

**Post Disaster Needs Assessment (PDNA) Oil-Spill Incident in Oriental Mindoro**  
November 5 to 11, 2023

**Summary of Damage, Losses, and Needs**

| <b>Sectors</b>  | <b>Damages</b> | <b>Losses (P)</b>       | <b>Needs (P)</b>      |
|---|----------------|-------------------------|-----------------------|
| I. Productive Sector<br>(Agriculture, Trade and Industry, and Tourism)        | 0              | 4,954,039,761.74        | 239,303,520.00        |
| II. Social Sector (Education and Health)                                      | 0              | 9,580,408.20            | 38,945,000.00         |
| III. Cross-Sectoral<br>(Environment, Governance and Social Impact Assessment) | 0              | 2,003,221,556.97        | 446,436,490.50        |
| <b>TOTAL</b>  |                | <b>6,966,841,726.91</b> | <b>724,685,010.50</b> |

**I. Productive Sector:**

**A. Summary of Damages, Losses and Needs**

| <b>Sub-Sector</b>                | <b>Damages</b>                          | <b>Losses (P)</b>       | <b>Needs (P)</b>      |
|----------------------------------|---|-------------------------|-----------------------|
| A. Agricultural Sub-Sector       | 0                                       | 4,724,688,761.74        | 221,303,520.00        |
| B. Trade and Industry Sub-Sector | 0                                       | 44,676,000.00           | 2,065,525.00          |
| C. Tourism Sub-Sector            | 0                                       | 229,351,000.00          | 18,000,000.00         |
| D. Mining Sub-Sector             | <i>No Effects on Mining Sub-Cluster</i> |                         |                       |
| <b>TOTAL</b>                     |   | <b>4,954,039,761.74</b> | <b>239,303,520.00</b> |

**Summary of Damages, Losses and Needs (Detailed)**

| <b>City/ Province</b>        | <b>Damages</b>                          | <b>Losses (P)</b>       | <b>Needs (P)</b>      |
|------------------------------|---|-------------------------|-----------------------|
| <b>Fisheries</b>             |   | <b>4,723,181,755.74</b> | <b>169,663,400.00</b> |
| Calapan City                 |   | 213, 699, 486.00        | 20,220,000.00         |
| Oriental Mindoro             |   | 4,509,482,269.74        | 149,443,400.00        |
| <b>Crops &amp; Livestock</b> |   | <b>1,507,006.00</b>     | <b>51,640,120.00</b>  |
| <b>Trade And Industry</b>    |   | <b>44,676,000.00</b>    | <b>2,065,525.00</b>   |
| <b>Tourism</b>               |   | <b>229,351,000.00</b>   | <b>18,000,000.00</b>  |
| Calapan City                 |   | 89,259,000.00           | 2,000,000.00          |
| Oriental Mindoro             |   | 140,092,000.00          | 16,000,000.00         |
| <b>Mining</b>                | <i>No Effects on Mining Sub-Cluster</i> |                         |                       |
| <b>Total</b>                 |   | <b>4,954,039,761.74</b> | <b>239,303,520.00</b> |

**Agricultural Sub-Sector: Damage and Losses**

| Particulars       | Damage | Losses (P)              |
|-------------------|--------|-------------------------|
| Forgone Income    |        |                         |
| Agri-Fishery      |        | 4,723,181,755.74        |
| Crops & Livestock |        | 1,507,006.00            |
| <b>Total</b>      |        | <b>4,724,668,761.74</b> |

### **Reconstruction and Recovery Framework for Agricultural (Agri-Fishery) Sub-Sector**

1. Livelihood Assistance, Rehabilitation and Recovery Plan to Fisherfolks Affected by the Oil Spill Incidence in Oriental Mindoro;
2. Fuel Subsidy for 4,000 Affected Fisherfolk to Fish in the Alternative Fishing Grounds;
3. Provision of Survival and Recovery Aid Assistance Program;
4. Operationalization Training (Capacity Building) and Installation of Four (4) Units of Lambaklad "Otoshi-ami";
5. Capacity Building for Fish Cage Farming and Installation of Forty (40) Units of Norwegian-type HDPE Fish Cages (19 meters diameter);
6. Capacity Building on Solar Salt Production.

### **Policy and Program Recommendations for Agricultural (Agri-Fishery) Sub-Sector**

1. The continuing funds for the Survival and Recovery Aid by the Agricultural Credit and Policy Council must be sustained for qualified farmers and fisherfolk to access loan for their immediate recovery.
2. To address the changing climate pattern most especially to the fishery sector, use of climate resilient seaweed farming technology and adaptability to climate resilient aquaculture practices are encouraged.
3. To lessen burden on rehabilitation of disaster-related damages of fisheries projects on the government in the future, LGUs should imposed availment of insurance in the Philippine Crop Insurance Corporation as part of the requirements in their city/municipal licensing activities for fisheries projects in their respective jurisdictions.
4. Continuous registrations of fisherfolk in their respective local government units in Registry System for Basic Sectors in Agriculture (RSBSA) are encouraged for accessibility and future reference to programs in the Department of Agriculture and other programs of the government.
5. Conduct of information and education campaign (IEC) and encouragement of fisherfolk to avail the services of Philippine Crop Insurance Corporation (PCIC) which are provided free to fisherfolk registered under RSBSA and have boats below three (3) gross tonnage, including other fisheries projects subject to PCIC guidelines.
6. Review on the current livelihood intervention strategies according to the fisherfolk needs.

