

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in Php Exact Amount) | | | | | | |
|----|--------------|---------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|------------------------|-----------------------|------|------------------------------------------|--------------|--------------|--------------|------|------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 1 | PAGASA-0015 | Farm Weather Information System | DOST | PAGASA | Chapter 20 | This will establish a system that will integrate the whole range of activities from data collection to analysis and generation of various agrometeorological products and services, leading to the preparation and issuance of farm weather forecasts/advisories and extended short-range forecasts (ten-day) advisories thru quad media including mobile applications. | Nationwide | | LFP | 2017 | 2018 | 1,076,000.00 | 300,000.00 | - | - | - | - | 1,376,000.00 |
| 2 | PRRC-0012 | Rehabilitation and Development of Estero de Binondo - Phase 2 | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2017 | 2017 | 3,583,000.00 | - | - | - | - | - | 3,583,000.00 |
| 3 | PRRC-0038 | Rehabilitation and Development of Estero de la Reina (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 4,455,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero dela Reina. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 4,455,000.00 | - | - | - | 4,455,000.00 |
| 4 | PAGASA-0010 | Establishment and Upgrading of Weather Stations - Synoptic/Local Airport | DOST | PAGASA | Chapter 20 | To establish synoptic/local airport station located at local airports to give weather data, information and advice for aviation services to local airports | Region-Specific | Region X | LFP | 2018 | 2018 | - | 5,000,000.00 | - | - | - | - | 5,000,000.00 |
| 5 | PRRC-0032 | Rehabilitation and Development of Buhangin Creek (Phase 2), City of Mandaluyong | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 5,032,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Buhangin Creek. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 5,032,500.00 | - | - | 5,032,500.00 |
| 6 | PRRC-0031 | Rehabilitation and Development of Estero de Kabulusan (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 5,214,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Kabulusan. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 5,214,000.00 | - | - | - | 5,214,000.00 |
| 7 | PRRC-0046 | Rehabilitation and Development of Estero de San Sebastian, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 6,550,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de San Sebastian. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 6,550,500.00 | - | - | 6,550,500.00 |

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| 8 | PRRC-0040 | Rehabilitation and Development of Estero de Santa Clara, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 6,930,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Santa Clara. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 6,930,000.00 | - | - | 6,930,000.00 |
| 9 | PRRC-0022 | Rehabilitation and Development of Estero de Valencia (Phase 3), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 8,349,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Valencia. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 9,349,000.00 | - | - | - | - | 9,349,000.00 |
| 10 | PRRC-0033 | Rehabilitation and Development of Buhangin Creek, City of Mandaluyong | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 10,032,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Buhangin Creek. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 10,032,000.00 | - | - | - | 10,032,000.00 |
| 11 | PAGASA-0020 | Sectoral Impact Modeling | DOST | PAGASA | Chapter 20 | This will establish web-based system integrating the data collection, analysis, and the preparation and issuance of the monthly impact assessment accessible to various stakeholders | Nationwide | | LFP | 2017 | 2018 | 10,050,000.00 | 1,080,000.00 | - | - | - | - | 11,130,000.00 |
| 12 | PRRC-0018 | Rehabilitation and Development of Estero de Uli-Uli (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 9,339,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Uli-Uli. | Region-Specific | NCR | LFP | 2018 | 2019 | - | 11,539,000.00 | - | - | - | - | 11,539,000.00 |
| 13 | PRRC-0045 | Rehabilitation and Development of Maytunas Creek (Phase 3), City of Mandaluyong | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 12,441,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Maytunas Creek. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 12,441,000.00 | - | - | 12,441,000.00 |
| 14 | PRRC-0023 | Rehabilitation and Development of Estero de Pandacan (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 11,236,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Pandacan. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 12,536,500.00 | - | - | - | - | 12,536,500.00 |
| 15 | PRRC-0041 | Rehabilitation and Development of San Juan River (Phase 2), Quezon City | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 7,342,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of San Juan River. | Region-Specific | NCR | LFP | 2019 | 2019 | - | - | 13,350,000.00 | - | - | - | 13,350,000.00 |

