

Republic of the Philippines
Department of Environment and Natural Resources
Visayas Avenue, Diliman, Quezon City
Tel Nos. 929-6626 to 29; 929-6633 to 35
929-7041 to 43; 929-6252; 929-1669
Website: <http://www.denr.gov.ph> E-mail: web@denr.gov.ph

MEMORANDUM

TO : **The Directors**
Forest Management Bureau
Biodiversity Management Bureau
Mines and Geosciences Bureau
Foreign Assisted and Special Projects Service

The Executive Director
National Water Resources Board

FROM : **The Undersecretary**
Field Operations – Mindanao

SUBJECT : **REQUEST FOR INPUTS ON THE DISCUSSION PAPER ON
ECOLOGICAL INTEGRITY AND PREPAREDNESS AND
RESILIENCY FROM THE MINDANAO DEVELOPMENT
AUTHORITY**

DATE : **27 APR 2023**

Please be informed that the Honorable DENR Secretary Maria Antonia Yulo Loyzaga has been invited by Secretary Maria Belen S. Acosta of the Mindanao Development Authority (MinDA), through her letter¹ dated 05 April 2023, to participate in their **2nd Mindanao Development Forum 2023** on May 18, 2023 at Acacia Hotel in Davao City. The Secretary was also requested to present a topic on "*Ecological Integrity, Preparedness, and Resilience: Environment, Climate Change, and Disaster Resilience*" as part of the breakout session.

During a meeting last 25 April 2023, a technical team from MinDA presented to the undersigned and the Assistant Secretaries for Field Operations – Mindanao the forum's agenda briefer², draft program³, and a discussion paper⁴ on the aforementioned topic. It was suggested that the paper presentation should include the current state of the Mindanao environment & natural resources, the challenges and gaps and the identified needs and recommendations including the direction setting.

Furthermore, it was found that there are data gaps on the discussion paper, which suggests that further technical inputs on the same is very much needed. By the end of the meeting, it was agreed that the discussion paper shall be endorsed to the appropriate offices for the necessary inputs.

¹ Copy of the letter attached as Annex A

² Copy of the agenda briefer attached as Annex B

³ Copy of the draft program attached as Annex C

⁴ Copy of the Discussion Paper attached as Annex D

In view of the agreements above and the urgency of the matter due to the direct invitation for the Secretary as well as the time constraints, you are advised to immediately coordinate with the following focal persons from MinDA listed below, with regard to the proper sectoral inputs on the topic discussion paper, as well as other issues relevant to the forum:

- Ms. Madania Casinto – 0917 126 4986, madania.malangco@minda.gov.ph
- Ms. Rudisa Cornita – 0933 853 9132, odie.cornita@minda.gov.ph

You are also advised to provide your focal person/s (name, address, contact number and email address) for this concern through our official email address usec.fom@denr.gov.ph on or before **28 April 2023**.

For information and immediate appropriate action



JOSELIN MARCUS E. FRAGADA, CESO III

Copy Furnished:

- Office of the Secretary
- The Assistant Secretary for Field Operations – Eastern Mindanao
- The OIC, Assistant Secretary for Field Operations – Western Mindanao
- Secretary Maria Belen S. Acosta, *CESE*
Chairperson, Mindanao Development Authority
14th Floor, Pryce Building, Pryce Business Park,
JP Laurel Avenue, Bajada, Davao City 8000 Philippines

Let's Go Green!!!



MINDANAO DEVELOPMENT AUTHORITY

5 April 2023

SEC. MARIA ANTONIA YULO LOYZAGA

Secretary

Department of Environment and Natural Resources (DENR)

DENR Main Building, Visayas Avenue,

Diliman Quezon City, Philippines

Dear *Secretary Loyzaga*;

Greetings of Peace and Solidarity!

We are pleased to inform you that the Mindanao Development Authority (MinDA), the principal government agency mandated to coordinate and integrate Mindanao's overall development, is convening the **Mindanao Development Forum 2023** on **18 May 2023** at Acacia Hotel, Davao City.

The forum aims to promote coordination and collaboration among Official Development Assistance (ODA) development partners and national government agencies in supporting Mindanao's inclusive growth. We believe that your presence at the event will contribute significantly to the discussions and the achievement of our shared goals.

The forum will also discuss key agenda items, which include an overview and updates on Bangsamoro Development, strengthening partnerships for inclusive development financing, evaluating the impact of aid on the national and Mindanao development agenda, communicating development, and launching the Mindanao C4D Program. Additionally, it will have breakout sessions covering several sectors for further in-depth discussions.

In preparation for this event, the MinDA staff is currently drafting the discussion paper for each of the 10 Mindanao Agenda which will be presented and deliberated through an online focus group discussion with our partner agencies on 25-27 April 2023. With this, we would like to invite your technical team between 25-27 April from 9:00am to 5:00pm for this purpose. We hope that during our interaction, we will be able to jointly identify the most pressing and urgent gap/s including the specific interventions that both agencies will undertake collaboratively for the period 2023-2028. The discussion paper will be sent to our partner NGAs on 19 April 2023 for your review and reference.

Our focal team led by Ms. Madania Malang-Casinto of the Planning, Policy and Project Development Office will coordinate with your office regarding this request. Your team may also contact her through mobile number 0917 126 4986 and email address madania.malang@minda.gov.ph.

Thank you and we look forward to your positive response on this request.

Very truly yours,

SECRETARY MARIA BELEN S. ACOSTA, CESE

Chairperson





Agenda

- A. Overview of the visit
- B. Briefing on the Mindanao Development Forum
- C. Discussion on the Draft Discussion Paper
 - Strategies
 - Recommendations to International Development Partners
 - Joint project / intervention (for resource mobilization)**
 - Identify projects / interventions for ODA (TA and CA)**

Our Mandate: Advancing Mindanao CHI



Coordination

Mindanao-wide initiatives
Philippine Coordinating Office
for BIMP-EAGA (PCOBE)



Harmonization

Efforts with a Mindanao-wide
perspective



Integration

Mindanao agenda

The Mindanao Peace and Development Agenda 2023-2028

SUSTAINABLE DEVELOPMENT GOALS



Overview of the Mindanao Development Forum

- The goal of this forum is to catalyse Mindanao's peace and development transformation through better and more efficient alignment and coordination of development policies and programs

- At the end of the Forum , it is expected to have:
 - a) Enhanced coordination and collaboration among development partners and national government agencies.
 - b) Identified strategies and actions to enhance the impact of development assistance in Mindanao.
 - c) Increased alignment of development programs with national development priorities.

Participants: nearly 400 participants from ODA partners operating in Mindanao, national government agencies, BARMM Government, Communicators group, Private Sector/NGOs

Draft Program

Guide for Agencies in the Breakout sessions

Discussion Paper



2ND MINDANAO DEVELOPMENT FORUM 2023

"Sustaining Strategic Partnership for Mindanao Peace & Development"

Acacia Hotel Davao, J.P. Laurel Avenue, Agdao, Davao City
May 18, 2023

PROGRAM

I. OPENING PROGRAM

| | | |
|--------------------|-------------------|---|
| 9:00 AM - 10:00 AM | Preliminaries | |
| | Welcome Message | SEC. MARIA BELEN S. ACOSTA, CESE MinDA |
| | Message | SEC. ANTONIO LAGDAMEO JR. Special Assistant to the President |
| | Message | SEC. BENJAMIN E. DIOKNO Department of Finance |
| | | SEC. ARSENIO M. BALISACAN National Economic and Development Authority |
| | Keynote Message | HON. SARA ZIMMERMAN DUTERTE Vice President |
| | Photo Opportunity | |

II. PLENARY SESSION

| | | |
|---------------------|--|---|
| 10:00 AM – 10:15 AM | Mindanao: Accelerating Growth in an Inclusive Economy | SEC. MARIA BELEN S. ACOSTA, CESE MinDA |
| | BARMM Development | CHIEF MINISTER AHOD B. IBRAHIM AL HAJ BARMM Chief Minister |
| 10:15 AM – 10:45 AM | Strengthening Partnerships for Inclusive Development Financing | USEC MARK DENNIS YC JOVEN DOF – International Finance Group |
| 10:45 AM – 11:05 AM | Evaluating Impact of Aid on National and Mindanao Development Agenda | NEDA |
| 11:05 AM – 11:30 AM | Open Forum/Discussion | NEDA |
| 11:30 AM – 11:45 AM | <i>Working Coffee/Tea Break</i> | |
| 11:45 AM – 12:00 AM | Breakout Session Mechanics and Other Announcements | |
| 12:00 NN – 1:00 PM | <i>Lunch</i> | |

III. BREAKOUT SESSIONS

1:00 PM - 3:30 PM

Sub-Group 1
**FOOD, WATER & ENERGY
NEXUS**

Presenters:

