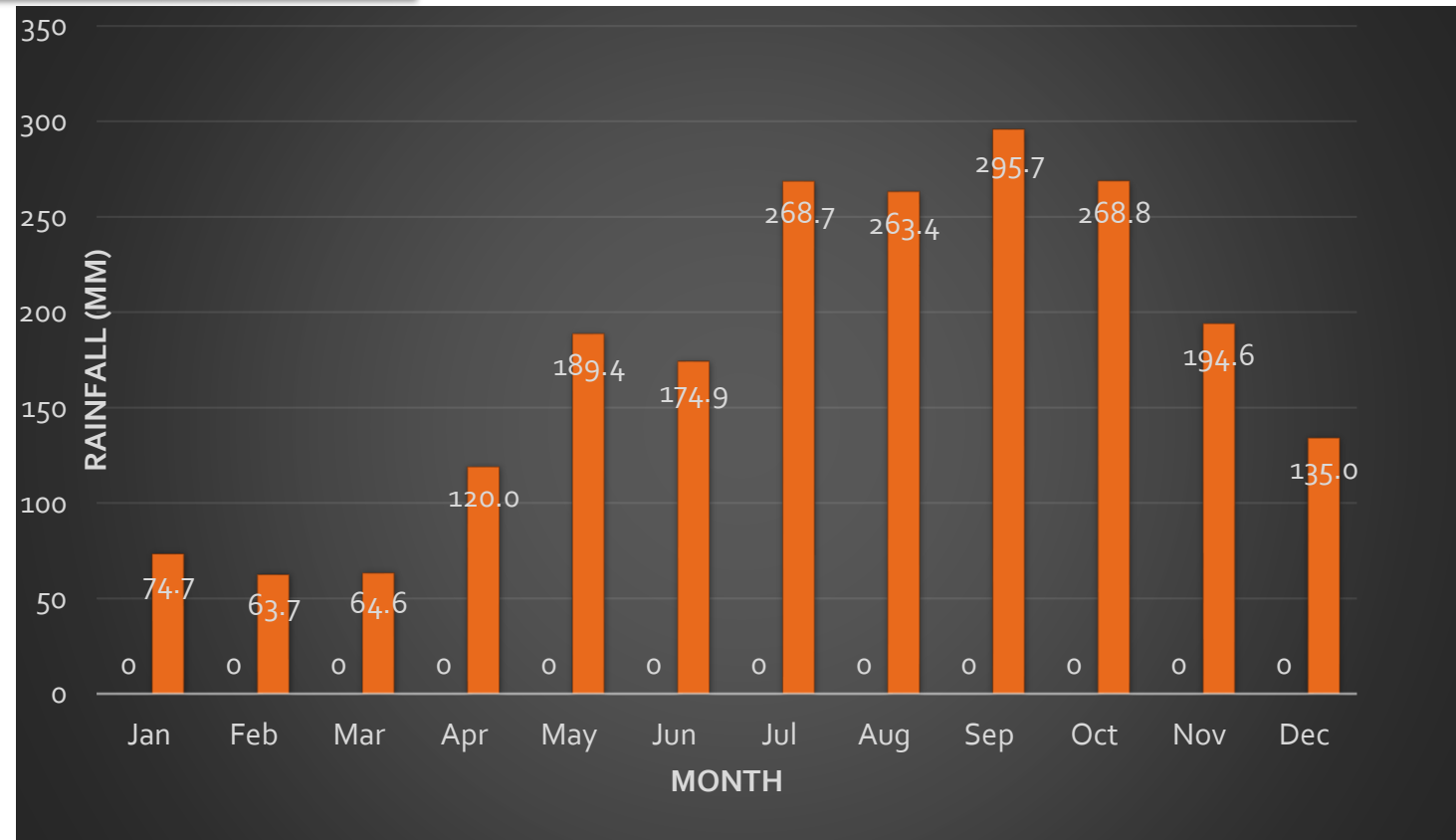


RAINFALL PATTERN IN NUEVA VIZCAYA



Based on data gathered from the PAGASA Agromet Station located at the Nueva Vizcaya State University – Bayombong Campus, the **highest annual rainfall** recorded in the Province was in 2014 at **3702.32 mm**. The lowest is at **972.5 mm** in 2000. The average for the 29-year period is **2,107.82 mm**.

RAINFALL PATTERN IN NUEVA VIZCAYA



The average monthly rainfall for the 29-year period from 1995 to 2023. It shows that the highest rainfall occurs from the month of July to October with a highest average of **295.7 mm in the month of September**. The lowest amounts of rainfall occur during the months of January to March with the **lowest average of 63.7 mm for the month of January**.

