CLIMATE SMART PHILIPPINES

Science for Service

SCI. DPL. GLENN S. BANAGUAS

UN Sasakawa Laureate

Chairman, ASEAN Science Diplomats

Chairman, U.S.-ASEAN Fellows For Science And Technology

Executive Fellow, Geneva Centre for Security Policy (GCSP)

Distinguished Fellow, The Royal Society of Arts , United Kingdom

Climate Diplomat, European Union (Eu)-Asia Expert Panel For Climate Diplomacy

Philippines



- 81 Provinces
- 146 Cities
- 1,488 Municipalities
- 42,046 Barangays

CLIMATE SMART

CLIMATE CHANGE
MITIGATION

CLIMATE CHANGE
ADAPTATION

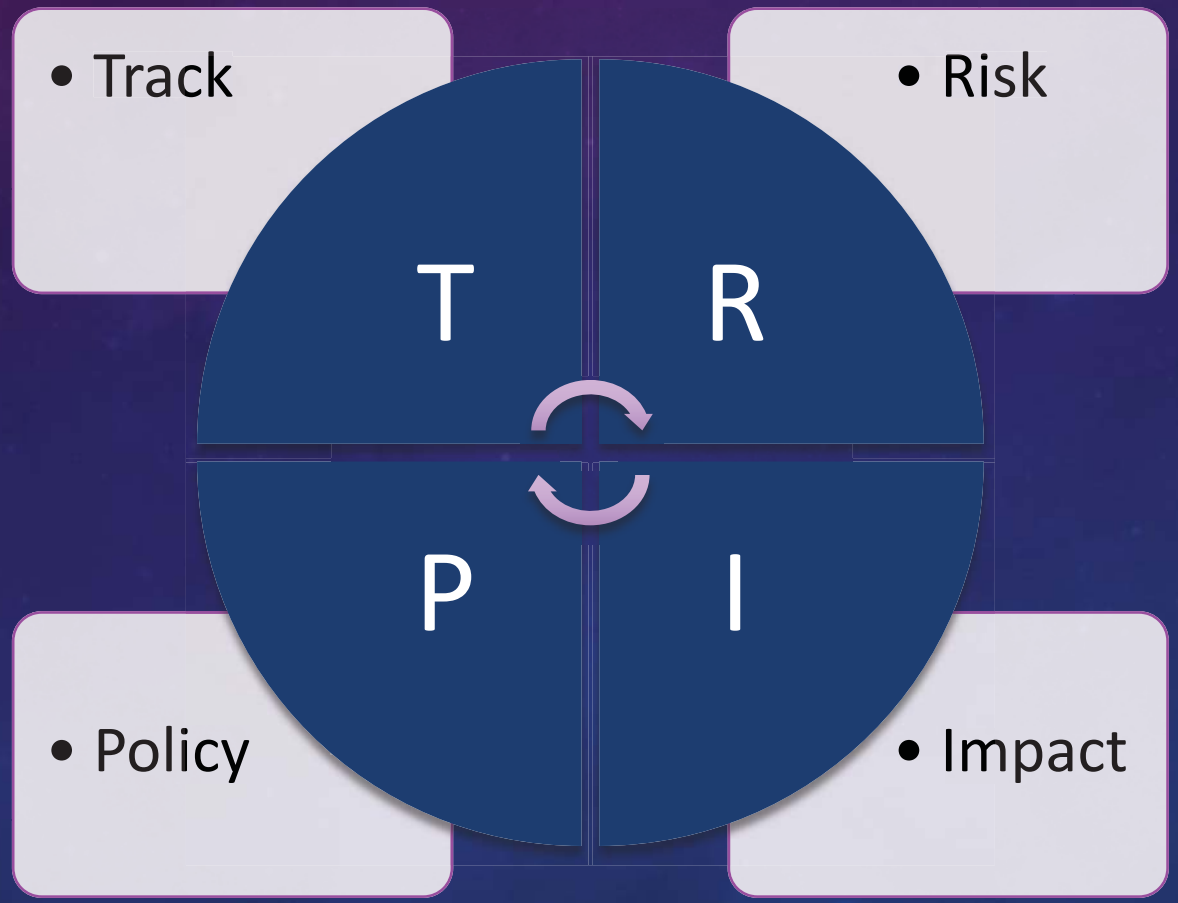