SEC. RAPHAEL P.M. LOTILLA
Department of Energy

SEC. RENATO SOLIDUM JR.
Department of Science and Technology

MR. RODERICO R. BIOCO
Administrator
National Food Authority

Reactor:

DR. MIKE ABUNDO, Ocean Pixels
MAYOR JOHN DALIPE, RDC IX

Facilitator:

ASEC ROMEO M. MONTENEGRO
MinDA

Sub-Group 2
DIGITAL INNOVATION

Presenters:

SEC. IVAN JOHN E. UY
Department of Information &
Communications Technology (DICT)

USEC. ROSEMARIE G. EDILLON
Chairperson
National Innovation Council – Executive
Technical Board

Reactor:

MR. MICHAEL TIU LIM
Vice President
National ICT Confederation of the
Philippines

REP. CHEENO MIGUEL D. ALMARIO
Vice Chairperson of Committee on ICT

MR. JOHN GARRITY
USAID BEACON

Presenter:

SEC. MANUEL M. BONOAN
Department of Public Works and
Highways

SEC. JAIME J. BAUTISTA
Department of Transportation

SEC. BENJAMIN C. ABALOS, JR
Department of the Interior and Local
Government

Sub-group 3
CONNECTIVITY:
(Infra, Transport & Logistics)

Sub-Group 4
**ECOLOGICAL INTEGRITY &
PREPAREDNESS & RESILIENCE:
Environment, Climate Change,
and Disaster Resilience**

Reactor:
DelBros Logistics Company

Facilitator:
DR. ENRICO L. BASILIO
USAID RESPOND

Presenters:
SEC ANTONIA LOYZAGA
Department of Environment & Natural
Resources

USEC ARIEL F. NEPOMUCENO
Administrator, Office of Civil Defense &
Executive Director, National Disaster
Risk Reduction and Management Council

Reactors:

**Environmental Science for Social
Change (ESSC)**

GOV. CORA MALANYAON
RDC XI Chairperson

Facilitator

DR. GLENN BANAGUAS
Environmental and Climate Change
Research Institute - ECCRI

Presenters:

USEC. EPIMACO V. DENSING III
Department of Education

DR. MARIA ROSARIO S. VERGEIRE,
MPH, CESO II, Officer-in-Charge
Department of Health

Facilitator: **Australian Embassy/DFAT**

Presenter:

SEC. PASCUAL
Department of Trade & Industry

DR. KENNETH V. TANATE, PHD
Philippines Competition Commission

Reactors:
MR. RICARDO LAGDAMEO
ANFLOCOR GROUP OF COMPANIES

MR. ARTURO MILAN
PCCCI Mindanao

Facilitator: **MR. KELLY BIRD, ADB**

Sub-Group 5
**PEOPLE'S WELL-BEING:
Health & Education**

Sub-Group 6
**JOBS & INDUSTRY
DEVELOPMENT
&
INTERNATIONAL
PARTNERSHIPS & BIMP EAGA**

Sub-Group 7
**PEACE, SECURITY,
GOVERNANCE & INSTITUTIONS**

Presenter:

SEC. ISIDRO L. PURISIMA
Office of the Presidential Adviser on Peace,
Reconciliation and Unity (OPAPRU)

GOV. JUN TAMAYO
ULAP/League of Provinces Chairman

Reactor:

ATTY. BENEDICTO BACANI
Institute on Autonomy and Governance

Facilitator:

Mr. Christoph Wagner
Head of Cooperation
Delegation of the European Union to the
Philippines

| | | |
|-------------------|--|--|
| 3:30 PM - 3:45 PM | Break | |
| 3:45 PM - 4:15 PM | Reporting of Breakout Session Results | |
| 4:15 PM - 4:35 PM | Communications for Development (C4) | ASEC ROMEO M. MONTENEGRO MinDA |
| 4:35 PM - 4:50 PM | Institutional Arrangements & Next Steps | USEC. JANET LOPOZ, CESO I Executive Director |
| 4:50 PM - 4:55 PM | Introduction of the President | SEC. MARIA BELEN S. ACOSTA MinDA |
| 4:55 PM | MESSAGE FROM THE PRESIDENT | H.E. FERDINAND R. MARCOS, JR. President |

Note:

1:30 PM – 3:15 Ambassador's Time

A separate session for Ambassadors in attendance will be arranged in another venue adjacent to the plenary hall. The session will be limited to 2 participants per office only (Ambassador + 1). Free-flowing discussions on topics covering Peace & Security, Environment, and Economic Development and Jobs Creation

AMBASSADORS' TIME (Executive Briefing)

The session will be generally informal to allow for free-flowing discussion on the following suggested topics: **Peace & Security, Environment, and Economic Development and Jobs Creation**

| | |
|----------|---|
| 1:30 PM | Opening Message Secretary Maria Belen Acosta Chairperson, MinDA |
| | Message Department of Foreign Affairs |
| 2: 00 PM | Presentations |
| | Mindanao Peace & Security Situation |
| | Mindanao Economic Development |
| 2: 30 PM | Discussions |
| 3:00 PM | Closing Message |

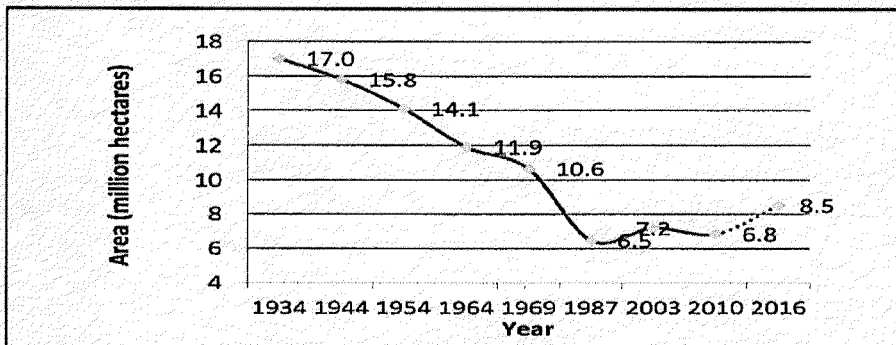
AGENDA 7 and 8:

ECOLOGICAL INTEGRITY AND PREPAREDNESS AND RESILIENCY

Ensure environmental sustainability by balancing ecological integrity and economic development; Build a safer, adaptive and resilient Mindanao

I. Current Situation

- Forests are critical to the health of the planet. They sequester carbon, regulate global temperatures and freshwater flows, recharge groundwater, anchor fertile soil and act as flood barriers. As trees disappear, the services they offer are undermined, reducing the productivity of soils and natural carbon sinks, diminishing our access to clean water and reducing our resilience to extreme weather events. (World Economic Forum).
- The forest cover of the country rapidly declines and hit its peak in 1987 with the 6.5 million has. remaining from the 1930 figures of 17.0 million has. One of the hard-hit deforested areas in the country is Mindanao. However, the issuance of EO No. 23-2011 has resulted to the forest recovery which bounced back in 2000 and projected until 2020.



Source: Forest cover in the Philippines (FMB 2015)

- The issuance of the Executive Order No. 23 – declaring a moratorium on the cutting and harvesting of timber in the natural and residual forests and creating the anti-logging task force in 2011 greatly affected the reduction of illegal cutting of trees in Mindanao. However, it was able to reduce the illegal cutting/logging activities in Mindanao by 36% as of 2016. The threat to Mindanao forest is still a present danger.

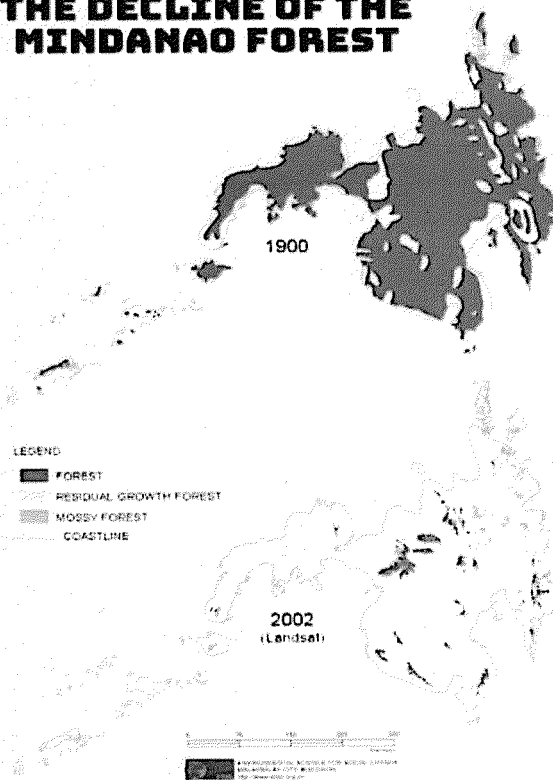
***Illegal Logging Hotspot Areas**
As of December 2016

Before and After the Issuance of EO No. 23 s.2011

| MAJOR ISLAND | No. of Municipalities | |
|--------------|-----------------------|-----------|
| | Before | After |
| Luzon | 121 | 7 |
| Visayas | 48 | - |
| Mindanao | 28 | 10 |
| TOTAL | 197 | 17 |

*Critical areas with high incidence of illegal logging and confiscations of illegally cut forest products

THE DECLINE OF THE MINDANAO FOREST




The map speaks on the scale of unrepresented logging activities in Mindanao in the early 1900s where land is cleared for agriculture and other unrestricted economic activities. This era coincides with the influx of the migration of people from Luzon and Visayas that populated the island of Mindanao.