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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 16 | PRRC-0043 | Rehabilitation and Development of San Juan River - Manila Side, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 13,893,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of San Juan River. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 13,893,000.00 | - | - | 13,893,000.00 |
| 17 | PRRC-0020 | Rehabilitation and Development of Estero de Kabulusan, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 12,903,000.00 which includes construction of linear park and slope protection improvement. All those mentioned component contributes in improving the water quality of Estero de Kabulusan at Barangay 152, 155, 158 and 160 in the City of Manila. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 14,403,000.00 | - | - | - | - | 14,403,000.00 |
| 18 | DENR-0004 | Philippines-ROK Cooperation Project in Sustaining the Initiatives for Enhanced Clonal Technologies and Demonstration Forest for the Philippine Forestry Sector | DENR | | Chapter 20 | Supporting the initiatives for enhanced clonal technologies and demonstration forest to contribute towards the production of high quality planting stocks/material, training ground for the actual utilization of existing plantation and application of silvicultural practices for the Philippine Forestry Sector to enhance forest health and productivity. | Nationwide | | ODA-KOICA | 2018 | 2020 | - | 243,416,000.00 | 107,879,000.00 | 103,048,000.00 | - | - | 454,343,000.00 |
| 19 | DENR-0011 | Implementing the Strategic Action Program for the South China Sea (Cambodia, China, Indonesia, Thailand, Vietnam and the Philippines) | DENR | | Chapter 20 | The project aims to assist countries in meeting the targets of the approved Strategic Action Programme (SAP) for the marine and coastal environment of the South China Sea (SCS) through implementation of the National Action Plans in support of the SAP, and strengthening the regional coordination arrangements for the SCS SAP implementation. | Nationwide | | ODA-UNDP | 2017 | 2021 | 309,386,000.00 | 309,386,000.00 | 309,386,000.00 | 309,386,000.00 | 309,386,000.00 | - | 1,546,930,000.00 |
| 20 | DENR-0012 | Contribution towards the Elimination of Mercury in the ASGM Sector: from Miners to Refiners | DENR | | Chapter 20 | To contribute to the elimination of mercury in ASGM by applying a value chain approach from the miners to refiners. | Nationwide | | LFP | tbd | tbd | - | 181,692,000.00 | 181,692,000.00 | 181,692,000.00 | 181,692,000.00 | 181,692,000.00 | 908,460,000.00 |
| 21 | DENR-0013 | Improve mercury waste management in the Philippines | DENR | | Chapter 20 | Reduce of mercury releases and contamination in the Philippines by promoting and improving the collection and recycling fluorescent lamps, dry cell batteries, dental amalgams, thermometers and sphygmomanometers. | Nationwide | | LFP | tbd | tbd | - | 173,786,666.67 | 173,786,666.67 | 173,786,666.67 | - | - | 521,360,000.01 |
| 22 | DENR-0017 | Risk Resiliency and Sustainability Program (RRSP) | DENR | | Chapter 20 | The RRSP includes four complementary components that aim to increase climate resilience and adaptation investments in climate and weather-related hazard-prone areas across three landscapes: coastal areas, peri-urban areas, and forests/watersheds. | Nationwide | | ODA-WB | 2018 | 2020 | - | - | - | - | - | - | - |
| 23 | DENR-0018 | HCFC Phase-out Management Plan Phase 2 | DENR | | Chapter 20 | The project is the phase 2 of the Philippines' commitment to fulfill its obligations under the Montreal Protocol to reduce the HCFC consumption to 65% of the baseline by 2020. | Nationwide | | TBD | 2018 | 2022 | - | - | - | - | - | - | - |
| 24 | DENR-0042 | Siargao Mangrove Tour and River Cruise | DENR | | Chapter 20 | Promote the mangroves of Siargao globally as one of the best destinations in the Philippines to be undertaken by the empowered community and managed by accredited PO for creating wealth to the beneficiaries and communities. Alleviate poverty while preserving and sustaining our ecosystem and biodiversity as well as culture | Region-Specific | Region XIII | LFP | 2016 | 2020 | 500,000.00 | 1,000,000.00 | 500,000.00 | - | - | - | 2,000,000.00 |
| 25 | DENR-0063 | Integration and mapping of existing land uses using Remote Sensing and GIS Technology | DENR | | Chapter 20 | To map and integrate existing land uses based from very high resolution satellite imageries through mapping using remote sensing and GIS and To improve the capacity of LGUs on Remote Sensing and GIS technology | Nationwide | | LFP | 2016 | 2017 | 1,000,000.00 | - | - | - | - | - | 1,000,000.00 |
| 26 | DENR-0072 | Water Quality Innovation Initiative: EMB Caraga's Adopt A Water Body Program | DENR | | Chapter 20 | The program aims to prevent the water bodies in the region from degradation and to further improve their water quality, aesthetics and physical conditions. | Region-Specific | Region XIII | LFP | 2017 | 2018 | 2,140,000.00 | - | - | - | - | - | 2,140,000.00 |
| 27 | DENR-0088 | Sustainable coastal protection through biodiversity conservation in coastal ecosystems affected by typhoons in the Philippines (ProCoast) | DENR | | Chapter 20 | Assist the DENR with the implementation of a participatory and holistic coastal zone management. Through the rehabilitation of mangrove and beach forests in coastal areas vulnerable to typhoons it contributes to an improved protection of climate-related hazards and biodiversity as well as coastal zone as a whole. | Region-Specific | Region VIII | ODA-Germany | 2015 | 2018 | 16,897,634.60 | 54,625,511.00 | 79,774,344.10 | 41,202,510.20 | - | - | 192,499,999.90 |