### Immediate Assistance for Agri-Fishery:

| Project   | Location         | Status    | Estimated Cost       | Source of Funds     |
|---|------------------|-----------|----------------------|---------------------|
| 1. 300 Sets of PPEs and 107 rolls of P.E. Ropes for Oil Spill Clean-up Operations         | Oriental Mindoro | Completed | 720,945.00           | Agency Regular Fund |
| 2. Food Packs for the Affected Fisherfolk Families  | Oriental Mindoro | Completed | 1,701,000.00         | Agency Regular Fund |
| 3. Capacity Building on the Construction of FRP Boats                                     | Oriental Mindoro | Completed | 6,466,000.00         | Agency Regular Fund |
| 4. Hands on Training on Fish Smoking Technology and Equipment to Oil Spill Affected Areas | Oriental Mindoro | Completed | 3,357,398.50         | Agency Regular Fund |
| 5. Provision of Fish Stalls   | Oriental Mindoro | Completed | 75,000.00            | Agency Regular Fund |
| 6. 20 Units of FRP Boats With Engines   | Oriental Mindoro | Completed | 1,003,000.00         | Agency Regular Fund |
| 7. 47 Sets of Bottom Set Gill Nets  | Oriental Mindoro | Completed | 408,900.00           | Agency Regular Fund |
| 8. 140 Sets Multiple Hook and Line  | Oriental Mindoro | Completed | 137,200.00           | Agency Regular Fund |
| 9. 5 Units of Fish Aggregating Device (PAYAO)   | Oriental Mindoro | Completed | 124,950.00           | Agency Regular Fund |
|   |                  |           | <b>13,994,393.50</b> |                     |

### Priority Reconstruction and Recovery Needs for Agricultural (Agri-Fishery) Sub-Sector

| Project  | Location         | Status    | Estimated Cost | Source of Funds | Rank |
|--|------------------|-----------|----------------|-----------------|------|
| 1. Livelihood Assistance, Rehabilitation and Recovery Plan to Fisherfolks Affected by the Oil Spill Incidence in Oriental Mindoro      | Oriental Mindoro | Pipelined | 53,843,400.00  | DA- QRF         | 1    |
| 2. Provision of Fuel Assistance to Affected Fisherfolk   | Oriental Mindoro | On Going  | 12,000,000.00  | Agency Funds    | 1    |
| 3. Provision of Survival and Recovery Aid Assistance Program   | Oriental Mindoro | On Going  | 60,000,000.00  | DA ACPC         | 2    |
| 4. Operationalization Training (Capacity Building) and Installation of Four (4) Units of Lambaklad "Otoshi-ami"                        | Oriental Mindoro | Proposed  | 14,800,000.00  | Agency Funds    | 2    |
| 5. Capacity Building for Fish Cage Farming and Installation of Forty (40) Units of Norwegian-type HDPE Fish Cages (19 meters diameter) | Oriental Mindoro | Proposed  | 24,800,000.00  | Agency Funds    | 3    |
| 6. Capacity Building on Solar Salt Production  | Oriental Mindoro | Proposed  | 4,000,000.00   | Agency Funds    | 3    |

### Reconstruction and Recovery Framework for Agricultural (Crops & Livestock) Sub Sector:

For Medium Term:

1. Distribution of Vegetable Seeds, Garden Tools and Fertilizers to individuals with backyard gardens.
2. Distribution of Vegetable Seeds, Garden Tools and Fertilizers to Barangay Local Government Units (BLGU) and local associations that maintain communal gardens.
3. Promote corn cultivation as an alternative source of income for fisherfolks.
4. Distribution of coconut palms with shorter height for planting in small spaces or intercropping.
5. Enhance economic diversification and livelihood options through livestock rearing.

Short Term

1. Training/Capacity Building for fisherfolks who wants to engage in farming.

### **Policy and Program Recommendations for Agricultural (Crops & Livestock) Sub Sector:**

This discussion focuses on policy and program recommendations for the agriculture sector in the context of the Post-Disaster Needs Assessment.

1. **Provision of Vegetable Seeds, Garden Farm Tools, and Fertilizers:** Encouraging and supporting the cultivation of vegetables will provide a vital source of food for affected communities and can be an additional source of income through selling surplus produce. This intervention not only addresses immediate food security concerns but also promotes sustainable agriculture practices.
2. **Provision of Corn Seeds and Fertilizer:** Corn cultivation can serve as a valuable income diversification strategy for fisherfolks who have access to arable land. Corn is a versatile crop that can be grown alongside aquaculture activities, maximizing land utilization and income potential.
3. **Provision of Cassava Cuttings and Fertilizers:** Cassava is well-suited to tropical regions and offers economic diversification opportunities. Its resilience to adverse conditions makes it a valuable addition to coastal communities' agricultural practices.
4. **Provision of Dwarf Coconut Palms:** Dwarf coconut palms allow fisherfolks to make efficient use of limited land resources. This intervention promotes coconut cultivation while enabling additional crops to be planted alongside coconuts, enhancing economic resilience.
5. **Provision of Livestock Animals:** Livestock farming, such as poultry or small ruminants, provides an additional source of income and food security. This initiative should include training and support for proper animal care and management.