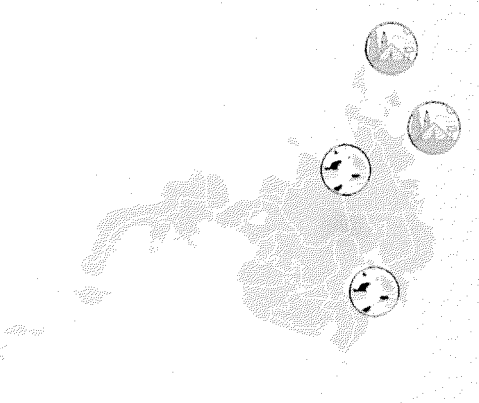
Source: ESSC



- In Mindanao, 129 inland wetlands were identified composed of the following: 85 lakes, 18 water storage areas, 6 marshes/swamps, 13 ponds, and 7 peatlands with a total area of 217,996.15 hectares. There are threats and challenges that may result to destruction of wetlands in Mindanao such as: pollution from domestic, industrial and agricultural sources; introduction of exotic species; incompatible tourism activities; wetland conversion to other use; over exploitation of resources; unsustainable resource use; overlapping and conflicting policies; and, climate change.
- There are six (6) Protected Areas declared in Mindanao. These are the Mt. Apo Natural Park, Mt. Balantukan Range, Mt. Inawayan Range, Mt. Kalatungan Range, Mt. Kitanglad Range and Pasonanca. These areas were selected due to their unique physical and biological significance. The said areas are being managed to enhance their biological diversity and protected against destructive human exploitation

PROTECTED AREAS IN MINDANAO

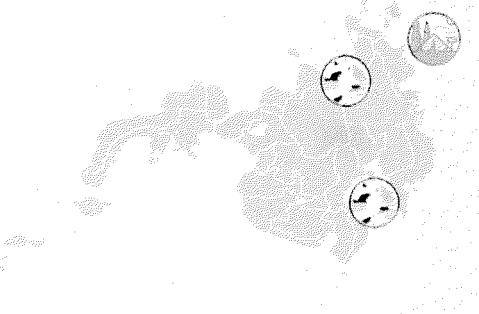
Wilderness Area 

| Name | Area | Established | Location |
|--------------------|------|-------------|-------------------|
| Awasan Bay Islands | | 1981 | Surigao del Norte |
| Panag Bay Islands | | 1981 | Surigao del Norte |




Wildlife Sanctuary  

| Name | Area | Established | Location |
|---|------------------------------------|-------------|----------------|
| Agusan Marsh | 14,835.99 ha (36,660.5 acres) | 1996 | Agusan del Sur |
| Mount Hamigitan Range (Unesco Heritage) | 6,834.00 ha (16,887.2 acres) | 2004 | Davao Oriental |
| Turtle Islands | 242,967.00 ha (600,384.5 acres) | 1999 | Tawi-Tawi |

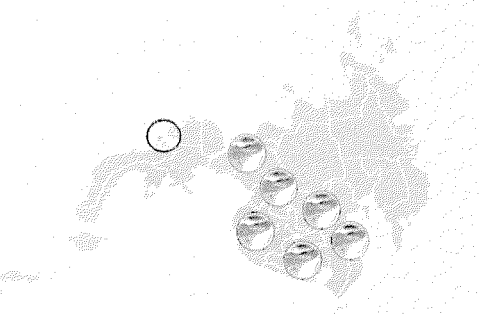



Department of Environment and Natural Resources - Biodiversity Management Bureau (2020). *2020 Biodiversity Management Bureau Accomplishment Report*. Quezon City, Metro Manila.

PROTECTED AREAS IN MINDANAO

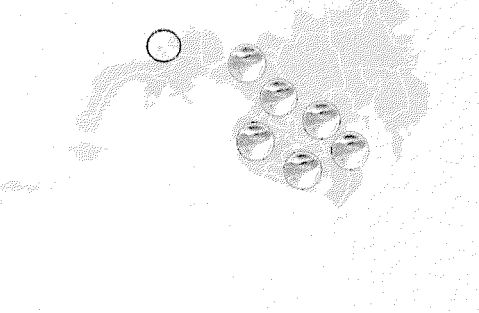
Resource Reserved 

| Name | Area | Established | Location |
|--------|------------------------------|-------------|---------------------|
| Siocon | 793.74 ha (1,961.4 acres) | 1999 | Zamboanga del Norte |




Watershed Forest Reserved 

| Name | Area | Established | Location |
|--------------|------------------------------------|-------------|------------------|
| Allah Valley | 92,450.00 ha (228,448.9 acres) | 1985 | South Cotabato |
| Lake Lanao | 180,460.00 ha (445,926.4 acres) | 1992 | Lanao del Sur |
| Libungan | 52,820.00 ha (130,521.1 acres) | 1990 | Cotabato |
| Mahugunao | 136.00 ha (336.1 acres) | 1932 | Misamis Oriental |
| Malagos | 235.00 ha (580.7 acres) | 1933 | Davao del Sur |
| South Upi | 1,894.20 ha (4,680.7 acres) | 1987 | Maguindanao |




Department of Environment and Natural Resources - Biodiversity Management Bureau (2020). *2020 Biodiversity Management Bureau Accomplishment Report*. Quezon City, Metro Manila.

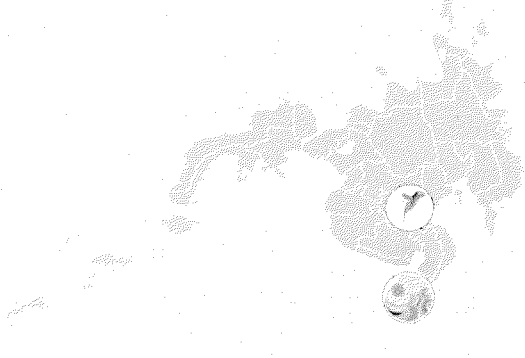
PROTECTED AREAS IN MINDANAO

Protected Seascape 

| Name | Area | Established | Location |
|---------------|------------------------------------|-------------|-----------|
| Sarangani Bay | 215,950.00 ha (533,624.1 acres) | 1996 | Sarangani |


Game Refuge and Bird Sanctuary 

| Name | Area | Established | Location |
|-------------|---------------------------------|-------------|----------|
| Lake Buluan | 6,300.00 ha (15,567.6 acres) | 2006 | Cotabato |

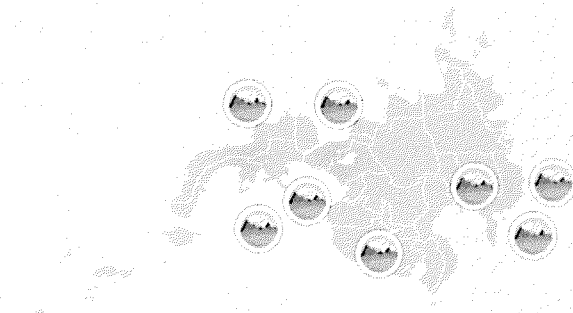


Department of Environment and Natural Resources - Biodiversity Management Bureau (2020). *2020 Biodiversity Management Bureau Accomplishment Report*. Quezon City, Metro Manila.