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| 28 | DENR-0089 | Reducing Environmental and Health Risks to Vulnerable Communities from Lead Contamination from Lead and Lead Paint and Recycling of Used Lead Acid Batteries (ULAB) Project in the Philippines | DENR | EMB | Chapter 20 | Lead (Pb) is a critical ingredient in industrial enterprises and consumer products throughout the world. If handled improperly, lead can be one of the most severe neurotoxins to humans, especially children. High income countries have long worked with the private sector to ensure the environmentally sound management of lead and lead products, such as used lead acid batteries (ULABs). The worldwide campaign to remove lead gasoline, coordinated by UNEP and many other, was effectively implemented in nearly every country around the world. Lead continues to be a threat to local populations in the proposed project countries and globally, particularly lead recovered from ULABs. ULABs are comprised of 53% lead which can be extracted once a battery has lost its charge and recycled. Because recycled lead is a valuable commodity, ULAB recycling has become a viable, profitable business and important source of income for many people. ULAB recycling is on the rise partly due to the increase in lead prices over the last 15 years, high unemployment rates and increased car ownership. Southeast Asian countries in particular have been experiencing rapid growth, and a rising demand for lead, most of which is met via recycling of ULAB. | Region-Specific | Region III | ODA-UNDP | 2015 | 2017 | 4,500,000.00 | - | - | - | - | - | 4,500,000.00 |
| 29 | DENR-0092 | Forest Climate and Protection Project in Panay Phase II (ForClim II) | DENR | | Chapter 20 | The second phase of the Forest and Climate Protection in Panay (ForClim Phase II) shall be implemented from June 2014 to February 2018. The Project aims to contribute to the preservation of biodiversity by promoting international processes under the Convention on Biological Diversity (CBD) of 05 June 1992, in particular the CBD's Strategic Plan 2011-2020. The Project will support selected Peoples Organizations under the 20 partner LGUs within and adjacent the Panay Mountain Ranges. The Government of Germany through the GIZ shall provide a total of EUR 4,000,000 contribution for the Project in the form of personnel, inputs, and where appropriate, financial contribution. The project aims to protect the significant biodiversity of Panay Mountain Ranges and ensure that natural resources in the adjacent areas are managed and used by the local communities in a sustainable and climate friendly manner. | Region-Specific | Region VI | ODA-GIZ | 2015 | 2018 | 1,320,449.00 | 263,399.84 | - | - | - | - | 1,583,848.84 |
| 30 | DILG-0003 | Barangay Assistance and Community Evacuation Support (BRACES) Project | DILG | | Chapter 20 | Project BRACES is a 3-year initiative that aims to provide barangays with a) financial assistance for the construction of one single-storey evacuation centre, equipped with facilities for rainwater collection and harvesting and alternative power, b) Provision of capacity development interventions relative to strengthening organizational competence on DRRM, in the operation, management and maintenance of the facility (i.e. formulation of community evacuation plans; training in the maintenance, management and operation); and development of materials and conduct of community education and information dissemination with regard to use and sustainability of the evacuation centers. The Project will address the 1) Absence/lack of permanent and appropriately-designed Barangay evacuation facilities. Project BRACES will serve as a means to strengthen Barangays by providing financial assistance for the construction of permanent evacuation centres that (a) comply with internationally-acceptable structural design standards for disaster resilience, (b) are equipped with essential facilities that can help address the needs of evacuees. | Interregional | Region II, Region III, Region IVA, Region V, Region VIII, Region XI, Region XIII | LFP | 2018 | 2020 | - | 2,468,289,600.00 | 3,304,551,600.00 | 1,496,728,800.00 | - | - | 7,269,570,000.00 |
| 31 | DENR-0096 | Forestland Management Project (FMP) | DENR | | Chapter 20 | FMP is a ten-year Department of Environment and Natural Resources (DENR) - Japan International Cooperation Agency (JICA) project that aims to strengthen forestland management in three critical river basins through the implementation of collaborative and comprehensive Community-Based Forest Management (CBFM) strategies. | Interregional | CAR, Region II, Region III, Region VI | ODA-JICA | 2011 | 2022 | 1,069,256,000.00 | 1,260,594,000.00 | 198,926,000.00 | 108,356,000.00 | 74,059,000.00 | 60,163,000.00 | 2,771,354,000.00 |