### Priority Reconstruction and Recovery Needs for Agricultural Sub Sector:

| Rank | Priority Projects/       | Location                       | Proposed Funding    |                |                     | Timeline   | Remarks |
|------|--------------------------|--------------------------------|---------------------|----------------|---------------------|------------|---------|
|      | Activities               |                                | Recommended Funding | Funding Source | Implementing Agency |            |         |
| 1    | Backyard Gardening       | Oriental Mindoro               | Php 860,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 100,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 2    | Community Gardening      | Oriental Mindoro               | Php 9,898,879.00    | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 605,750.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 3    | Poultry Production       | Oriental Mindoro               | Php 525,500.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 4    | Hog Rasing               | Oriental Mindoro               | Php 9,520,000.00    | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 480,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 5    | Ruminant Production      | Oriental Mindoro               | Php 4,750,000.00    | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 250,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 6    | Dwarf Coconut Production | Oriental Mindoro               | Php 2,400,000.00    | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 100,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 7    | Corn Production          | Oriental Mindoro               | Php 19,405,000.00   | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 845,000.00      | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
| 8    | Cassava Production       | Oriental Mindoro               | Php 1,885,000.00    | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |
|      |                          | Calapan City, Oriental Mindoro | Php 15,000.00       | DA CO          | DA RFO MIMAROPA     | 2023 -2024 |         |

### B. Trade and Industry - Sub-Sector

| PARTICULARS      | DAMAGE | LOSSES               |
|------------------|--------|----------------------|
| Calapan City     |        | 6,675,000.00         |
| Oriental Mindoro |        | 38,001,000.00        |
| <b>Total</b>     |        | <b>44,676,000.00</b> |

### Reconstruction and Recovery Framework:

1. Implementation of the Pangkabuhayan sa Pagbangon at Ginhawa Program and Entrepreneurship Training
2. Financial assistance through loan programs of Small Business Corporation
3. Adopt a Business Continuity Plan focus on Disaster Resiliency

**Policy and Program Recommendation for Trade and Industry Sub Sector:**

1. Offer low-interest loans or grants to affected businesses to help them recover and ensure business continuity
2. Provide technical expertise and training to help MSMEs adapt their operations to the new environmental conditions
3. Streamline regulations and permit processes to expedite recovery and re-opening of affected businesses

**Priority Reconstruction and Recovery Needs for Trade and Industry Sub Sector:**

| Projects  | Location                               | Status | Estimated Cost   | Source of Funds        | Rank |
|---|--|--------|--|------------------------|------|
| Pangkabuhayan sa Pagbangon at Ginhawa (PPG) Program and Entrepreneurship Training |  | P      | 1,990,525.00   | DTI (for fund request) | 1    |
| Loan programs of Small Business Corporation                                       | All Municipalities in Oriental Mindoro | O      | c/o Small Business Corporation (DTI's attached agency) |                        | 1    |
| Business Continuity Plan focused on Disaster Resiliency                           |  | P      | 75,000.00  | DTI (for fund request) | 2    |

**C. Tourism Sub-Sector****Damage and Losses Tourism Sub Sector:**

| Particulars      | Damage | Losses                |
|------------------|--------|-----------------------|
| Calapan City     |        | 89,259,000.00         |
| Oriental Mindoro |        | 140,092,000.00        |
| <b>Total</b>     |        | <b>229,351,000.00</b> |

**Reconstruction and Recovery Framework for Tourism Sub Sector:**

The tourism sub sector is one of the affected industries in terms of economic opportunity in the province of Oriental Mindoro. With the reports consolidated, the industry needs both short-term and long-term actions to be able to build back better.

**For Medium Term:**

1. Medium to Long-term
2. Build Back Better or Resiliency Program
3. Technical Assistance to LGUs and private stakeholders on sustainable tourism
4. Tourism Product Development
5. Promotion and Marketing

**Short Term**

1. Provision of food and non-food supplies to affected tourism stakeholders
2. Provision of financial assistance to affected workers

### 3. Provision of technical assistance to affected tourism stakeholders

#### Policy and Program Recommendations for Tourism Sub Sector:

This discussion focuses on policy and program recommendations for the agriculture sector in the context of the Post-Disaster Needs Assessment.

1. Through RA 9593 or the Tourism Act of 2009 - Sec. 17 (a) (8) of Republic Act 9593, “the regional office shall provide technical assistance to the LGUs, local communities and tourism enterprises on tourism planning, product development, standard setting, promotions, formulation and enforcement of laws, rules and regulations, among other.”
2. Tourism Response and Recovery Plan under Tourism Development, Marketing and promotions in the new normal environment of the industry by developing new normal branding strategy for the tourism destinations in MIMAROPA Region.