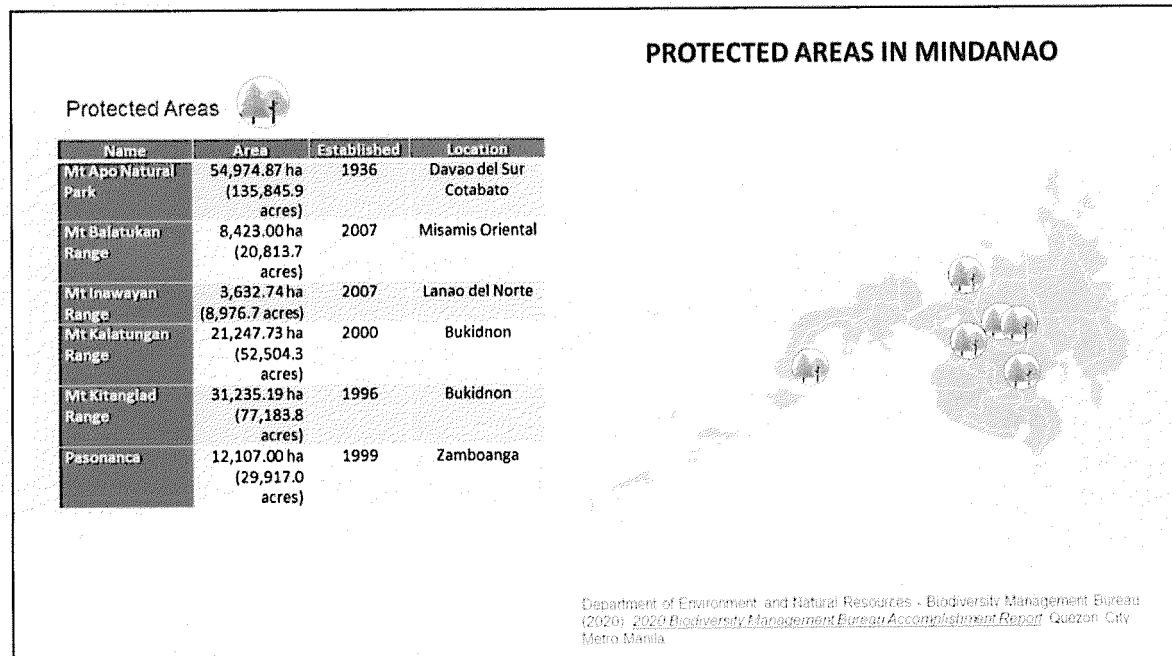
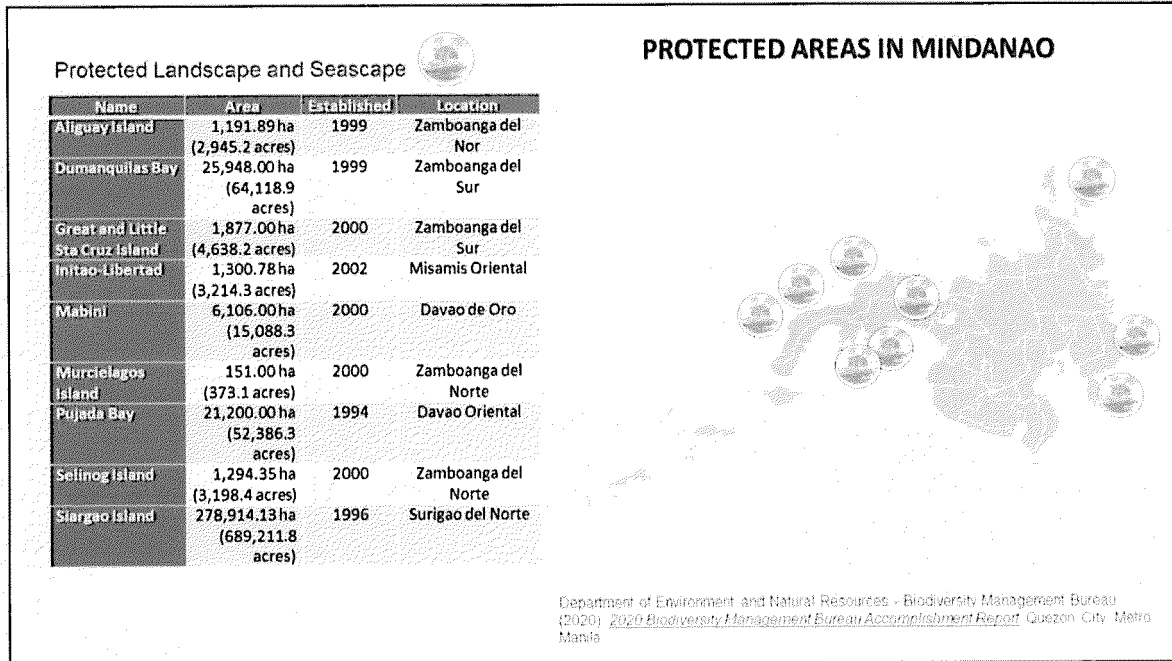
PROTECTED AREAS IN MINDANAO

Protected Landscape 

| Name | Area | Established | Location |
|---------------------|----------------------------------|-------------|--------------------------------|
| Allwagwag | 10,491.33 ha (25,924.6 acres) | 2011 | Davao de Oro Davao Oriental |
| Baganga | 114.88 ha (283.9 acres) | 2000 | Davao Oriental |
| José Rizal Memorial | 439.00 ha (1,084.8 acres) | 2000 | Zamboanga del Norte |
| Mainit Hot Springs | 1,374.00 ha (3,395.2 acres) | 2000 | Davao de Oro |
| Mati | 914.26 ha (2,259.2 acres) | 2005 | Davao Oriental |
| Mimbilisan | 66.00 ha (163.1 acres) | 1999 | Misamis Oriental |
| Mount Matutum | 15,600.00 ha (38,548.4 acres) | 1995 | South Cotabato |
| Mount Timolan | 1,994.80 ha (4,929.3 acres) | 2000 | Zamboanga del Sur |
| Naga-Kabasalan | 5,505.45 ha (13,604.3 acres) | 2022 | Zamboanga Sibugay |



Department of Environment and Natural Resources - Biodiversity Management Bureau (2020). *2020 Biodiversity Management Bureau Accomplishment Report*. Quezon City, Metro Manila.



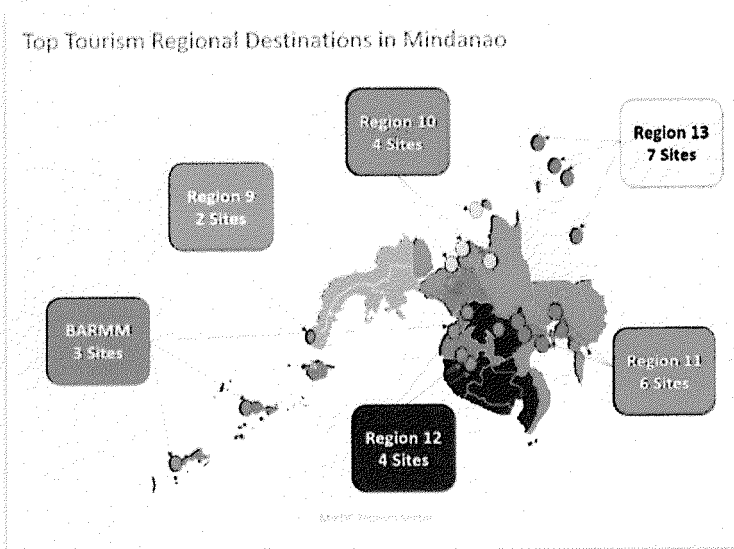
Source: Department of Environment and Natural Resources - Biodiversity Management Bureau (2020). *2020 Biodiversity Management Bureau Accomplishment Report*. Graphics design by MinDA JER.

- Mass tourism and the rapidly increasing tourist traffic as a global trend are threatening the protected areas with the scaling up of the construction and development of tourism related infrastructure in these areas. Stronger tourism policy regulations are needed to include the one time use plastic in protected areas.

**Mindanao Tourist Arrivals: International and Domestic Markets
By Region**

| PARTICULARS | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|
| INTERNATIONAL AND DOMESTIC MARKETS | | | | | | | | | |
| MINDANAO | 3,410,715 | 4,702,896 | 6,480,395 | 8,320,369 | 8,629,337 | 9,619,577 | 11,392,875 | 12,473,149 | 2,959,369 |
| Growth Rates (%) | (23.9) | 37.9 | 37.8 | 28.4 | 3.7 | 11.5 | 18.4 | 9.5 | (76.3) |
| Region IX* | 658,774 | 347,422 | 580,138 | 629,985 | 678,125 | 717,601 | 1,129,182 | 1,173,257 | 166,513 |
| Region X | 1,482,820 | 1,321,172 | 1,664,856 | 2,693,526 | 2,568,928 | 3,057,010 | 3,103,024 | 2,797,073 | 662,687 |
| Region XI | 243,000 | 1,827,086 | 2,524,795 | 2,838,489 | 3,006,437 | 3,238,929 | 3,975,519 | 5,173,488 | 1,391,360 |
| Region XII | 281,474 | 345,328 | 703,459 | 915,600 | 1,025,765 | 1,260,796 | 1,700,733 | 1,960,485 | 442,151 |
| Region XIII | 744,647 | 861,888 | 1,007,147 | 1,242,769 | 1,137,487 | 1,345,241 | 1,484,417 | 1,368,846 | 296,658 |
| BARMM | | | | | | | | | 212,595 |

Source: DOT



Region 13 is the top tourism destination in Mindanao with 7 major sites. Siargao Island was voted by Conde Nast Traveler's Readers' Choice Awards in 2019-2020-2021 as the travel magazine's readers voted as the Top Island in Asia with a score of 97.77. Region 11 or Davao Region is the second most visited region with 6 major sites followed by Region 10 with 4 Major sites.