A TRIP to Resiliency and Sustainability

CLIMATE SMART

CLIMATE CHANGE ADAPTATION

A TRIP to Resiliency and Sustainability

TRACK-RISK-IMPACT-POLICY (TRIP) FRAMEWORK



TRACK

1. Human Resources and Demographics

2. Historical Analysis

3. Climate Scenarios and Projections

- Rainfall
- Temperature

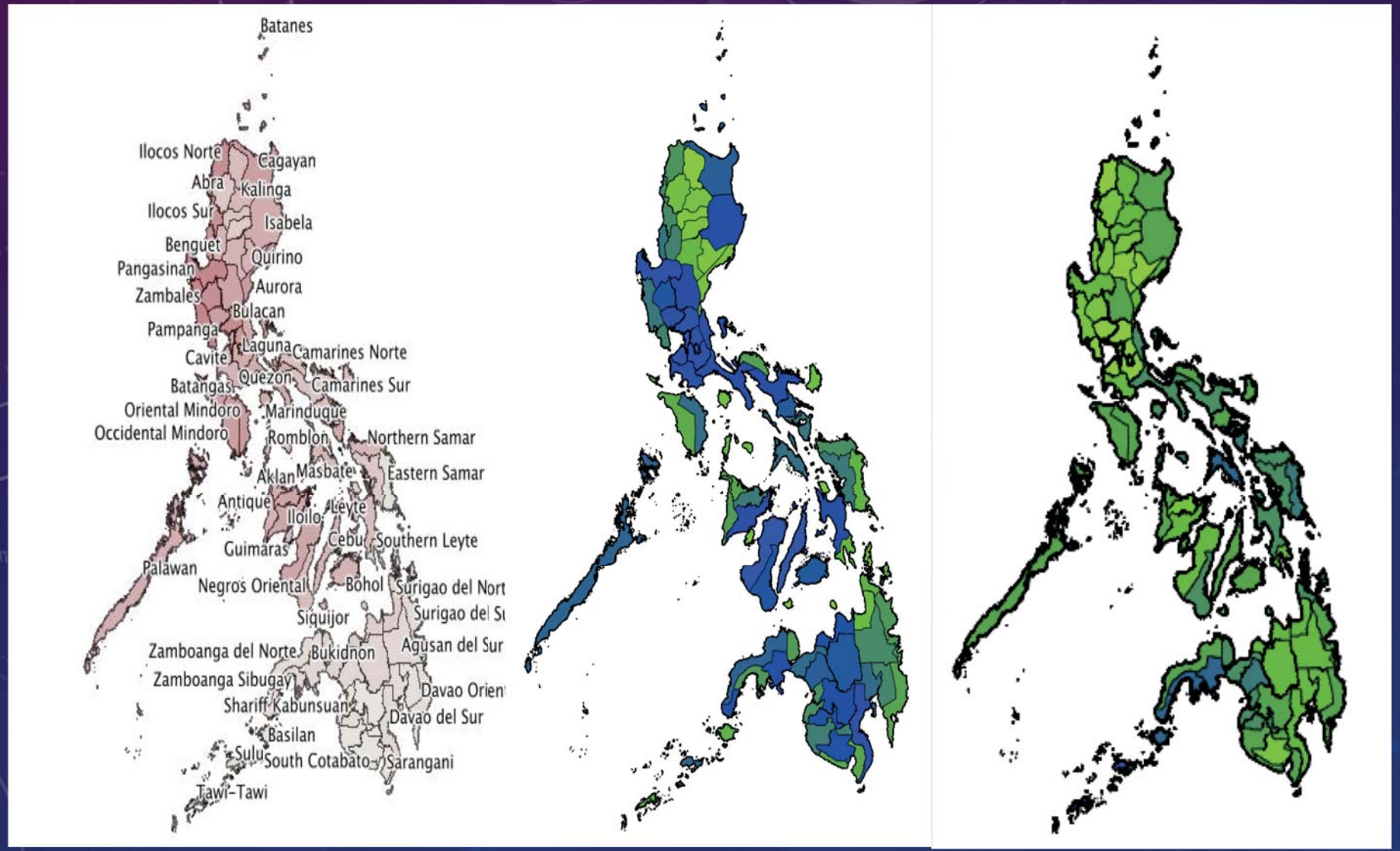


RISK BASED ON UN FRAMEWORK

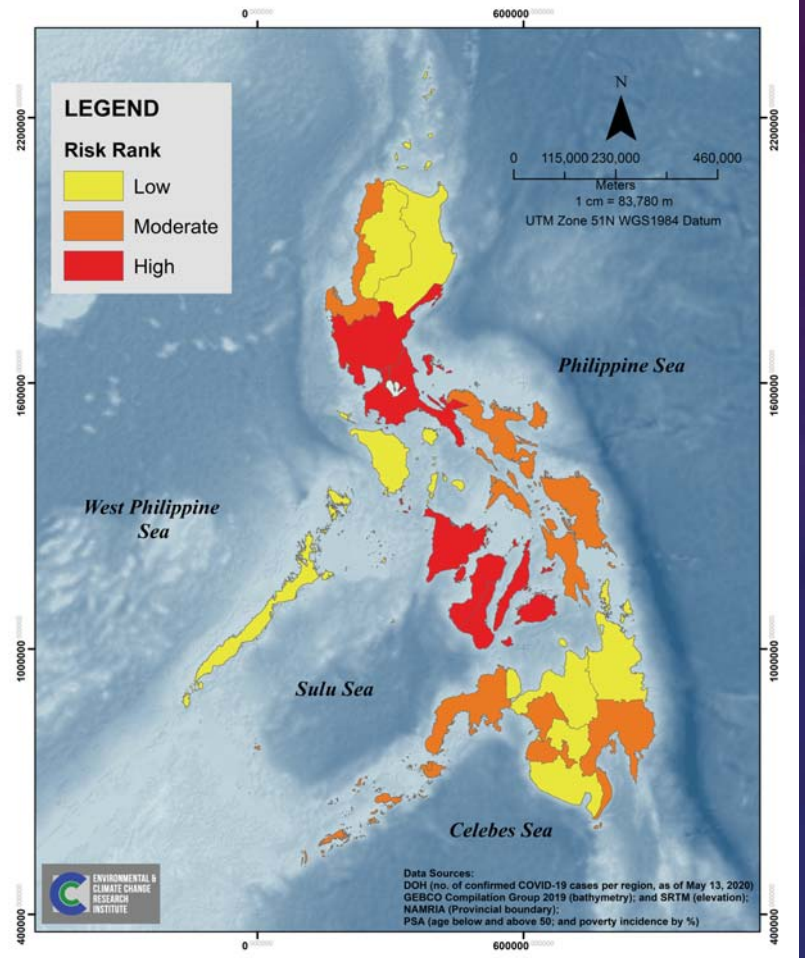
RISK

- Hazard
- Exposure
- Vulnerability

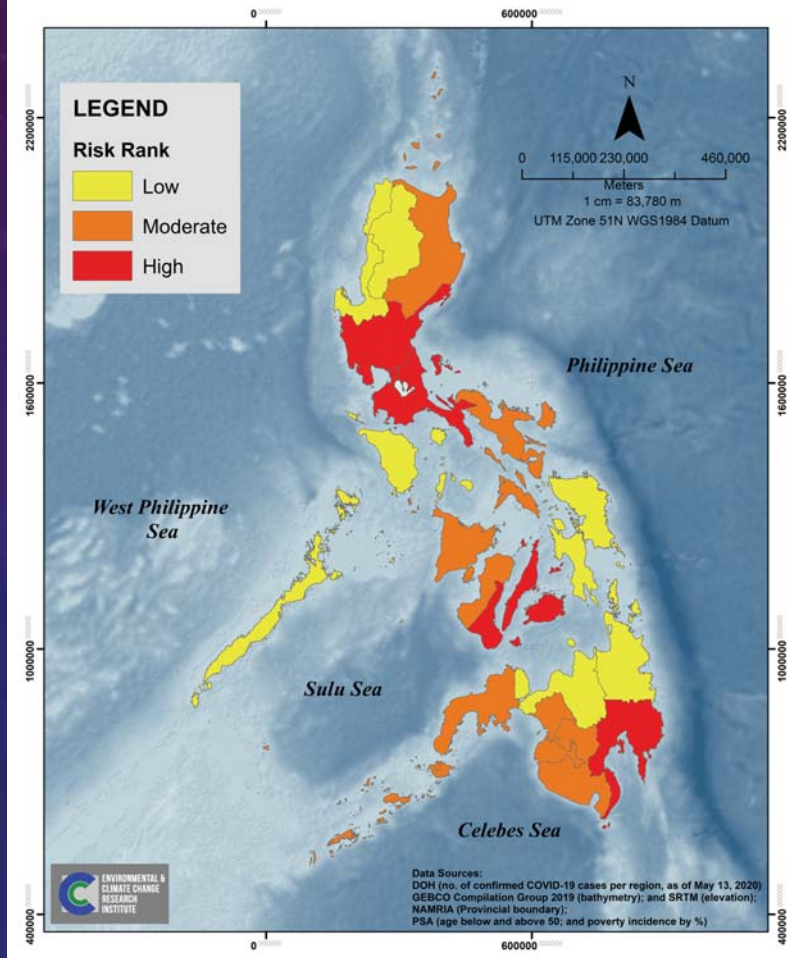
HAZARD Exposure Vulnerability



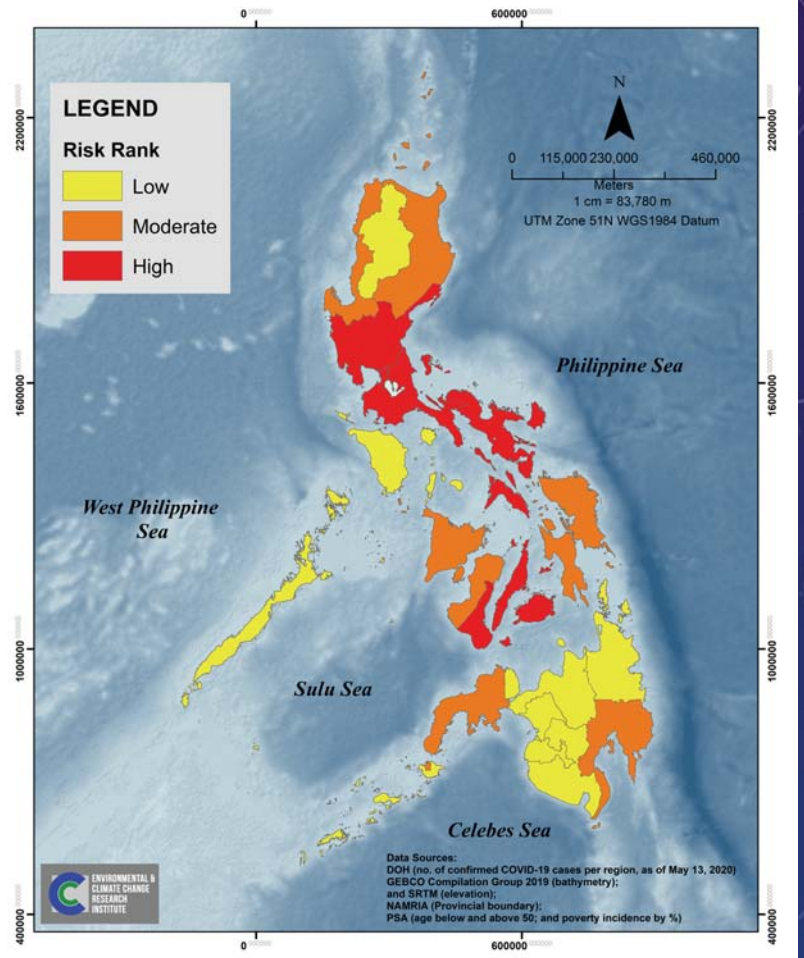
COVID-19 RISK MAP (Sea-Level Rise)