#### Priority Reconstruction and Recovery Needs for Tourism Sub Sector:

| Rank | Priority Projects/ Activities      | Location         | Proposed Funding    |                |                     | Timeline   | Remarks   |
|------|------------------------------------|------------------|---------------------|----------------|---------------------|------------|---|
|      |                                    |                  | Recommended Funding | Funding Source | Implementing Agency |            |   |
| 1    | Capacity building /Skills Training | Oriental Mindoro | 7,500,000.00        | DOT CO         | DOT MIMAROPA        | 2023       | Alternative livelihood trainings<br>Status: Completed   |
| 2    | Promotions and Marketing Program   | Oriental Mindoro | 1,242,000.00        | DOT MIMAROPA   | DOT MIMAROPA        | 2023       | Media Familiarization Trip<br>Status: Completed   |
| 3    | Product Development                | Oriental Mindoro | 18,000,000.00       | DOT (TIEZA)    | DOT (TIEZA)         | 2023- 2024 | Tourism Infrastructure Projects for Oil Spill affected Municipalities (2 million worth of project per qualified mun.) |

Mining Sub-Sector: No Effects on Mining Sub-Cluster

## II. Social Sector

#### Summary of Damage, Losses and Needs

| Sub-Sector   | Damage                             | Losses (P)          | Needs (P)             |
|--------------|------------------------------------|---------------------|-----------------------|
| Education    | No significant damage/losses       |                     | 141,071,000.00        |
| Health       |                                    | 9,580,408.20        | 38,945,000.00         |
| Housing      | No significant damage/losses/needs |                     |                       |
| Culture      | No significant damage/losses/needs |                     |                       |
| <b>TOTAL</b> |                                    | <b>9,580,408.20</b> | <b>180,016,000.00</b> |

### Priority Reconstruction and Recovery Needs for Education Sub Sector:

| Project  | Location   | Status | Estimated Cost (P)    | Source of Funds    | Rank |
|--|--|--------|-----------------------|--------------------|------|
| 1. Information Education Campaign for students and school stakeholders               | All public and private schools in Oriental Mindoro             | P      | 3,300,000.00          | DEPED, FFS         | 1    |
| 2. Formulation of School Contingency Plan for human-induced hazards                  | All public and private schools in Oriental Mindoro             | P      | 4,500,000.00          | DEPED, FFS         | 1    |
| 3. Capacity building for School DRRM Focal Person                                    | All public and private schools in Oriental Mindoro             | P      | 5,625,000.00          | DEPED, FFS         | 1    |
| 4. Education Assistance to the affected families with students affected by oil spill | 9 municipalities and 1 component city                          | P      | 97,216,000.00         | PGOM, FFS          | 2    |
| 5. Strengthened promotion of PSHSS and DOST  | All LGUs in Oriental Mindoro                                   | P      | 115,000.00            | DOST MIMAROPA, FFS | 2    |
| 6. Undergraduate Scholarship Programs  |  |        |                       |                    |      |
| 7. Installation of STARBOOKS   | Selected barangays   | P      | 115,000.00            | DOST MIMAROPA, FFS | 2    |
| 8. (Phases I- V)   |  |        |                       |                    |      |
| 9. Construction of Perimeter Fence for schools in coastal/hazard prone areas         | Marciano P. Garcia ES, Brgy. San Jose, Naujan                  | P      | 1,200,000.00          | DEPED              | 3    |
| 10. Construction of two-storey classrooms  | Villa Antonio ES and Navotas ES at Brgy. Navotas, Calapan City | P      | 29,000,000.00         | DEPED              | 3    |
|  |  |        | <b>141,071,000.00</b> |                    |      |

### Policy and Program Recommendations for Education Sub Sector:

1. Formulation of school's contingency plans for human-induced hazards including oil spill;
2. Improvement in ventilation of school classrooms;
3. Strengthening of IEC on hazardous materials and distribution of IEC materials in all schools;
4. Provision of educational assistance to the families with students affected by the oil spill;
5. Strengthen the promotion of Philippine Science High School System (PSHSS) and DOST undergraduate scholarship programs;
6. Installation of perimeter fence for hazard prone areas;
7. Install Science and Technology Academic and Research-Based Openly-Operated Kiosks (STARBOOKS); and
8. Capacity building for School DRRM focal persons.



### Priority Reconstruction and Recovery Needs for Health Sub Sector:

| Project  | Location                | Status | Estimated Cost (P) | Source of Funds  | Rank |
|--|-------------------------|--------|--------------------|------------------|------|
| Construction of Water Laboratory Facility & Logistics  | PHO-Ilaya, Calapan City | P      | 35,000,000.00      | DOH, PGOM, LDRRM | 1    |
| Procurement of water test kits (Collilert Reagent set) | PHO-Ilaya, Calapan City | P      | 1,020,000.00       | PGOM DOH         | 2    |
| Provision of Water Analysis Laboratory Fee             | PHO-Ilaya, Calapan City | P      | 2,700,000.00       | PGOM, DOH        | 2    |
| Procurement of Chlorine granules                       | PHO-Ilaya, Calapan City | P      | 225,000.00         | PGOM, DOH        | 3    |
|  |                         |        | 38,945,000.00      |                  |      |

### Policy and Program Recommendations for Health Sub Sector:

Formulate short, medium, and long-term programs for the continuing health and environmental monitoring in the area under the Regional Inter-agency committee on Environmental health

1. Integrate oil spill incident in the regional/provincial/ municipal/barangay contingency plan for emergency/ disaster preparedness.
2. Formulate a public-private partnership in response to environmental disaster.
3. Develop policies that will integrate health relief and compensation for diseases/illnesses brought about by environmental pollution. (Minamata disease)
4. Cordon off areas where oil spill contamination is evident.
5. Maximize the provision of emergency procurement of the government on drugs and medical supplies, specifically during emergency situations.
6. Initiate immediate clean-up of the oil spill through environment friendly methods.
7. Review the material safety data sheet of the chemical dispersant to be used.
8. Monitor oil spill contamination in agricultural lands and irrigation systems.