- Mindanao is surrounded by a good fishing ground but for the last five years the production is declining. This created a lot of controversy when media reports the importation of fish from other countries. The need for stronger government support, policy regulation and management of municipal waters to increase fish stocks and increase production as well as strengthen fresh water production areas. The need to stop illegal fishing using dynamites or poison (cyanide) to protect fish habitat and aquamarine biodiversity.

FISHERIES STATISTICS OF THE PHILIPPINES, 2019-2021

Table 6 - Concluded

| Region/Province | 2019 | 2020 | 2021 |
|--|-------------------|-------------------|---------------------|
| IX Zamboanga Peninsula | 548,651.71 | 585,126.52 | 572,110.29 |
| Zamboanga del Norte | 93,429.33 | 101,104.54 | 93,111.85 |
| Zamboanga del Sur | 79,661.81 | 78,319.25 | 76,124.02 |
| Zamboanga Sibugay | 122,108.85 | 126,666.66 | 128,023.37 |
| City of Zamboanga | 253,451.71 | 279,036.08 | 274,851.05 |
| X Northern Mindanao | 153,264.36 | 141,168.69 | 118,112.40 |
| Bukidnon | 3,533.79 | 2,839.94 | 604.55 |
| Comiguin | 3,154.11 | 2,809.70 | 3,777.72 |
| Lanao del Norte | 81,084.64 | 76,054.16 | 61,316.41 |
| Misamis Occidental | 46,275.86 | 44,638.84 | 40,333.52 |
| Misamis Oriental | 19,215.96 | 14,826.06 | 12,080.19 |
| XI Davao Region | 48,245.89 | 45,556.23 | 48,630.40 |
| Davao de Oro | 1,419.38 | 1,431.91 | 1,669.54 |
| Davao del Norte | 3,788.78 | 4,989.32 | 6,401.99 |
| Davao del Sur | 13,386.06 | 12,920.08 | 11,277.36 |
| Davao Occidental | 14,810.99 | 13,660.35 | 17,461.42 |
| Davao Oriental | 11,222.52 | 9,381.63 | 7,947.62 |
| City of Davao | 3,618.14 | 3,172.94 | 3,872.47 |
| XII SOCCSKSARGEN | 315,786.21 | 312,804.71 | 279,118.69 |
| North Cotabato | 12,498.82 | 10,134.37 | 11,401.83 |
| Sarangani | 16,328.15 | 17,099.41 | 19,861.14 |
| South Cotabato | 278,274.08 | 279,157.67 | 235,481.03 |
| Sultan Kudarat | 8,685.16 | 6,413.26 | 12,374.69 |
| XIII Caraga | 69,029.25 | 66,601.73 | 61,561.61 |
| Agusan del Norte | 9,980.81 | 9,695.88 | 11,268.86 |
| Agusan del Sur | 993.34 | 903.69 | 760.84 |
| BARMM Bangsamoro Autonomous Region in Muslim Mindanao | 935,707.67 | 954,060.15 | 1,010,804.29 |
| Basian | 22,448.92 | 22,684.17 | 23,396.75 |
| Lanao del Sur | 15,521.37 | 16,054.34 | 15,915.47 |
| Maguindanao | 147,190.53 | 153,193.60 | 196,294.21 |
| Sulu | 326,989.30 | 331,988.13 | 333,145.38 |
| Tawi-Tawi | 423,557.55 | 430,139.92 | 442,052.47 |

Source: BFAR/PSA

- The Philippines is among the countries with the greatest exposure to natural disaster risk worldwide. It ranked third in the 2018 World Risk Index most disaster-prone countries in the world.¹ Almost all forms of natural and man-made disasters such as typhoons, storm

¹ World Economic Forum, 2018

surges, earthquakes, landslides and volcanic eruptions, and armed conflict-related disasters struck the country almost every year.

- The Philippines ranks first in the World Risk Index 2022, with risks identified ranging from earthquakes, hurricanes/typhoons, floods (both coastal and riverine), drought, sea-level rise, tsunamis, and conflict.
- Disastrous Earthquakes in Mindanao

| Year | Magnitude | Damage Impact |
|------|-----------|---|
| 1976 | 8.0 | A magnitude 8.0 earthquake struck Mindanao on August 16, 1976. The quake caused a devastating tsunami that had hit the 700 km coastline of the island of Mindanao bordering Moro Gulf in the North Celebes Sea. An estimated 5,000 – 8,000 people died. The major cause of the great number of casualties during the event could be attributed to the fact that the quake happened just after midnight when most people were sleeping; and a great tsunami was spawned, struck the coasts from different directions and caught the people unaware. |
| 2002 | 6.1 | A magnitude 6.1 quake struck Sultan Kudarat on March 6, 2002. Office of Civil Defense (OCD) records show that 8 people had died and 41 were injured due to the earthquake. It affected 7,684 families in the provinces of Sultan Kudarat, Sarangani, North Cotabato and South Cotabato including four cities and 17 municipalities. |
| 2009 | 5.7 | A magnitude 5.7 earthquake hit Sultan Kudarat on September 18, 2009. At least 91 people were injured and 76 houses, 2 commercial buildings, and a fence of a high school were damaged in the province as well in neighboring South Cotabato. In the town of Norala, two houses were totally destroyed |
| 2011 | 5.2 | A magnitude 5.2 quake struck Valencia City, Bukidnon on November 8, 2011, at a depth of 1 km, 39 people were injured, and several establishments were damaged |
| 2012 | 5.9 | A magnitude 5.9 quake struck Surigao City on March 16, 2012. Many were injured in the city for that certain day was the grand opening of Gaisano Capital Surigao. An estimated 6,000 people were in Gaisano when the earthquake happened. The earthquake caused a stampede which injured people |
| 2012 | 5.6 | A series of earthquakes, struck cities of Malaybalay and Valencia, and the sitio of Musuan, Maramag in Bukidnon last September 3–4, 2012. The first quake has a magnitude of 3.4 and was felt at 06:48 pm, ^[70] and was followed by magnitude 4.0 at 07:45 pm, ^[71] and 4.7 at 09:21 pm. ^[72] Hours after the first three, a series of quakes occurred in 03:44 am and in 03:52 am. The first quake had a magnitude of 5.6 with a depth of focus of 3 km; ^[73] while the second one was recorded at a magnitude of 4.9 with a depth focus of 3 km. ^[74] The quake was felt as far as Cagayan de Oro, Kidapawan, Butuan, and Cotabato cities. ^{[75][76]} A nun |

| | | |
|--------------------|-----|---|
| | | was injured in Barangay Lourdes in Valencia City after the incident. Valencia City Disaster Risk Reduction and Management Council reported that 144 houses and structures were destroyed. Mayor Ignacio Zubiri of Malaybalay City reported no casualties nor damage in his city. ^[77] The quakes were of tectonic in origin. A total of 131 aftershocks were recorded after the 5.6 quake on September 4, 2012 |
| 2013 | 5.7 | A 5.7 earthquake struck the island of Mindanao on June 1, 2013. ^[79] The quake's epicenter was located in Carmen, Cotabato and struck with a depth of 5 kilometers. ^{[80][81]} The said quake injured six people, 4 of them were children, and fully or partly destroyed several houses, and some school buildings. ^{[82][83]} It also damaged a bridge at Barangay Kimadzil, and another one at Barangay Kibudtungan. ^[84] The quake was followed by 15 aftershocks, the last one was followed by a 4.3 quake on June 2, 2013. ^[85] The quake caused ₱71-million worth of damage. Another quake jolted the said town after 4:00 am on June 3, 2013. The quake was recorded at 5.7 and struck at a depth of 3 kilometers. ^[86] The newest quake further injured 8 more people, and damaged more houses. Classes which was slated to open on June 3, 2013, were cancelled due to a series of quakes that hit the town since June 1, 2013 |
| 2015 | 6.1 | A magnitude 6.1 quake struck 47 km N 47°E of Burgos (Surigao del Norte) on July 3, 2015, 2:43 pm at a depth of 26 km. One person died of a heart attack in Balingasag and minor damage was observed in Del Carmen, Surigao del Norte |
| 2017 | 6.5 | A magnitude 6.5 earthquake struck 10 km SW of Basilisa, Dinagat Islands on February 10, 2017, 10:03 pm at a depth of 15 km. Eight people were killed and 202 injured |
| 2017 | 6.9 | A magnitude 6.9 earthquake struck 47 km S 26° W of Sarangani and Davao Occidental provinces on April 29, 2017, at 4:23 am at a depth of 57 km. Five people were injured |
| 2019 July 9 | 5.6 | A magnitude 5.6 earthquake struck Makilala, Cotabato on July 9, 2019, at 8:36 pm local time, leaving 1 dead and 73 injured |
| 2019 October 16 | 6.3 | A magnitude of 6.3 earthquake struck Tulunan, Cotabato on October 16, 2019, around 7:37 pm. ^[104] Seven people were reported dead and more than 200 others injured. Most of the houses in Brgy. Malawanit Magsaysay, Davao del Sur, were destroyed. The aftermath left frequent aftershocks extended to over a week on random cycles. |
| 2019 October 29 | 6.6 | A magnitude of 6.6 earthquake again struck in Tulunan, Cotabato on October 29, 2019, with some reports stating that this earthquake felt much devastating as the previous earthquake that took place on October 16, 2019. ^[106] Nearby towns such as those in Kidapawan, North Cotabato and Davao city were also affected. |
| 2019 October 31 | 6.5 | A magnitude 6.5 earthquake struck Tulunan, Cotabato for the third time on October 31, 2019, Death toll amongst |