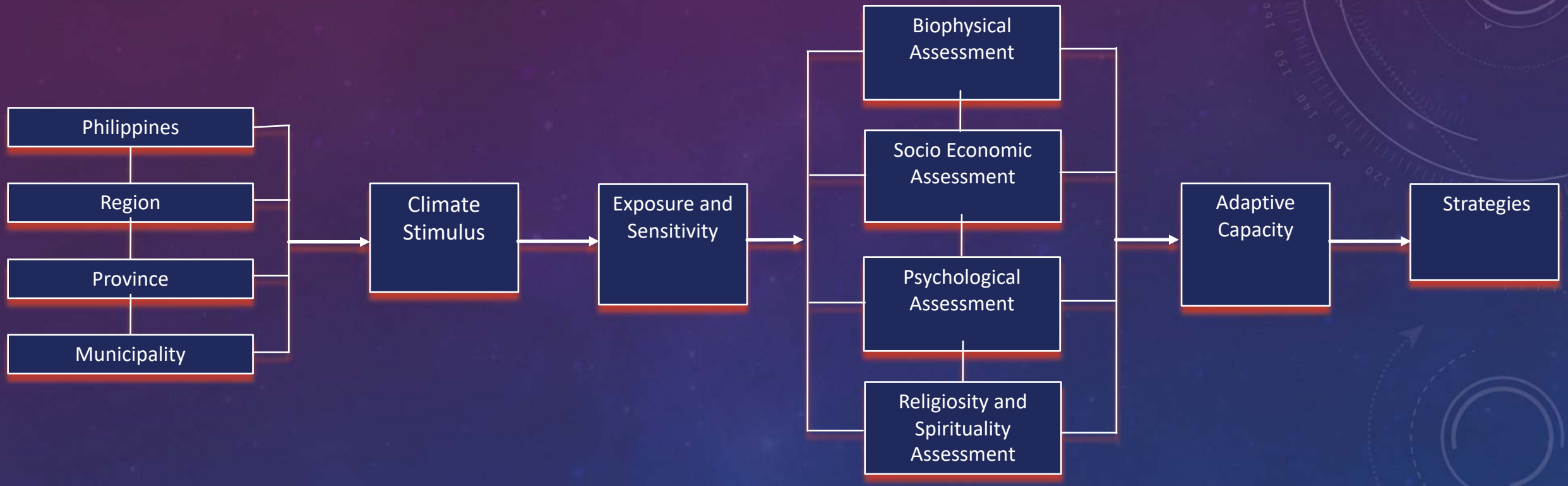
COVID-19 RISK MAP (Flood)



COVID-19 Risk Map (Tropical Cyclone)



Impact



GSB Modified Impact Chain Assessment (MICA)

POLICY

- Policies and Republic Acts
- Policy Framework
- Action Plans
- Other Plans (CLUP, CDP, CDRA, LCCAP)

PRIORITY AREAS

- Food Security
- Water Sufficiency
- Sustainable Energy
- Human Security
- Ecological and Environmental Stability
- Climate Smart Industries and Infrastructure
- Knowledge Management and Capacity Development