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| 32 | DILG-0023 | Rebuilding Resilient Communities Against Calamities (R2C2) | DILG | | Chapter 20 | Local Government Units devastated by recent disasters or calamities have depleted finances. They do not have sufficient resources to fund for the rehabilitation or reconstruction of damaged facilities. The Project seeks to address and provide financial assistance to LGUs affected by Typhoons Yolanda, Nona and Lando and the 7.2 Bohol earthquake, for the reconstruction/rehabilitation of damaged local infrastructure facilities that will facilitate and accelerate resumption/ normalization of government operations, provision of essential services and continuation of economic activities. The Project has two (2) Components: 1. Provision of financial assistance for the reconstruction/rehabilitation of damaged local infrastructure facilities, which structural design now incorporate BBB standards and designs. 2. Provision of capacity development intervention to all recipient LGUs specifically on the Build Back Better (BBB) designs, standards and principles. This will include development of information materials on BBB and dissemination to all LGUs in the country. | Interregional | Region I, Region III, Region IV, Region IVB, Region V, Region VI, Region VII, Region VIII, Region XVIII | LFP | 2018 | 2019 | - | 5,717,593,230.00 | 109,360,540.00 | - | - | - | 5,826,953,770.00 |
| 33 | DENR-0111 | Scaling up the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) | DENR | | Chapter 20 | The project represents the "transformation phase" of a series of GEF support, culminating on the sustainability of the PEMSEA as the regional coordinating mechanism for the implementation of the SDS-SEA. It also makes a stronger linkage between sustainable development of river basins, coastal and marine areas and local, national and regional investment processes in a "blue economy". The project aims to reduce pollution and rebuild degraded marine resources through scaling up the implementation of the SDS-SEA in participating countries listed above that share six large marine ecosystems (LMEs), and related catchment areas. | Nationwide | | ODA-UNDP | 2014 | 2019 | 27,984,909.83 | 27,984,909.83 | 27,984,909.83 | - | - | - | 83,954,729.49 |
| 34 | DENR-0113 | Enhanced National Greening Program | DENR | | Chapter 20 | The coverage of NGP was expanded thru Executive Order No. 193 from 2016 to 2028 signed on November 12, 2015. The program aims to reforest the estimated 7.1 million hectares of unproductive, denuded and degraded forestlands through the participation and investment of private sector towards enabling private companies to achieve carbon neutrality. This is consistent with the updated Master Plan for forestry (2016-2028) to harmonize all forest development activities that will encourage and enhance development of forest plantations with the participation of private sector, local government units and People's Organizations. | Nationwide | | LFP | 2011 | 2028 | 6,929,493,000.00 | 8,071,272,000.00 | 8,158,524,000.00 | 7,919,934,000.00 | 7,409,655,000.00 | 8,124,039,000.00 | 46,612,917,000.00 |
| 35 | DENR-0118 | Clonal nursery and production of Quality Planting Materials (QPM) of premium and indigenous forest species for NGP | DENR | | Chapter 20 | Realizing the impacts of climate change and increasing incidence of deforestation and poverty in the country, President Benigno Simeon C. Aquino, III issued Executive Order No. 26 ordering and declaring the implementation of the National Greening Program (NGP) as a government priority. The program encompasses the planting of 1.5 billion trees that will cover 1.5 million hectares in a period of 6 years (CY 2011 to 2016). It aims to attain the stability of the country's food security, poverty reduction and climate change mitigation. It is considered the widest and most sustained reforestation venture ever embarked on a national scale combining the resources and manpower of major national line agencies. In the implementation of NGP, ERDB was tasked to oversee the production of quality planting materials including the monitoring of activities related to the implementation of quality planting materials production. | Nationwide | | LFP | 2011 | 2028 | 93,760,000.00 | 31,100,000.00 | 9,973,606.00 | 10,827,400.00 | 51,800,000.00 | 51,800,000.00 | 249,261,006.00 |
| 36 | DENR-0023 | Integrated Approach in the Management of Major Biodiversity Corridors in the Philippines | DENR | | Chapter 20 | The main objective of the project is to ensure the conservation of globally significant biodiversity in the Philippines through the establishment of an effective national network of biological corridors that deliver environmental, social, and economic benefits. | Interregional | | LFP | 2018 | 2024 | - | 748,163,227.00 | 748,163,227.00 | 748,163,227.00 | 748,163,227.00 | 748,163,227.00 | 3,740,816,135.00 |
| 37 | DENR-0127 | Program on Urban Ecosystems and Practices for the Abatement of Pollution through Networking and Management of Toxic Substances and Hazardous Wastes | DENR | | Chapter 20 | The RDE program of UTHRC is dubbed as URBANTOX which stands for Urban Ecosystem and Best Practices for the Abatement of Pollution in Highly Urbanized Area thru Networking and Management of Toxic Substances and Hazardous Wastes. The program intends to come up with inputs to policies for government use and other major stakeholders, develop and implement integrated management approaches; and enhance public awareness for the abatement of environmental degradation and pollution in urban areas and for the reduction of risks caused by toxic substances, solid and hazardous wastes. | Region-Specific | NCR | LFP | 2015 | onwards | 1,723,000.00 | 5,370,000.00 | 11,700,000.00 | 6,100,000.00 | 6,283,000.00 | 6,471,000.00 | 37,647,000.00 |