Results & Discussion

TEMPERATURE PATTERN IN NUEVA VIZCAYA

Temperature																									
	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		
Year	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Annual
2023	26.5	20.0	28.8	19.8	30.5	20.9	32.5	23.4	33.9	24.2	33.5	24.3	32.4	24.3	33.4	24.7	32.3	24.4	32.0	23.6	28.6	22.6	28.2	22.2	27.0
2022	27.7	19.8	28.7	20.4	31.4	21.5	31.4	22.0	33.8	22.9	33.6	23.1	32.5	23.2	31.3	22.4	31.6	22.6	29.9	22.4	30.6	22.4	26.9	21.0	26.4
2021	26.0	19.3	27.8	20.6	30.7	22.0	32.3	22.5	36.2	23.9	34.0	23.9	32.3	24.5	32.2	23.8	32.2	23.2	30.1	22.9	30.3	22.8	26.3	19.5	26.6
2020	27.9	18.5	28.1	16.6	32.9	19.6	33.7	21.4	35.0	22.1	34.0	22.0	33.1	21.3	32.4	21.5	32.8	21.5	29.7	21.1	28.0	19.9	27.3	20.0	25.8
2019	27.6	18.1	29.9	17.1	31.8	19.4	33.2	21.8	32.6	21.9	34.4	22.7	32.5	21.9	31.8	22.6	30.8	21.8	30.3	20.7	28.1	20.2	27.6	19.1	25.7
2018	27.1	19.0	29.5	19.4	29.5	19.4	31.7	21.3	34.7	22.6	32.5	22.7	32.2	21.9	31.3	22.4	32.0	21.8	31.1	21.0	29.8	19.8	27.7	19.6	25.8
2017	26.50	19.19	26.65	18.69	29.62	20.17	31.64	27.82	32.88	22.41	33.76	22.71	31.65	22.52	32.26	22.31	31.84	22.33	29.53	21.68	28.69	21.10	27.00	19.65	25.9
2016	28.98	19.95	27.93	19.08	31.32	21.75	34.04	22.38	33.84	22.90	33.65	22.95	32.99	22.96	31.51	23.1	32.74	22.81	30.09	22.28	28.39	21.10	27.39	20.79	26.5
2015	26.81	18.80	28.10	18.93	31.10	19.33	32.77	21.91	33.97	22.98	34.37	23.27	31.77	22.72	32.97	22.76	32.61	23.03	31.05	22.30	30.38	21.26	28.59	20.65	26.4
2014	25.76	19.21	28.55	21.20	30.35	22.24	31.96	25.54	34.59	26.33	32.72	26.64	31.75	26.25	31.2	25.83	31.98	25.69	30.07	24.47	29.61	23.00	26.51	20.34	27.2
2013	26.97	20.72	28.6	21.2	29.79	23.66	32	25.5	32.70	26.05	32.7	26.6	31.39	25.54	30.41	25.15	32	25.7	29.34	24.52	29.6	23	26.54	22.23	27.0

The maximum temperature was recorded in **May 2021 (36.2°C)**. The lowest temperature was occurred in **February 2020 (16.6°C)**.

VEGETABLES PRODUCTION IN NUEVA VIZCAYA

TABLE 1: Volume of Production in Metric Tons

CROP	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Brocolli	21.64	15.23	14.19	14.39	16.38	22.02	22.2	23.09	23.86	22.43	27.28
Cabbage	686.49	649.01	644.71	646.07	652.49	660.25	724.98	740.14	753.5	762.88	870.35
Carrots	593.64	592.75	572.38	585.51	563.28	577.4	600.28	613.92	617.04	657.16	663.09
Lettuce	0.2	0.16	0.2	0.19	0.4	0.6	0.54	0.58	0.57	0.53	0.53
Cucumber	678.46	683.7	606.67	577.92	644.71	682.92	782.86	785.7	763.67	1252.4	810.57
Celery	37.34	30.74	31.69	31.14	28.68	31.22	31.58	31.84	31.72	29.17	30.3
Chayote Fruit	46.11	34.51	40.95	52.53	65.11	71.03	69.13	69.9	67.5	65.18	75.19
Cauli Flower	271.77	236.58	233.36	229.44	233.3	240.45	240.23	243.99	238.23	233.16	278.55

Table 1 shows the volume of production of vegetables in metric tons in the whole province of Nueva Vizcaya for the past eleven **(11) years from 2012 to 2022**. These are the vegetables identified as major crops in Kayapa and Dupax del Norte based on interviews conducted with the farmers. As shown in the table, the crops with the highest volume of production are cabbage, carrots and cucumber.