CLIMATE SMART

CLIMATE CHANGE MITIGATION

A TRIP to Resiliency and Sustainability

SUSTAINABILITY

ASSESSMENT
ROADMAP
STRATEGIES

Net Zero Emissions (NZEs)/Decarbonization

- a. Net Zero Emissions – Building and Infrastructure
- b. Net Zero Emissions – Energy (Fuel Consumption)
- c. Net Zero Emissions – Transportation
- d. Net Zero Emissions – Waste
- e. Net Zero Emissions – Food
- f. Net Zero Emissions – Humans
- g. Net Zero Emissions - Agriculture

WHAT DID WE DO?

MINDANAO REGION

Established **MOA** with MINDA

a. Promotion and implementation of **“F-E-W for U” Nexus System**

b. Training for all the stakeholders





CLIMATE SMART MINDANAO:

- Davao City





CLIMATE SMART MINDANAO:

- Sarangani Province







CLIMATE SMART MINDANAO:

- Sultan Kudarat Province





CLIMATE SMART MINDANAO:

- South Cotabato Province









CLIMATE SMART MINDANAO:

- Tacurong City









CLIMATE SMART MINDANAO:

- General Santos City





CLIMATE SMART MINDANAO

- Cagayan De Oro City





MINDANAO EXPERIENCE

Creation of the Network

- MINDA
- DILG (Regional)
- CHED (Regional)
- NEDA
- DOST
- ECCRI



CLIMATE SMART BANGSAMORO

- BARRM Government
- Ministries – MENRE (lead agency for the convergence)
- Provincial and Local Government Units
- Academe
- CSOs, NGOs, POs,
- Private sector



VISAYAS EXPERIENCE

Climate Smart Aklan – Malay (Boracay)