### III. Cross-Sectoral:

#### Summary of Damage, Losses and Needs

| Sub-Sector   | Damage (P) | Losses (P)              | Needs                 |
|--------------|------------|-------------------------|-----------------------|
| Environment  |            | 1,964,614,330.00        | 24,881,490.50         |
| Governance   |            | 38,607,226.97**         | 421,555,000.00        |
| <b>TOTAL</b> |            | <b>2,003,221,556.97</b> | <b>446,436,490.50</b> |

Note: All figures are preliminary and subject to change; \*\*Cost of operations of the PCG not yet included and to be requested from the NHQ-PCG. \*Environmental losses is computed through Benefit Transfer Method - Provided that 100% of the natural resources are damaged.

## Sub Sector 1: Government and DRRM

Losses: (Local DRRMs)

Estimated at PhP 38,607,226.97\* for the purchase of PPEs and dispersant chemical, relief goods, fuel, food and non-food items, food items for the responders and IMT, medical supplies, overtime pay, travelling expenses and for the construction of improvised spill boom (utilization of the Local DRRM funds).

\*This does not include yet the expenses incurred by the Municipalities of Mansalay and Pola.

Losses incurred during Cleanup Operations by the PCG:

| Agency | Programs/ Projects/ Activities  | Particulars  | Total Amount Losses |
|--------|---|--|---------------------|
| PCG    | Deployment Of Personnel   | 416 PCG Personnel Deployed   | *                   |
|        | Shoreline Response Operations and Shoreline Cleanup and Assessment Technique (SCAT) Surveys | Gloves, Coveralls, Boots, Face Masks, Respirator Masks, Shovels, Cement Mixers, Pressure Hoses   | *                   |
| PCG    | Offshore Response Operations  | <ul style="list-style-type: none"> <li>• BRP Melchora Aquino (MRRV 9702)</li> <li>• BRP Bagacay (MRRV 4410)</li> <li>• BRP Habagat (TB-271)</li> <li>• BRP Corregidor (AE-891)</li> <li>• 2 units Rigid Hull Inflatable Boat</li> <li>• 2 Units Selwood Pumps</li> <li>• 3 pcs Vacuum Hoses</li> <li>• 2 Sets FASTanks</li> <li>• 5 pcs Sinkers</li> </ul> | *                   |
|        | Chemical Assessment and Habitat Assessment in Support to Operations                         | <ul style="list-style-type: none"> <li>• Water Quality Monitoring (TPH)</li> <li>• Oil Identification</li> <li>• Field Dispersant Effectiveness Testing</li> <li>• Coral Habitat Oiling Assessment</li> </ul>  | *                   |
| PCG    | Aerial Observation  | <ul style="list-style-type: none"> <li>• PCG HELO 1451</li> <li>• PCG ISLANDER</li> </ul>  |                     |
| PCG    | Transport Operations  | <ul style="list-style-type: none"> <li>• 5 units Medium-Sized Pick-up Trucks</li> <li>• 1-unit MPV</li> <li>• 1 unit medium-sized truck</li> <li>• 2 units large-sized trucks</li> </ul>   |                     |

\*No available amount yet; to be requested from the National Headquarters Philippine Coast Guard (NHQ-PCG)

## Policy and Program Recommendations Governance and DRRM Sub Sector:

1. Integration of the National Oil Spill Contingency Plan of the PCG to the NDRRMC Disaster Planning
2. Provide training and capacity building for response teams, local authorities, and communities to equip them with the skills and knowledge needed to respond effectively to oil spills.
3. Promote public awareness and education campaigns about the risks of oil spills and the importance of reporting incidents promptly.
4. Encourage local communities to participate in DRRM efforts and ensure that they have access to information on response procedures.
5. Establish early warning systems that can quickly detect and report potential oil spills, including the use of aerial surveillance, monitoring equipment, and sensors.
6. Conduct regular drills and simulation exercises to test the readiness of response teams.
7. Maintain stockpiles of essential oil spill response resources, such as containment booms, dispersants, protective gear, and cleanup equipment. Ensure these resources are regularly inspected, updated, and readily accessible.
8. Ensure that reporting mechanisms are clear and accessible to the public.
9. Share best practices and resources with other nations to strengthen collective DRRM efforts.
10. Development of the PCG's Response and Technical Capabilities in Oil Spill Response Operations
11. Develop and enforce stringent regulations for oil transportation, storage, and handling to minimize the risk of oil spills.
12. Implement regular inspections and audits of oil facilities to ensure compliance with safety standards.
13. Impose strict penalties and fines for violators to deter irresponsible practices.
14. Mandate the development of detailed, up-to-date oil spill response plans by industries, local governments, and other stakeholders.
15. Ensure that response plans include clear procedures, resource allocation, and coordination mechanisms.
16. Regularly review and update response plans to account for changing risk factors.
17. Create a clear legal framework for liability and compensation in the event of an oil spill, ensuring that responsible parties bear the financial burden for cleanup and damages.
18. Establish a compensation fund for affected communities and ecosystems.
19. Collaborate with neighboring countries and international bodies to create regional and international agreements for coordinated responses to transboundary oil spills.
20. Require comprehensive environmental impact assessments before and after an oil spill to understand the extent of environmental damage and guide recovery efforts. Use these assessments to prioritize restoration and mitigation efforts.
21. Invest in research and technology to develop advanced and environmentally friendly oil spill response strategies, containment methods, and monitoring tools.
22. Foster innovation in the development of new cleanup technologies.