| | | |
|----------------|-----|--|
| | | towns and cities nearby has increased; CNN Philippines reporting increased fatal casualties risen to 10 during live news broadcast. Revised body count reports 24 fatal casualties in total including the numbers from the two consecutive earthquakes that took place on October 29 and 31, with more than 500 people being injured and three reported missing |
| 2019 Dec 15 | 6.8 | A magnitude 6.8 earthquake struck Matanao, Davao del Sur on December 15, 2019, at 2:11 pm. 13 people were killed, one remains missing and 210 others were injured during this tremor |
| 2021 | 6.1 | A magnitude 6.1 earthquake struck Magsaysay, Davao del Sur on February 7, 2021, at 12:22 pm. 14 people were injured after the earthquake |
| 2021 | 7.1 | A magnitude 7.1 earthquake struck off the coast of Governor Generoso, Davao Oriental on August 12, 2021, at 1:46 a.m. (PhsT). PHIVOLCS reported earlier that the epicenter was located off the coast of Mati City in Davao Oriental, with a 7.3 magnitude. No major damages reported so far. ^[112] A 20-year-old man died after being hit by falling coconuts in Tandag City, Surigao del Sur |
| 2023 | 6.0 | A magnitude 6.0 earthquake struck the province of Davao de Oro in the Davao Region on February 1, 2023. ^[116] PHIVOLCS reported the epicenter at 7.66°N, 126.07°E - 002 km S 66° W of New Bataan (Davao de Oro) at a depth of 17 kilometers. ^[117] Sixteen people were injured and 52 buildings were damaged |

Source: Official website National Disaster Risk Reduction and Management Council

- The earthquake aftermath resulted to millions of property damage both public and private infrastructures. This also affected the agriculture and fishery and the other economic activities. In some instances, it cost lives and injuries. And in these situations, our disaster response capability is tested – and still a challenge to many local government units.
- Over the past decade, climate change has become more evident in Mindanao, with extreme weather events occurring with increasing frequency and intensity, often additionally driven by degraded environments. Rains in upland areas result to flooding downstream. Notably, once “typhoon-free” Mindanao experienced tropical cyclones Sendong in 2011 and Pablo in 2012 which both caused numerous deaths and extensive damages to farmlands and property.

Top 7 Disasters Affecting Mindanao in terms of Damage Cost, 2011-2021

| Disaster | Year | Agriculture (in millions) | Infrastructure (in millions) | Private/ Communication (in millions) | Total Damage Cost (in millions) |
|-----------------|------|------------------------------|---------------------------------|--|---------------------------------------|
| Typhoon Sendong | 2011 | 272,562.83 | 1,433,369.15 | | 1,705,931.97 |
| Typhoon Pablo | 2012 | 33,470.20 | 6,836.52 | 2857.52 | 43,164.25 |
| Typhoon Yolanda | 2013 | 25,248.04 | 12,055.24 | 58,179.85 | 95,483.13 |
| Typhoon Ruby | 2014 | 3,635.82 | 2,048.48 | | 5,684.30 |
| El Nino | 2015 | 12,834.28 | | | 12,834.28 |
| Typhoon Tisoy | 2019 | 2,955.71 | 2,945.00 | | 5,900.71 |
| Typhoon Odette | 2021 | 11,100,000.00 | 2,800,000.00 | | 29,000,000.00 |

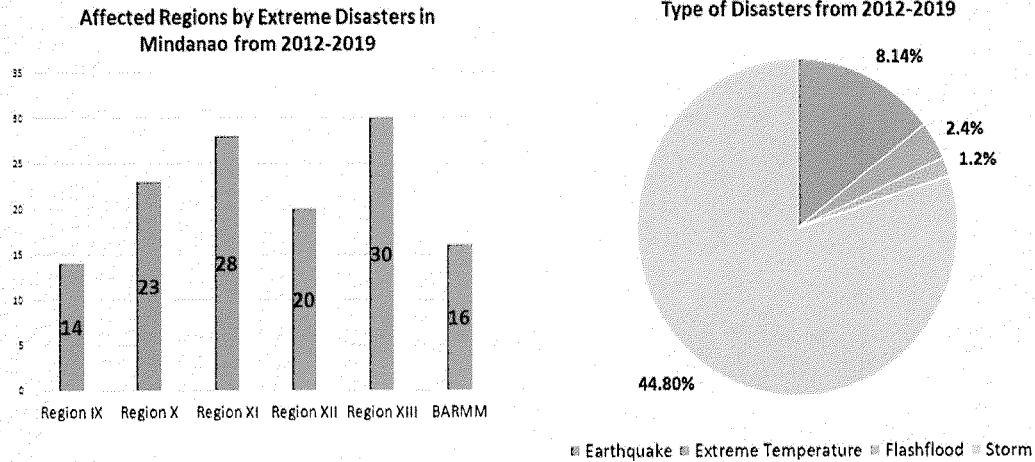
Data is National and not diasaggregated to Mindanao

Source: PSA and
OCD

- Climate change also poses a considerable threat to the agriculture sector in Mindanao. Droughts and heavy rains are the key climate-related hazards, with farmers observing longer periods of drought and heavy rains in recent years. Climate-induced early or late-onset rains, as well as prolonged rains have disrupted planting and harvest patterns. The increased frequency of typhoons, increased likelihood of prolonged droughts and higher temperatures have severe impacts on the agriculture sector. In an already hot and humid environment, climate change is expected to produce even higher temperatures and increasingly unpredictable rainfall by 2050, negatively affecting yields for most crops.² These climate-related issues are aggravated by deforestation and mining activities in certain areas of Mindanao.
- Mindanao is situated along the so-called Pacific Ring of Fire, a zone of frequent earthquakes and volcanic eruptions. The region's diverse geophysical landscape, vast areas of denuded forests due to human activity such as mining and logging, coastal areas without adequate mangrove protection and poor flood control infrastructure all pose serious threats to natural disasters and calamities that potentially endangering both lives and property.³
- Over the past few years, disasters and climate change has become more evident in Mindanao with extreme weather events occurring with such increasing frequency and intensity.

² Giles, J, et.al. Climate Resilient Agriculture in the Philippines: Climate Risk Profile, Mindanao. International Center for Tropical Agriculture (CIAT); Department of Agriculture – Adaptation and Mitigation Initiative in Agriculture, Government of the Philippines; The Food and Agriculture Organization of the United Nations (FAO). Manila, Philippines. 32 p

³ Mindanao Summit on DRR and Geo-hazard Awareness, 2012



** Source: PSA and OCD

- As shown above, the most frequently hit area is Region XIII or CARAGA, and the least affected are Region IX. The majority of the disasters affecting Mindanao are storms. In figures, the Storm comprises 80% or 44 out of the 55 calamities that hit Mindanao. The earthquake comes in second with eight recorded incidents or roughly 14% of the listed disaster.
- All these typhoons and earthquakes, including droughts, landslides and flooding made costly and damaging which brought enormous economic losses not only to those directly affected but also to those that have had to bear the cost of recovery and reconstruction.
- At the mid-point of Mindanao 2020, the Coronavirus COVID19 happened; since natural disasters have been occurring more and more in Mindanao in the last 20 years, preparation and amelioration measures have also been put in place to develop increasing resilience and recovery. However, the COVID 19 pandemic is very different from these natural disasters, particularly since there is no end currently in sight. (SEIA).
- COVID-19 has led to devastating social and economic impacts, with long-lasting effects requiring sustainable and resilient recovery: not “business as usual” but “building back better”. While efforts are underway to lay foundations for financial, economic and social recovery, there is a unique opportunity to make recovery more resilient, sustainable and inclusive

II. The Mindanao Agenda (2023-2028)

- Mindanao is faced with multiple risks and vulnerabilities relating to natural hazards and climate change. However, this is further exacerbated by its long experience with armed conflict, involving non-state actors, as well as localized inter-klan conflicts (*rido*), and other forms of community-level violence. The combination of climate change, natural hazard-related disasters and conflict increases people’s vulnerabilities and grievances, which is further heightened in conflict situations.