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| 38 | DENR-0128 | Implementation of Forest Protection Plan | DENR | | Chapter 20 | The program's main objectives are 1) the protection of the forestlands from any form of forest destruction thru forest fire management and protection from pests and diseases; and 2) enforcement of forest laws, rules and regulations thru strengthening DENR's and other partners' capacity on surveillance and monitoring activities to control illegal forestland entry and occupation. | Nationwide | | LFP | 2014 | 2019 | - | 453,906,000.00 | - | - | - | - | 453,906,000.00 |
| 39 | DENR-0129 | Production and dissemination of technical and popular materials in the conservation and development of natural resources and environment education | DENR | | Chapter 20 | This is undertaken based on the need to popularize and disseminate research-based information on the conservation and development of natural resources and environment that are important for the awareness and knowledge of the general public, government and nongovernment organizations. | Nationwide | | LFP | 2017 | onwards | 2,421,000.00 | 11,659,000.00 | 4,922,000.00 | 5,215,000.00 | 5,371,000.00 | 5,533,000.00 | 35,121,000.00 |
| 40 | DENR-0132 | Procurement of State-of-the-Art Laboratory Equipment for ERDB Main Office and Research Centers | DENR | | Chapter 20 | The state-of-the-art laboratory facilities will cater to the needs of the 6 Research Centers and its clients in generating reliable information on the state of the environment. These information are very relevant in the formulation of programs/projects for a healthy environment and sustainable country's natural resources that ultimately aim for an improved quality of life of the Filipinos. Investments in research through a state-of-the-art analytical research laboratory and equipment will enhance ERDB's record of scientific excellence. | Nationwide | | LFP | 2018 | 2020 | - | 10,260,723.00 | 20,000,000.00 | 19,400,277.00 | - | - | 49,661,000.00 |
| 41 | DENR-0136 | Research, Development and Extension Program on Promoting Ecosystems Health and Sustainability of Urban Areas through Research and Development | DENR | | Chapter 20 | "Promoting Ecosystems Health and Sustainability of Urban Areas through Research and Development", is an Research, Development and Extension Program which aims to address environmental issues and problems in urban ecosystem like pollution, solid waste management, pilot testing of technologies and protocols on deteriorated waterways, ecosystem approach for zoning/land-use in highly commercial and industrial areas, and green technology adoption. | Nationwide | | LFP | 2015 | onwards | 4,126,000.00 | 2,000,000.00 | 2,950,000.00 | 3,200,000.00 | 3,602,000.00 | 4,175,000.00 | 20,053,000.00 |
| 42 | DENR-0138 | Construction/Rehabilitation of Land Management, Agroforestry and Upland Farming Technology (LAUFTeRC) Buildings and Satellite Offices including Procurement of Furnitures | DENR | | Chapter 20 | Support R&D and techno transfer & extension programs that provide services for various clients of the research sector. Proposed rehabilitation of LAUFTeRC's building systems is expected to bring general conformance with local codes and ordinances and provide a safe and convenient working place for researchers. | Region-Specific | Region V | LFP | 2018 | 2020 | - | 8,000,000.00 | 11,800,000.00 | 3,800,000.00 | - | - | 23,600,000.00 |
| 43 | DENR-0147 | Establishment of Kiosk for Land Survey and Titling Services | DENR | | Chapter 20 | Establishment of Kiosk for Land Survey and Titling Services. | Nationwide | | LFP | 2017 | 2019 | 2,500,000.00 | 7,000,000.00 | 37,500,000.00 | 70,000,000.00 | - | - | 117,000,000.00 |
| 44 | DENR-0148 | Land Administration and Management System (LAMS) - Philippines and Digital Cadastral Database (DCDB) Cleansing | DENR | | Chapter 20 | Future enhancement to LAMS Philippines to cover online transactions, payments/collections of fees, real time titling and survey status updating, nationwide databases, paperless verification and approval of surveys, digital data sharing, harmonization with other local (LGUs) and national agencies, improvement to mapping functionalities, and nationwide digital cadastral database cleansing (DCDB) shared with LGUs to improve tax generation and land resource development. | Nationwide | | LFP | 2018 | 2018 beyond | 3,850,000.00 | 213,150,000.00 | 201,250,000.00 | 126,450,000.00 | - | - | 544,700,000.00 |
| 45 | DENR-0160 | Clean Water Program | DENR | EMB | Chapter 20 | This program is implemented based on the established environmental laws specifically RA 9275, the Philippine Clean Water Act (CWA) that provides for a comprehensive strategy to address the degradation of our waterbodies. It mandates the Bureau to formulate and implement policies and strengthen partnerships with stakeholders to improve water quality in all parts of the country. It encourages pollution prevention and waste minimization at source and provides for the use of economic incentives and public disclosure to ensure compliance. | Nationwide | | LFP | 2004 | Continuing | 178,209,000.00 | 183,555,000.00 | 189,062,000.00 | 194,734,000.00 | 200,576,000.00 | 206,593,000.00 | 1,152,729,000.00 |