23. Establish a system for ongoing monitoring and evaluation of oil spill response efforts to ensure that they are effective and efficient.
24. Develop programs to enhance the resilience of coastal communities, enabling them to withstand and recover from oil spill incidents.
25. Regularly assess the ecological, economic, and social impacts of oil spills on affected communities.
26. Provide psychosocial and mental health support to affected individuals and communities.

**Priority Recovery and Rehabilitation Needs for Governance and DRRM Sub Sector:**

| <b>Project</b>  | <b>Location</b>           | <b>Status</b> | <b>Estimated Cost (P)</b> | <b>Source of Funds</b>                | <b>Rank</b> |
|---|---------------------------|---------------|---------------------------|---------------------------------------|-------------|
| Conduct of Training on Oil Spill Disaster Preparedness  | Oriental Mindoro          | Proposed      | 1,500,000                 | DBM                                   | 1           |
| Information and Education Campaign/ Rollout of Oil Spill Disaster Preparedness to Barangays   |                           |               |                           | LGU Funds                             | 2           |
| Development of the PCG's Response Capabilities on Marine Pollution Incidents  | PCG-MEPCOM / CGDSTL       | Proposed      | 200,000,000.00            | Public / Private Sectors              | 7           |
| Development of the PCG Marine Science Investigation Force Laboratory's Capability on Oil Spill/Marine Pollution Identification Capabilities | PCG-MEPCOM                | Proposed      | 100,000,000.00            | Public / Private Sectors              | 4           |
| Integration of the National Oil Spill Contingency Plan of the PCG to the NDRRMC Disaster Planning   | PCG-MEPCOM/ NDRRMC        |               | 20,000,000.00             | Public                                | 1           |
| Multi-Agency Oil Spill / Marine Pollution Exercises specifically on shoreline response operations   | PCG-MEPCOM / CGDSTL/ LGUs | Proposed      | 30,000,000.00             | Public / Private Sectors              | 9           |
| Development of GIS / Remote Sensing Mapping Capabilities for use in PCG MARPOL Response Operations.   | PCG-MEPCOM                | Proposed      | 20,000,000.00             | Public / Private Sectors              | 10          |
| Acquisition and prepositioning of personal protective gear, equipment, supplies and materials for Maritime Emergency and Accidents          | Province-wide             | P             | 30,000,000.00             | NDRRMF<br>RDRRMC<br>PCG<br>P/C/MDRRMF | 5           |
| Conduct of Training on and Formulation of Contingency Plan for Oil Spill/ Marine Pollution Incident   | Province-wide             | P             | 2,000,000.00              | RDRRMC<br>PCG<br>P/C/MDRRMF           | 6           |

|   |               |   |              |                                       |    |
|---|---------------|---|--------------|---------------------------------------|----|
| Conduct of HazMat Training for First Responders   | Province-wide | P | 4,935,000.00 | NDRRMF<br>RDRRMC<br>PCG<br>P/C/MDRRMF | 8  |
| Conduct of Oil Spill/Marine Pollution Response Training for LDRRM Response Team (3 batches)         | Province-wide | P | 9,135,000.00 | NDRRMF<br>RDRRMC<br>PCG<br>P/C/MDRRMF | 11 |
| Planning Workshop on Local Early Warning System for Oil Spill/Marine Pollution Incidents            | Province-wide | P | 1,590,000.00 | NDRRMF<br>RDRRMC<br>PCG<br>P/C/MDRRMF | 12 |
| Conduct of IEC Hazardous Materials and Oil Spill/Marine Pollution Incidents for coastal communities | Province-wide | P | 2,395,000.00 | NDRRMF<br>RDRRMC<br>PCG<br>P/C/MDRRMF | 13 |

## Environment Sub Sector 2:

Shoreline Clean-Up Sites in:

1. Calapan City
2. Naujan
3. Pola

Validated coastal barangays affected from Calapan to Bulalacao

Background:

1. Orr. Mindoro (15 municipalities: 13 coastal municipalities and 2 landlocked mun. (Victoria and Socorro)
2. Affected sites (10 coastal municipalities): Calapan City to Mun. Bulalacao
3. 124 – LMMPAs
4. MPAS affected wt oil spill - 13
5. Mun and Barangay
  - a. Calapan City (18 brgys)
  - b. Naujan (11 brgys)
  - c. Pola (11 brgys)
  - d. Pinamalayan (10 brgys)
  - e. Gloria (8 brgys)
  - f. Bansud (4 brgys)
  - g. Bongabong (8 brgys)
  - h. Roxas (5 brgys)
  - i. Mansalay (9 brgys)
  - j. Bulalacao (8 brgys)
6. Validated Sites:

- a. Calapan City - 4 barangays: Lazareto, Maidlam, Silonay and Navotas
- b. Mun. Pola - 4 barangays: Batuhan, Zone 1, Zone 2, Bayanan
- c. Mun. Naujan - 5 barangays: Melgar A, Melgar B, Estrella, San Jose and Santa Cruz

Table 1. Estimated affected shorelines and oil-contaminated wastes collected in the Municipality of Pola

| Barangay       | Estimated Length of Affected Shoreline (km) | Estimated Volume of Oily Waste Landed on the Shoreline (Liters) | No. of sacks of oil-contaminated debris collected* | No. of drums of oil-contaminated debris collected |
|----------------|---|---|--|---|
| Misong         | 4.380                                       | 15,475  | 617  | 19  |
| Tagumpay       | 2.605                                       | 25,000  | 1000   | 3   |
| Putting Cacao  | 3.790                                       | 12,075  | 483  | -   |
| Tiguihan       | 3.246                                       | 125   | -  | 5   |
| Bayanan        | 2.230                                       | 15,900  | 636  | -   |
| Zone 1         | 0.270                                       | 1,975   | 79   | -   |
| Zone 2         | 0.390                                       | 1,525   | 61   | -   |
| Batuhan        | 3.661                                       | 25,550  | 1022   | -   |
| Calima         | 6.416                                       | 12,750  | 510  | -   |
| Buhay na Tubig | 4.802                                       | 42,575  | 1703   | -   |
| Bacawan        | 2.316                                       | 10,925  | 437  | -   |
| <b>TOTAL</b>   | <b>34.106</b>                               | <b>163,875</b>  | <b>6,555 sacks</b>                                 | <b>22 drums</b>                                   |

*\*oil-contaminated seagrass, sand and asphaltic oil*

Table 2. Estimated affected shorelines and oil-contaminated wastes collected in the Municipality of Naujan

| Barangay     | Estimated Length of Affected Shoreline (km) | Estimated Volume of Oily Waste Landed on the Shoreline (Liters) | No. of sacks of oil-contaminated debris collected* | No. of drums of oil-contaminated debris collected |
|--------------|---|---|--|---|
| Herrera      | 4.71  | 2,850   | 114  | -   |
| Masaguing    | 2.38  | 375   | 15   | -   |
| Melgar B,    | 4.09  | 1,362.5   | 54.5   | -   |
| Montemayor   | 6.56  | 1,212.5   | 48.5   | -   |
| <b>TOTAL</b> | <b>17.74</b>                                | <b>5,800</b>  | <b>232 sacks</b>                                   | <b>-</b>  |

*\*oil-contaminated seagrass, sand and asphaltic oil*

Table 3. Estimated affected shorelines and oil-contaminated wastes collected in the City of Calapan

| Barangay     | Estimated Length of Affected Shoreline (km) | Estimated Volume of Oily Waste Landed on the Shoreline (km) | No. of sacks of oil-contaminated debris collected* | No. of drums of oil-contaminated debris collected |
|--------------|---|---|--|---|
| Navotas      | 4.55  | 812.5   | 32.5   | -   |
| Ibaba West   | 0.00  | 0.0   | 0  | -   |
| Wawa         | 0.00  | 0.0   | 0  | -   |
| Maidlang     | 5.07  | 1,700.0   | 68   | -   |
| Lazareto     | 1.01  | 2,687.5   | <b>107.5</b>                                       | -   |
| Nag-Iba I    | 1.2   | 100.0   | <b>4</b>   | -   |
| Nag-Iba II   | 1.3   | 75.0  | <b>3</b>   | -   |
| <b>TOTAL</b> | <b>13.13</b>                                | <b>5,375</b>  | <b>215 sacks</b>                                   | -   |

*\*oil-contaminated seagrass, sand and asphaltic oil*

Table 4. Total Estimates of the affected shorelines and collected oil-contaminated wastes in Pola, Naujan and Calapan City

|   |                  |
|---|------------------|
| <b>Total Number of Coastal Barangays assessed</b>                   | 22               |
| <b>Total Estimated Length of Affected Shoreline</b>                 | 64.98 kilometers |
| <b>Total Estimated Volume of Oily Waste Landed on the Shoreline</b> | 175,050 liters   |
| <b>Total No. of sacks of oil-contaminated debris collected</b>      | 7002 sacks*      |
| <b>Total No. of drums of oil-contaminated debris collected</b>      | 22 drums         |

*\*oil-contaminated seagrass, sand and asphaltic oil*

## Sub Sector 2: Environment

| CITY/PROVINCE                       | LOSSES               | NEEDS               |
|-------------------------------------|----------------------|---------------------|
| Oriental Mindoro – Coral Reef       | 1,246,855,266        | -                   |
| Oriental Mindoro – Seagrass         | 2,863,616            | -                   |
| Oriental Mindoro – Mangrove Forests | 714,895,448          | -                   |
| <b>TOTAL</b>                        | <b>1,964,614,330</b> | <b>24,881,490.5</b> |

\*Provided that all species are 100% damaged; species suitability assessment is needed

\*Benefit Transfer Method only using VIP values - annual economic benefits of coral reef MPAs in VIP

Seagrass: Azanza (2017) Valuing and Managing the Philippines' Marine Resources toward a Prosperous Ocean-Based Blue Economy. Public Policy (Philippines) 18:1-26

Mangrove: "Wealth Accounting and the Valuation of Ecosystem Services. 2017. Valuing the Protection Services of Mangroves in the Philippines; Valuing the Protection Services of Mangroves in the Philippines.