- Moreover, pockets of industrial development are mostly based on exploiting primary resources, especially forests and minerals, often located within ancestral domains. Large numbers of Mindanawons, especially IPs live in abject poverty and substantially rely on natural resources for subsistence and livelihoods. In many instances, they find themselves in a losing competition with large investors for use of their own resources. Mindanawons also suffer the consequences of environmental degradation caused by unsustainable management and use of resources by enterprises introduced and owned by outsiders. This development path is clearly unsustainable due, among other things, to the social and environmental tensions it creates and exacerbates over time.
- A disaster-resilient Mindanao must create or strengthen processes and mechanisms to build peaceful and resilient communities and institutions capable of prevention, preparedness and risk management in relation to armed conflict. Building resilience to conflict requires actions that prevent tensions and disputes from developing into violence, and the capacity to initiate mediation, conflict management and conflict resolution processes when violent conflict does occur.
- *Critical actions needed to build conflict-resilience include, among others:*
 - Cultivate responsive and inclusive institutions with leaders that can govern collaboratively and ensure access to basic services, equitable access to natural resources, provide platforms for participation in governance, and champion respect for human rights
 - Build/strengthen multi-sectoral mechanisms for dialogue on critical issues;
 - Provide venues for multi-ethnic, multi-sectoral interactions that promote tolerance, understanding and appreciation of diverse cultures and beliefs
 - Provide resilient livelihoods that can reduce economic grievance and exclusion, particularly among the youth
 - Build capacities for youth, women and men in context-specific DRRM and peacebuilding strategies towards addressing shared conflict-disaster vulnerabilities
 - Integrate conflict-sensitivity and peace promotion in local government planning and legislation
 - Enhance approaches and perspectives on disaster preparedness and management by integrating conflict-resilience in government policies and plans on DRRM not only for Mindanao but for other conflict-affected areas in the Philippines
- Mindanao is endowed with rich natural resources, highly diverse cultures and strategic location in a complex and rapidly growing region. Pockets of industrial development are mostly based on exploiting primary resources, especially forests and minerals, often located within ancestral domains. Large numbers of Mindanawons, especially IPs live in abject poverty and substantially rely on natural resources for subsistence and livelihoods. In many instances, they find themselves in a losing competition with large investors for use of their own resources. Mindanawons also suffer the consequences of environmental degradation caused by unsustainable management and use of resources

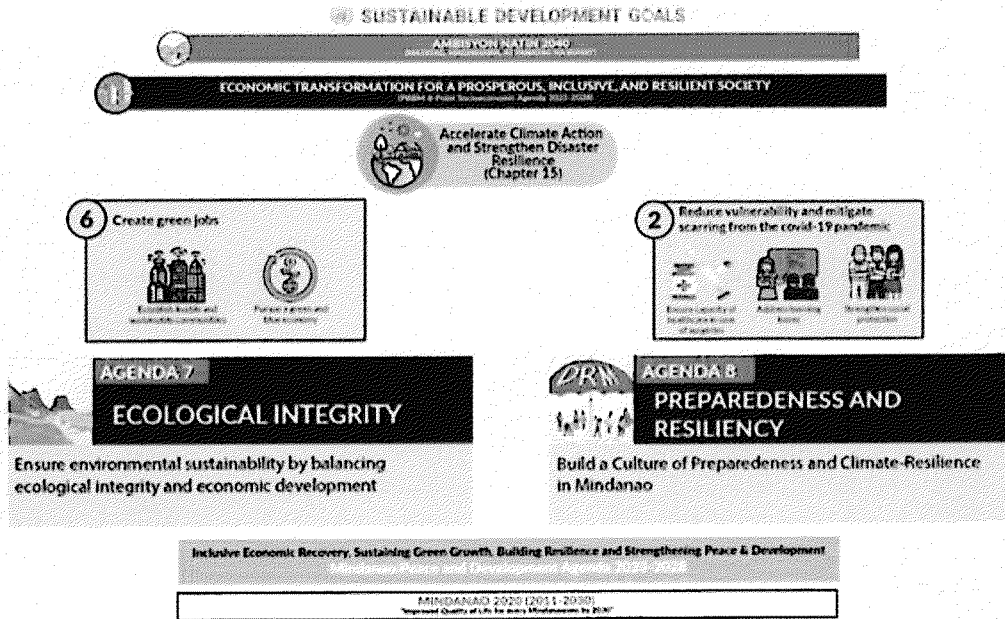
by enterprises introduced and owned by outsiders. This development path is clearly unsustainable due, among other things, to the social and environmental tensions it creates and exacerbates over time.

- Mindanao's future development rests on the environment and natural resources. Thus, an ecosystem-based approach to planning for the island-region's future development and economic activities is essential. This translates to interventions that transcend administrative boundaries, impelling cross-cultural and cross-border cooperation and communication in the process and better promote human security and social cohesion by situating all development within a holistic framework. Such ecosystem-based approach means that planning must build on the tangible and intangible natural endowments of Mindanao, i.e its human and natural wealth.
- Mindanao's human and ENR base has faced serious challenges over decades of resource-using economic activities that had brought substantial gain to a relatively narrow segment of the population. While certain business interests prospered, the wider majority of Mindanawons were left behind, evidenced by high levels of poverty that are among the worst in the entire country. At the same time, the welfare of future generations of Mindanawons had also been compromised in the course of reaping present gains from extracting wealth out of a rich but fragile environment.
- The economy-environment trade-off has been manifested in several economic-resource patterns that typify development at the cost of environmental degradation, deterioration and destruction, including: construction of river dams for hydroelectric power generation that led to massive disruptions in the natural ecology of river systems, submerged human settlements and complicated the downstream problems associated with logging and deforestation; unsustainable agricultural practices relied upon by upland populations for subsistence, that further exacerbate forest destruction; mining activities without requisite environmental safeguards, leading to release of technical grade chemicals to the environment, and to soil erosion, degraded land and landslides, excessive fishing activity beyond sustainable fishing levels; manufacturing activities built on extractive industries and/or groundwater use without due consideration of resource carrying capacities, and large scale monoculture plantation agriculture that has led to long-term soil degradation and fostered ever increasing dependence on harmful inorganic fertilizers.
- By ensuring natural ecosystems are protected and wildlife conserved, the country's resiliency against climate change and disaster risks will be strengthened.

To ensure environmental sustainability, the following are the recommended actions:

- Pursue win-win approaches towards ecological integrity and economic development;
- Support Ecosystem-based Planning; and
- Greening Mindanao Program.

III. Alignment to PDP and M2020 Goals, Objectives and Overall Targets



In November 2010, the Mindanao Development Authority (MinDA) launched a landmark document that embodied the aspirations of Mindanawons for a better future: the *Mindanao 2020 Peace and Development Framework Plan 2011-2030 (M2020)* with a vision “By 2030, Mindanawons of all cultural or socio-economic backgrounds have attained a sustainably uplifted quality of life through the collective achievement of a peaceful, developed, autonomous and integrated Mindanao that is the vanguard of the country’s sustainable development”.

After 13 years since the Mindanao 2020 was crafted, the updating of such is best carried out through a 2-stage process that will enable the Plan to be developed in consonance with the development thrusts of the Marcos Administration which took office last June 2022.

First, the crafting of a Mindanao Peace and Development Agenda 2023-2028, to be derived from the draft updated chapters, and embodying the vision and goals for Mindanao as established in M2020, but viewed and presented in the context of current trends, challenges and opportunities. Second, the crafting of a new Mindanao Peace and Development Framework Plan through multi-sectoral consultations, which will elaborate Agenda 2023-2028.