| 46 | DENR-0161 | Clean Air Program | DENR | EMB | Chapter 20 | This program is implemented based on the established environmental laws specifically RA 8749 (Clean Air Act of 1999) providing for a comprehensive air pollution management and control program. Its primary goal is to achieve and maintain air quality that meets the National Air Quality Guidelines for Criteria Pollutants throughout the Philippines, while minimizing the possible associated negative impacts on the economy of the Philippines. The Bureau is mandated to formulate guidelines, policy and standards for the effective implementation and enforcement of RA 8749. | Nationwide | | LFP | 2000 | continuing | 133,801,000.00 | 137,815,030.00 | 141,949,480.90 | 146,207,965.32 | 150,594,204.27 | 155,112,030.39 | 865,479,710.88 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in PhP Exact Amount) | | | | | | |
|----|--------------|---------------------------------------------------------------------------|-----------------------|-----------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|------------------------|-----------------------|------------|------------------------------------------|----------------|---------------|---------------|----------------|----------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 47 | DENR-0165 | Environmental Education and Information | DENR | EMB | Chapter 20 | The Environmental Education and Information Program spearheads the updating and implementation of the National Environmental Education Action Plan, in support of the ASEAN Environmental Education Action Plan. The said action plan includes programs to strengthen environmental education in the following target areas: Formal Sector, Non-Formal Sector, Institutional and Human Resources Capacity Building and Networking, Collaboration and Communication. The Program also catalyzes the conduct of multi-stakeholder special events during the whole year-round nationally and internationally significant celebrations on the environment. It also conducts education and capacity building programs on the different environmental laws and programs, with various stakeholders. It coordinates with the country's major education institutions and networks for the strengthened integration of environmental education concerns in the school curricula at all levels. It also promotes partnership and encourages adoption of Environmental Management Programs among strategic stakeholders (schools, local government units, government offices, industries, etc.) | Nationwide | | LFP | 2008 | Continuing | 20,069,000.00 | 20,671,070.00 | 21,291,202.10 | 21,929,938.16 | 22,587,836.31 | 23,265,471.40 | 129,814,517.97 |
| 48 | DENR-0167 | Pollution Research and Laboratory Services | DENR | EMB | Chapter 20 | Environmental pollution research programs develops the standards, rules and regulations on existing and anticipated environmental issues and problems; conducts assessment on the capacity of private laboratories to provide environmental analytical services and embark on inter-calibration exercises and recognition of environmental laboratories, and conducts continuing researches and studies on the effective means for the control and abatement of pollution. | Nationwide | | LFP | 1992 | Continuing | 89,447,000.00 | 92,130,410.00 | 94,894,322.30 | 97,741,152.00 | 100,673,386.52 | 103,693,588.12 | 578,579,858.94 |
| 49 | DENR-0168 | Mine Rehabilitation Program | DENR | MGB | Chapter 20 | Component 1: The Mine Rehabilitation Program (MRP) is a flagship program of the Mines and Geosciences Bureau (MGB) dealing with the rehabilitation and remediation of abandoned/inactive mines as well as in the preparation of Environmental Management Plan (EMP) among selected abandoned/inactive mines in the country. Component 2: This project aims to achieve 100% compliance of operating surface metallic mines with Annual Environmental Protection and Enhancement Program (EPEP) maintained/Care and Maintenance Program (CMP) | Nationwide | Region IVB, Region VIII | LFP | 2017 | 2022 | 36,142,000.00 | 29,216,000.00 | 24,413,924.80 | 24,613,888.23 | 24,815,911.27 | 25,020,015.16 | 164,221,739.46 |
| 50 | DENR-0170 | Upgrading of the ERDB Main Office and its Research and Support Facilities | DENR | | Chapter 20 | This will support the need to adopt to aggravating climate change. Buildings, infrastructure facilities including its laboratories will be refurbished and modernized. New structures will be constructed and some of the existing facilities will be redesigned to address the problems on worthiness, durability, reliability and insufficiency of the ERDB facilities and structures.e | Region-Specific | Region IVA | LFP | 2018 | 2020 | - | 22,000,000.00 | 21,500,000.00 | 24,500,000.00 | - | - | 68,000,000.00 |
| 51 | DENR-0172 | Protection of ERDB's Experimental Forests as Areas of Research | DENR | | Chapter 20 | The experimental forest serve as a venue for the conduct of researches/projects pertinent to the mandate of ERDB and its Research Centers. It provides area in setting up experimental design in order to generated important information of ENR technologies. It also serves as demonstration and training center for the ENR technologies and reserach results of stakeholders, enthusiasts, and students. | Nationwide | | LFP | 2018 | 2020 | - | 24,376,768.00 | 18,000,000.00 | 18,000,000.00 | - | - | 60,376,768.00 |