VISAYAS EXPERIENCE

Climate Smart Leyte









VISAYAS EXPERIENCE

Climate Smart Eastern Samar





VISAYAS EXPERIENCE

Climate Smart Bohol





LUZON EXPERIENCE

Climate Smart Masbate





LUZON EXPERIENCE

Climate Smart Sorsogon



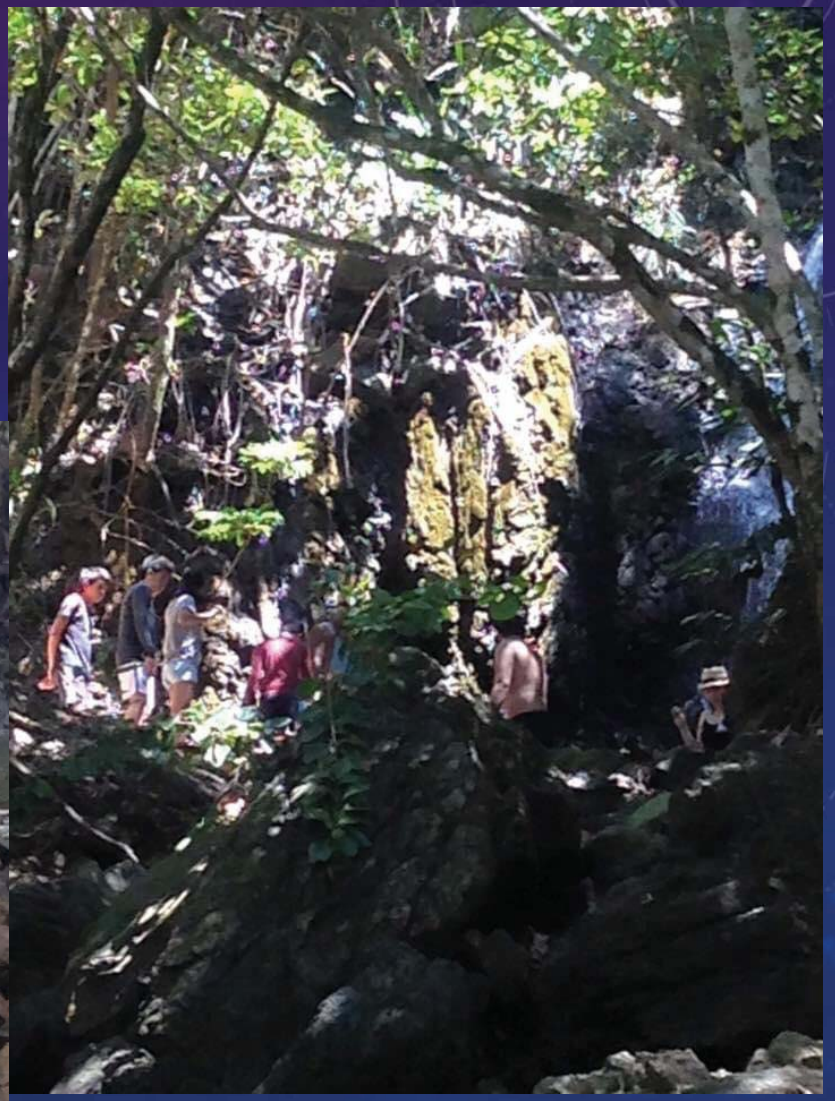


LUZON EXPERIENCE

Climate Smart Aurora







LUZON EXPERIENCE

Climate Smart Batanes





LUZON EXPERIENCE

Climate Smart Palawan





LUZON EXPERIENCE

Climate Smart Quirino





LUZON EXPERIENCE

Climate Smart Benguet and Baguio





LUZON EXPERIENCE

Climate Smart Pangasinan (Bolinao)





LUZON EXPERIENCE

Climate Smart Bataan











LUZON EXPERIENCE

Climate Smart Quezon

(Polillo, Gen. Nakar, Infanta, Real etc.)







LUZON EXPERIENCE

Climate Smart Tarlac







LUZON EXPERIENCE

Climate Smart Mindoro







LUZON EXPERIENCE

Climate Smart Batangas

(Tingloy)







LUZON EXPERIENCE

Climate Smart Batangas - (San Luis)







LUZON EXPERIENCE

Climate Smart Batangas - Balayan





LUZON EXPERIENCE

Climate Smart and Disaster Resilient Batangas







FARMERS AND FISHERMEN

CLIMATE SMART PHILIPPINES

Farmers and Fishermen



Fishermen of Guiuan, Eastern Samar



Fishermen of Polillo Islands, Quezon



Farmers and Fishermen of Gubat, Sorsogon



Fishermen of Real-Infanta, Quezon

CLIMATE SMART PHILIPPINES

Farmers and Fishermen



Farmers and Fishermen of Balanga, Bataan



Farmers of Benguet



Fishermen of Busuanga-Coron-Culion, Palawan

INDIGENOUS PEOPLE

CLIMATE SMART PHILIPPINES

Indigenous People

It is not enough to train the provincial and local government units, it is also significant to empower the people at the **grassroots level – the farmers, fishermen, and indigenous people.**

The **agricultural sector (farmers, fishermen, and IPs)** is considered to be the poorest and most vulnerable stakeholders in the country. This is the ultimate reason why Glenn chooses this sector because this group indeed deserves the help and attention.



"Dumagats" of General Nakar, Quezon Province



"Mangyans" of Victoria, Mindoro



"Tagbanuas" of Busuanga-Coron-Culion, Palawan



"Ati" of Boracay, Malay, Aklan





ACADEME – UNIVERSITIES AND COLLEGES



CLIMATE SMART PHILIPPINES

Academe – Universities, Colleges, and Schools

In attaining climate smart and disaster resilient Philippines, it is also significant that the Higher Education Institutions (HEIs) and the schools should also be capacitated and educated.

Glenn reached out and empowered Universities and Colleges to address the impacts and risks of climate change. He called this training workshop as **"Training of Trainors": Making Academe Resilient.**

He also assessed the condition of the schools to know if they are climate smart and disaster resilient.