The Mindanao Agenda 2023-2028 is aligned with the Philippine Development Plan (PDP) 2023-2028 which reflects the government’s policies, strategies, programs, and legislative priorities in support of and consistent with President Ferdinand R. Marcos, Jr.’s 8-pt Socioeconomic Agenda 2023-2028. The PDP is geared toward the attainment of the country’s long-term vision, the Ambisyon Natin 2040, where all Filipinos are envisioned to enjoy strongly rooted, comfortable, and secure lives. All this are geared toward achieving the Sustainable Development Goals by 2030.

Specifically for Ecological Integrity and Preparedness and Resilience, it is aligned with PDP's Chapter 15 – Accelerate Climate Action and Strengthen Disaster Resilience

IV. Sector Gaps/Challenges

Mindanao 2020/Mindanao Agenda

- Philippines has more than 7,600 islands which is the world's largest archipelagic country. It has land area of 300,000 kms and home to more than 1,130 terrestrial wildlife species - half of it is endemic to the country (44% birds, 64% of land mammals, 65% of reptiles, and 77% of amphibians) and 5% of the world's plant species. In spite of these figures, Philippines is among the top 10 countries globally with the most number of species threatened with extinction. There is increasing demand for forest, minerals, wildlife products, and cropland and agricultural monocultures. Also, the demand for infrastructure and transportation development has accelerated in recent years which rapidly changes the landscape with consequential threats to biodiversity and ecosystem services. (Biodiversity Corridor Project-DENR Caraga).
- Other challenges the environment sector are facing are the following:
 - Heavy rainfall resulting from tropical weather disturbances,
 - Deforestation
 - Improper agricultural practices
 - Inadequate design of drainage channels and structures
 - Inadequate maintenance of drainage facilities, blockage by debris brought by flood waters
 - Construction of settlements in flood plains
- The combination of climate change, natural hazard-related disasters and conflict increases people's vulnerabilities and grievances, which is further heightened in conflict situations. This presents challenges towards addressing a range of social and economic concerns, from social cohesion to economic production and opportunities, food security, livelihoods, and the overall effort towards sustainable development. Most adversely affected are women, children, persons with disabilities and the elderly, who often suffer the most from violence and population displacements triggered by armed conflict and climate-and natural hazards-induced disasters.
- The Philippine Disaster Risk Reduction and Management Act of 2010 (PDRRM Act of 2010), only provides Three-layer coordination mechanisms during an emergency: 1) Local Disaster Risks Reduction Management Council (LDRRMC) if the affected areas are from barangay up to provincial level; 2) the Regional Disaster Risks Reduction Management Council (RDRRMC) if the affected areas are more than 2 provinces; and 3) National Disaster Risks Reduction Management Council (NDRRMC) if 2 or more regions are affected. It is noted that the plan does not include the creation of a Mindanao-wide disaster management body.

Philippine Development Plan

- *Government budget allocation for climate and disaster resilience has been inadequate.*

The government's budget for climate change adaptation and mitigation increased from PHP195 billion in 2017 to PHP289 billion in 2022. However, its share in the total budget declined from 6.99 percent to 5.77 percent in the same period. The monitoring of actual expenditures at the agency and LGU levels also remains inadequate, making it difficult for the government to track and assess the progress in the climate agenda. For the National Disaster Risk Reduction and Management Fund (NDRRMF), an annual average of PHP20 billion was allocated from 2016 to 2021. However, analysis showed that the NDRRMF was mainly used for post-disaster activities such as cash assistance, resettlement, and quick response funds of agencies. This mirrors the expenditure pattern at the local level, where Local DRRM Funds were highly skewed toward disaster response, recovery and rehabilitation.² Meanwhile, the 2016 People's Survival Fund appropriation has not yet been fully utilized with only six LGUs able to access the fund.

- *The coronavirus disease (COVID-19) pandemic slowed down environmental and climate action.*

The pandemic negatively affected the achievement of targets in the previous Philippine Development Plan and other government plans (e.g., NCCAP, NDRRMP). For instance, land titling and delineation of municipal waters, which are vital for securing property rights and effective management, slowed down following the imposition of mobility restrictions due to COVID-19. The quarantine measures also hampered the government's ability to assess improvements in local capacities and disaster preparedness. They also resulted in a significant decline in employment from ecotourism and sustainable resource-based industries.

- Forest cover increased by 3.03 percent from 2015 to 2020, and the management of protected areas generally improved. However, these positive gains still fall short in improving the country's overall performance in these sectors. In the 2022 Environmental Performance Index ranking, the Philippines placed 158th out of 180 countries in environmental sustainability ranking, which covers performance indicators on ecosystem vitality (e.g., biodiversity, water resources), environmental health (e.g., air quality, waste management) and climate change.

V. STRATEGIES 2023-2028

Mindanao 2020/Mindanao Agenda

- Create government-private sector alliances to effect a Ridge to reef environmental and disaster protection related programs and projects
- Funding support for Mindanao River Basin Organizations/alliances
- Localize the resilience and "build back better" approach of the NDRRP through the formulation/updating of local disaster risk reduction and management plans (LDRRMP) that are anchored on distinct contexts of Mindanao communities
- Strengthen the resilience of businesses and MSMEs

- Pursue inclusive economic rebuilding and recovery that will contribute to the national government's strategy on combatting the effects of the COVID-19 pandemic
- Come up with systematic measures and mechanisms that could insulate Mindanao's economy from both internal and external shocks including emerging pandemic or epidemic
- Revitalize important business sectors in provinces and cities, energize the households to patronize local establishments and MSMEs to stimulate the real economy
- Ensure sufficient supply of locally produced food, reinvigorate the agri-fishery sector. Invest in rural and agriculture development
- Improve transport and logistics
- Accelerate digital transformation thru legislative and infrastructure support
- Enhance environmental health: water and sanitation, waste management, air quality, biodiversity loss
- Data systems for better vulnerability indexing and targeting
- Invest in DRR-CCA initiatives to reduce vulnerability to multiple hazards
- Institute measures to enhance knowledge, attitudes and skills for individuals and communities to effectively anticipate, respond to and recover from disasters
- Increase capacities of LGUs for immediate and effective leadership for DRRM, including for risk assessment (capacity to prepare for and mitigate effects of disasters and climate change)
- Develop integrated ecosystem-based DRRM policies and plans
- Increase capacities to manage disaster risks through extensive use of information technologies
- Build capacities to mitigate and respond to disease outbreaks and pandemics
- Pursue win-win approaches towards ecological integrity and economic development through conscious pursuit of environmentally friendly production and consumption, and through promotion of mechanisms for payments for ecological services (PES)
- Adopt a "green growth" and "green economy" approach toward sustainable production and consumption.
- Support Ecosystem-based Plans - Provide support, through programs or projects, to push for the extensive implementation of development plans for Mindanao watersheds, river basins, and other ecosystems
- Renewable Energy, such as harnessing hydro-power potentials of Mindanao rivers.
- Greening Mindanao Program. Mindanao forest cover to stabilize at no less than 40% of land area.

Philippine Development Plan

By 2028, communities, institutions, and the natural and built environment in the Philippines are more resilient to the impacts of natural hazards and climate change.

To realize this goal, the government will strengthen cross-sectoral convergence and coordination and implement a comprehensive risk management approach to reduce intersecting vulnerabilities and address complexities in managing the compounding and cascading risks posed by climate change across different sectors. The government will collaborate with the private sector and international community to scale up sustainable and green investments that propel economic transformation for a prosperous, inclusive, and resilient society. Innovative

policies and measures to advance low-carbon development will also be pursued while ensuring just transition and job creation. Rehabilitation and protection of natural resources will be accelerated to sustain the provision of ecosystem goods and services. A green and blue economy will be promoted and developed to optimize their contribution to livelihood and employment generation while improving environmental and social well-being. Lastly, improved governance will underpin the country's collective effort to ensure long-term climate and disaster resilience.

Outcome 1: Climate and disaster risk resilience of communities and institutions increased

- Strengthen the capacity of LGUs and communities in disaster prevention and preparedness
- Boost multi-stakeholder partnership in building and translating knowledge to climate change adaptation and disaster risk reduction
- Align ESG measures and investments with local adaptation and risk reduction needs and priorities

Outcome 2: Ecosystem resilience enhanced

- Intensify ecosystem protection, rehabilitation, and management
- Promote and expand natural resource-based industries and enterprises

Outcome 3: Low carbon economy transition enabled

- Implement the Nationally Determined Contribution policies and measures
- Bolster private sector investments in green development
- Ensure just transition of workers affected by the structural changes toward a greener, more sustainable, and low-carbon economy
- Expand market opportunities for low-carbon technologies and products

Cross-cutting strategy: Improve governance and inter-sectionality of climate change and natural hazard resilience

- Improve national and local climate and risk data and information management system
- Scale up natural capital accounting and valuation of ecosystem services
- Scale up the mobilization of sustainable finance from public and private sources