| 52 | DENR-0174 | Protection and Conservation of Wildlife | DENR | | Chapter 20 | This program deals with the preservation, conservation and protection of wildlife, and/or maintenance, restoration and enhancement of their habitats. Priority activities under this program are the following: 1) sustainable wildlife resource use; and 2) enforcement of wildlife laws, rules and regulations which include the operations/mobilization of Wildlife Traffic Monitoring Units (WTMUs); deputiation and mobilization of Wildlife Enforcement Officers (WEOs); operations and maintenance of Wildlife Rescue Centers (WRCs); establishment and management of critical habitats; and conservation of threatened wildlife species such as the marine turtles, dugong, tamaraw, Philippine raptor, crocodile, tarsier, Philippine cockatoo, and spotted deer. | Nationwide | | LFP | 2017 | continuing | 24,073,334.00 | 24,073,334.00 | 24,073,334.00 | 24,073,334.00 | 24,073,334.00 | 24,073,334.00 | 144,440,004.00 |
| 53 | DENR-0175 | Biodiversity Science and Translational Medicine Learning Center | DENR | | Chapter 20 | Translational medicine is the process by which the results of research done in the laboratory are directly used to develop new ways to treat patients and research done outside the laboratory is used to inform laboratory research. | Nationwide | | LFP | 2018 | 2020 | - | 310,000,000.00 | 30,000,000.00 | 20,000,000.00 | - | - | 360,000,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in Php Exact Amount) | | | | | | |
|----|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|----------------|----------------|----------------|----------------|----------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 54 | DENR-0176 | Delineation of Production and Protection Forests | DENR | | Chapter 20 | The activity demarcates production forestlands on the ground wherein the DENR can engage with civil society organizations and private sector. This is in line with the Bureau's Philippine Master Plan for Climate Resilient Forestry Development and Forest Investment Road Map that moves towards a more collaborative approach in forest development. All production activities will be concentrated on production forestlands to set aside protection forestlands that preserve ecological services. | Nationwide | | LFP | 2018 | 2022 | - | 850,196,100.00 | 850,196,100.00 | 850,196,100.00 | 850,196,100.00 | 850,196,100.00 | 4,250,980,500.00 |
| 55 | DENR-0177 | Intensified Forest Protection Program | DENR | | Chapter 20 | The National Forest Protection Program aims to strengthen protection mechanism of the country's remaining natural forests and the tree plantations established thru NGP. | Nationwide | | LFP | 2018 | 2022 | - | 403,437,000.00 | 266,125,000.00 | 262,421,000.00 | 232,374,000.00 | 276,332,000.00 | 1,440,689,000.00 |
| 56 | PHIVOLCS-0002 | Construction and rehabilitation of earthquake monitoring stations, volcano observatories, seismic vaults and instrument housing - Construction of unmanned seismic stations for earthquake monitoring stations | DOST | PHIVOLCS | Chapter 20 | This program is under the continuing initiative of PHIVOLCS on the enhancement of earthquake, tsunami and volcano monitoring systems and networks. PHIVOLCS currently operates a nationwide digital earthquake monitoring network of 92 stations consisting of 30 manned stations, 56 unmanned stations with real-time satellite communication for data transmission, and six (6) volcano observatories. PHIVOLCS also maintains several tsunami detection and alerting stations, and sea-level stations. This program specifically involves the establishment of new earthquake and tsunami monitoring stations. | Nationwide | | LFP | 2016 | 2020 | 6,300,000.00 | 9,300,000.00 | - | - | - | - | 15,600,000.00 |
| 57 | PRRC-0039 | Rehabilitation and Development of Estero de Magdalena (Phase 3), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 15,840,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Magdalena River. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 15,840,000.00 | - | - | 15,840,000.00 |
| 58 | PRRC-0030 | Rehabilitation and Development of Estero de Magdalena (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 16,335,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Magdalena. | Region-Specific | NCR | LFP | 2019 | 2019 | - | - | 16,335,000.00 | - | - | - | 16,335,000.00 |
| 59 | PRRC-0042 | Rehabilitation and Development of Ermitaño Creek (Phase 3), Quezon City | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 16,945,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Ermitaño Creek. | Region-Specific | NCR | LFP | 2020 | 2021 | - | - | - | 16,945,500.00 | - | - | 16,945,500.00 |
| 60 | PAGASA-0004 | Climate Monitoring and Prediction System (CLIMPS) | DOST | PAGASA | Chapter 20 | This will establish a system for climate monitoring and analysis of the climate affecting the country, the application and interpretation of various global indicators influencing Philippine climate leading to the generation of seasonal and sub-seasonal forecast products as aid for issuance of climate advisories thru quad media including more applications. | Nationwide | | LFP | 2017 | 2018 | 15,613,000.00 | 1,600,000.00 | - | - | - | - | 17,213,000.00 |