\*Proper Valuation Method shall be used for each ecosystem service.

1. Value of Coral Reefs MPAs (Fishery Spillover) - 428,472.46 PhP/ha – Fish Provisioning, aquaculture/mariculture, Ecotourism and recreation, Coastal and Protection
2. Seagrass Meadows - 1,904,013/ha – Fish provisioning, blue carbon sequestration,
3. Mangrove Forests - 243,493/ha - fish provisioning, ecotourism and recreation, carbon sequestration, and coastal protection

| ECOSYSTEM  | 2023 VALUE (PhP/ Hectare) |
|--|---------------------------|
| 1. Value of Coral Reefs MPAs (Fishery Spillover) | 428,472.46                |
| 2. Seagrass Meadows                              | 1,904,013                 |
| 3. Mangrove Forests                              | 243,493                   |

#### **Reconstruction and Recovery Framework for Environment Sub-Sector:**

1. Baselineing of water quality and coastal and marine ecosystems in Oriental Mindoro;
2. Shoreline Rehabilitation activities; and
3. Mangrove Forest Maintenance and Protection.

#### **Policy and Program Recommendations for Environment Sub-Sector:**

1. HB 8443 PENCAS Bill;
2. DARRM Policy in MPAs;
3. Incident Command System – emphasis on the environmental unit;
4. Establishment/Strengthening of PCG - Marine Environmental Protection (MEP) Unit Technical Response Teams in the events of disaster;
5. Collaborative field exercises between environmental protection groups; (private and public sector)

#### **Priority Recovery and Rehabilitation Needs for Environment Sub-Sector:**

| Project                                    | Location  | Status | Estimated Cost | Source of Funds                 | Rank |
|--|---|--------|----------------|---------------------------------|------|
| Mangrove Forest Maintenance and Protection | All affected Mangrove areas. Prio: Pola, Naujuan and NIPAS MPAs | P      | 2,000,000      | Public Funds and Private Sector | 1    |



|  |   |   |              |                                 |   |
|--|---|---|--------------|---------------------------------|---|
| Baselining of Water Quality Monitoring and Coastal and Marine Ecosystems   | All Coastal barangays   | P | 5,425,000    | Public Funds and Private Sector | 1 |
| Biodiversity Assessment and Monitoring System (BAMS) on Coral Reefs  | All Locally Managed Marine Protected Areas (LMMPAs) in Oriental Mindoro | O | 2,000,000.00 | Public Funds and Private Sector | 2 |
| Biodiversity Assessment and Monitoring System (BAMS) on Seagrass   | All Locally Managed Marine Protected Areas (LMMPAs) in Oriental Mindoro | O | 1,000,000    | Public Funds and Private Sector | 2 |
| Mangrove Forest Enrichment and monitoring  | All affected mangrove areas   | P | 1,475,990    | Public Funds and Private Sector | 3 |
| Shoreline rehabilitation activities  | All affected shoreline areas. Prio: Brgy. Buhay na Tubig, Pola          | P | 5,000,000    | Public Funds and Private Sector | 4 |
| Communication, Education and Public Awareness (CEPA) Campaign on Coastal and Marine Ecosystems (e.g. coral reefs, seagrass and mangroves); Oil Spill | All affected areas.   | O | 980,500.050  | Public Funds and Private Sector | 4 |
| Biodiversity Friendly Enterprises (BDFE)   |   | O | 5,000,000    | Public Funds and Private Sector | 5 |

### Sub Sector 3: Social Impact

1. The oil spill incident left various adversities to people who lost their livelihood and businesses due to imposing of a fishing ban, people expressed that their main source of income from fishing was greatly affected, causing them to find alternative work such as farm helper, construction worker, copra's worker etc.
2. Fisherfolks may experience anxiety, fear, sadness, anger and sleep disruption during the onslaught of oil spill. as their scapegoat in this situation people engage in frequent drinking alcohol and other vices which also result in conflict inside the family and community as a whole.
3. Different sectors also affected such as trade and industry, education and tourism sector.
4. To improve the quality of life and also for their immediate recovery from oil spill. The provision of livelihood assistance based on their skills and available resources in the community for the alternative source of income aside from fishing especially during lean season. Also, continuous provision of psychosocial interventions for

the families and individuals who experienced trauma and to help them strengthen their capacity to cope, promote social protection services.

| Sector                             | MIMAROPA               |                        | Oriental Mindoro       |
|------------------------------------|------------------------|------------------------|------------------------|
|                                    | 2021                   | 2022                   | 2021                   |
| Agriculture, forestry, and fishing | 72,446,944,000         | 70,678,459,000         | 16,287,952,000         |
| Industry                           | 128,566,111,000        | 133,863,923,000        | 34,766,849,000         |
| Services                           | 168,711,953,000        | 188,417,987,000        | 50,056,884,000         |
| <b>TOTAL</b>                       | <b>369,725,008,000</b> | <b>392,960,369,000</b> | <b>101,111,685,000</b> |