"Training of Trainors" Workshop in Mindanao



Assessment of the Universities and Colleges in Leyte
Conducted after the Super Typhoon Haiyan – "Yolanda" scenario

PRIVATE SECTOR





CLIMATE SMART PHILIPPINES

Private Sector

It is also important to engage and train the **private sector and service providers** in attaining climate smart and disaster resilient Philippines.

Glenn devised the **"Climate Smart Philippines: For the Private Sector" tool** and used it to capacitate the businessmen and the private sector.



Capacitating the Private Sector in Mindanao



MOU Signing with the Prodigyae and ECS – Private Sector

This is about the promotion and utilization of the Food-Energy-Water Nexus System, a CCA Solution to address the climate change impacts and risks.

NEW AND RENEWAL OF PARTNERSHIPS AND COLLABORATIONS

PHILIPPINE ASSOCIATION OF COLLEGES AND UNIVERSITIES



MINDANAO DEVELOPMENT AUTHORITY



BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO

“CLIMATE SECURITY PROGRAM FOR BARMM”







UNION OF LEAGUES AUTHORITY OF THE PHILIPPINES (ULAP)



- League of Provinces of the Philippines
- League of Cities of the Philippines
- League of Municipalities of the Philippines
- Liga ng mga Barangay
- League of Vice Governors of the Philippines
- Provincial Board Members League of the Philippines
- Vice Mayors League of the Philippines,
- Philippine Councilors League
- National Movement of Young Legislators
- Lady Local Legislators League.

QUIRINO PROVINCE

1ST NET ZERO EMISSION LEADER IN THE COUNTRY (PROVINCIAL LEVEL)





Philippine Airlines 2050

A Roadmap for Net Zero Emissions Strategy

Net Zero Emissions Global Leader in the Aviation Industry by 2030



PAL leads resilient, inclusive, sustainable, and enculturated aviation industry

Published by: The Harvard Veritas, The Manila Times

RISE PHILIPPINE AIRLINES

R	I	S	E
RESILIENCE	INCLUSIVITY	SUSTAINABILITY	ENCULTURATION

To be implemented by the:
Chief Resiliency and Sustainability Officer

VISION

- A resilient, inclusive, sustainable, and enculturated Philippine Airlines (PAL)

STRATEGIC THRUST

R	I	S	E
RESILIENCE	**INCLUSIVITY**	**SUSTAINABILITY**	**ENCULTURATION**
Thrust 1: Strengthen the capacity of the organization's ecosystem to adapt to change	**Thrust 2:** Enhance people-to-people connectivity and strengthen the engagement of all stakeholders	**Thrust 3:** Create a scientific and innovative system and enhance gender-transformative and nature-based solutions	**Thrust 4:** Raise awareness and strengthen the enculturation for the empowerment of the stakeholders

PRIORITY AREAS

- Human Security
- Food Security
- Water Security
- Energy Security
- Climate Smart and Disaster Resilient Infrastructures
- Transportation Security
- Biodiversity
- Waste
- Knowledge Management
- Climate Smart Aviation

UN SASAKAWA AWARD FOR DISASTER RISK REDUCTION
1ST FILIPINO AWARDEE





ASIA LEADERS AWARD FOR SUSTAINABILITY LEADERSHIP



THE OUTSTANDING FILIPINO (TOFIL)





THE ROYAL SOCIETY OF ARTS, UNITED KINGDOM



Bongbong Marcos
February 1 ·

Isang pagpupugay sa ating kababayan na si Glenn Banaguas sa pagkakaluklok sa kanya sa prestihiyosong Royal Society of Arts sa United Kingdom.

Tunay ngang ang galing at talino ng mga Pilipino ay maipagmamalaki saan man sa mundo.

Maraming salamat sa kahusayang iyong patuloy na ipinamamalas!

THANK YOU