VEGETABLES PRODUCTION IN NUEVA VIZCAYA

TABLE 2: Area Planted in Hectares

CROP	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Brocolli	7.00	6.37	5.50	5.50	5.80	7.85	10.00	10.00	10.00	11.10	11.60
Cabbage	118.00	112.00	115.00	111.00	131.00	138.00	144.50	140.50	141.47	141.79	145.42
Carrots	94.00	92.00	90.00	89.00	86.00	87.00	88.00	89.00	88.00	90.00	89.95
Lettuce	1.00	1.00	1.00	1.00	1.00	1.50	1.45	1.45	1.45	1.40	1.40
Cucumber	120.00	117.00	112.00	95.00	102.00	107.00	108.50	107.81	108.81	109.09	111.00
Celery	28.00	27.00	27.00	28.00	26.00	28.33	27.33	27.50	27.30	33.80	30.80
Chayote Fruit	110.00	106.00	105.00	103.00	105.00	138.00	136.00	140.70	141.71	141.50	141.77
Cauli Flower	100	96	95	85	86	85.59	85.69	87	87	90.5	93

Table 2 shows the area planted with the specific crops in hectares.

VEGETABLES PRODUCTION IN NUEVA VIZCAYA

TABLE 3: Volume of Production in Metric Tons per Hectare of Area Planted

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Broccoli	3.09	2.39	2.58	2.62	2.82	2.81	2.22	2.31	2.39	2.02	2.35
Cabbage	5.82	5.79	5.61	5.82	4.98	4.78	5.02	5.27	5.33	5.38	5.99
Carrots	6.32	6.44	6.36	6.58	6.55	6.64	6.82	6.90	7.01	7.30	7.37
Lettuce	0.20	0.16	0.20	0.19	0.40	0.40	0.37	0.40	0.39	0.38	0.38
Cucumber	5.65	5.84	5.42	6.08	6.32	6.38	7.22	7.29	7.02	11.48	7.30
Celery	1.33	1.14	1.17	1.11	1.10	1.10	1.16	1.16	1.16	0.86	0.98
Chayote Fruit	0.42	0.33	0.39	0.51	0.62	0.51	0.51	0.50	0.48	0.46	0.53
Cauli Flower	2.72	2.46	2.46	2.70	2.71	2.81	2.80	2.80	2.74	2.58	3.00

Table 3 shows the volume of production in metric tons per hectare of area planted. These are based on the data gathered from the Philippine Statistics Authority. During the 11-year period, the data indicates that there is a very slight increase in the area planted as well as the volume of production for each crop.

VEGETABLES PRODUCTION IN NUEVA VIZCAYA

TABLE 4: Average Quarterly Production in Metric Tons

	Q1	Q2	Q3	Q4
Broccoli	0.00	3.07	14.72	2.45
Cabbage	210.16	178.66	249.65	69.80
Carrots	407.96	130.15	41.39	23.81
Lettuce	0.00	0.00	0.27	0.14
Cucumber	226.58	332.42	75.87	116.91
Celery	2.23	0.70	17.38	11.09
Chayote Fruit	15.78	5.07	26.16	12.73
Cauli Flower	36.66	21.37	120.26	65.26

Table 4 shows the average quarterly production of the different crops for the 11-year period from 2012 to 2022. The table shows that **carrots** are usually harvested during the first quarter. **Cabbage and cucumber** are practically planted and harvested year-round with the lowest harvest for carrots during the last quarter and for the cucumber is during the third quarter. **Broccoli, cauli flower, chayote and lettuce** are usually harvested during the third quarter.



The researchers visited the Brgy. Hall and nearby Segregation facility of **Brgy. Besong, Kayapa, Nueva Vizcaya.**



The interview with the employees of Brgy. Besong, who are also women farmers.



The picture shows the interview conducted with the former Brgy. Captain of Brgy. Besong. Shown also are some potatoes harvested from their farm.





Interview conducted with different farmers in Brgy. Balangabang, Kayapa, Nueva Vizcaya.





Interview conducted with different farmers in Brgy. Balangabang, Kayapa, Nueva Vizcaya.



Research Methodology





The picture shows the greenhouse owned by Mrs. Taning B. Niling. Tomatoes, lettuce, and beans are among the vegetables being planted.



While they are at their farms, farmers were interviewed.

Plantation areas for vegetables such as tomatoes, cabbage, lettuce, beans, etc.





Plantation areas for vegetables such as tomatoes, cabbage, lettuce, beans, etc.



The researchers had their courtesy talk with the Brgy. Captain of Brgy. Oyao before the group focal discussions.



Engr. Jun Quipo, explaining the contents of the survey to the farmers of Brgy. Oyao, Dupax del Norte.





One on one interview to farmers that needed assistance.



Photo ops with some of the farmers after the conducted interviews.



The researchers visited the Canutos Organic Farm in Brgy. Oyao



The researchers visited the organic farm in Brgy. Oyao

ONGOING ACTIVITIES

- Summarizing the Results based from the Interviews conducted.
- Follow ups of additional supporting data from other agencies
- Analysis and correlating of data gathered
- Creation of maps (vulnerability map)