| 61 | PRRC-0034 | Rehabilitation and Development of Estero de Concordia (Phase 3), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 17,605,500.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Concordia. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 17,605,500.00 | - | - | - | 17,605,500.00 |
| 62 | DILG-0006 | Mainstreaming CCA and DRR in Local Development Planning | DILG | | Chapter 20 | This project intends to integrate CCA and DRRM in the medium to long term development plan of the LGUs. The mainstreaming process involved warrants that programs, projects, and activities and policy options identified by the LGUs to address climate change and disaster issues will address (i) gaps in terms of adaptive capacities of LGUs, (ii) vulnerabilities of the LGUs and communities, and (iii) risks, are prioritized and allocated with budget and included in the investment program for LGUs. | Nationwide | | LFP | 2015 | 2020 | 17,000,000.00 | 36,000,000.00 | 33,000,000.00 | 33,000,000.00 | - | - | 119,000,000.00 |

List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment

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|----|--------------|-------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|----------------|----------------|---------------|---------------|---------------|-------------------|----------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 63 | PRRC-0037 | Rehabilitation and Development of Estero de Vitas, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 17,655,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Vitas. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 17,655,000.00 | - | - | - | - | 17,655,000.00 |
| 64 | PRRC-0024 | Rehabilitation and Development of San Juan River (Brgy. Batis & Kabayanan, San Juan City) | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 18,183,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of San Juan River. | Region-Specific | NCR | LFP | 2018 | 2019 | - | 18,183,000.00 | - | - | - | - | - | 18,183,000.00 |
| 65 | PRRC-0025 | Rehabilitation and Development of Ermitaño Creek (Phase 2), City of San Juan | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 16,467,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Ermitaño Creek. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 18,367,000.00 | - | - | - | - | - | 18,367,000.00 |
| 66 | PRRC-0021 | Rehabilitation and Development of Estero de Magdalena, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 17,490,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Magdalena. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 19,590,000.00 | - | - | - | - | - | 19,590,000.00 |
| 67 | DOST-0021 | PHL-LIDAR 1. Hazard Mapping of the Philippines Using LIDAR | DOST | | Chapter 20 | The program is a continuation of the Nationwide DREAM Program which aims to produce hazard maps of 2/3 of the Philippines. Aside from addressing disaster risk reduction and climate change adaptation, the resource information to be generated from this project will also be useful in providing the information requirements of various sectors in the country. | Nationwide | | LFP | 2014 | 2019 | 375,582,773.32 | 180,000,000.00 | 200,000,000.00 | - | - | - | - | 755,582,773.32 |
| 68 | DOST-0022 | PHL-LIDAR 2. Nationwide Detailed Resources Assessment using LIDAR | DOST | | Chapter 20 | PHL-LIDAR 2 was conceptualized as complementary to existing programs of various national government agencies to assist local government units in mapping the Philippines' natural resources. The Program uses state of the art technologies such as LIDAR and other remote-sensing and GIS technologies to generate high-resolution resource maps and resource vulnerability maps that provide detailed assessment of the country's natural resources such as high-value agricultural crops, coastal resources, forest, hydrological and renewal energy resources. | Nationwide | | LFP | 2014 | 2017 | 78,200,606.80 | - | - | - | - | - | - | 78,200,606.80 |
| 69 | LGA-0001 | Operation Listo | DILG | LGA | Chapter 20 | Operation LISTO is the umbrella program of DILG for Disaster Risk Reduction & Management and Climate Change Adaptation (DRRM-CCA). It uses a "one-government" and "whole-of-society" approach to enhance and strengthen the capacities of Local Government Units (LGUs) to prepare for disaster and climate risks. There are three (3) components of the program: 1. LISTONG Pamahalaang Lokal ensures that preparedness protocols and plans are in place in LGUs. It helps LGUs make science/evidence-based decisions; 2. LISTONG Pamayanan concentrates on capacitating communities on community-based DRR: simulation drills, community planning (and review of plans) and preparedness to respond and recover; and 3. LISTONG Pamilyang Pilipino's interventions, meanwhile, are in the household level. The activities include strengthening preparedness of households through knowing their risk, evacuation planning and getting acquainted with accessing emergency response teams. | Nationwide | | LFP | 2016 | 2022 | 76,000,000.00 | 76,000,000.00 | 76,000,000.00 | 76,000,000.00 | 76,000,000.00 | 76,000,000.00 | 76,000,000.00 | 456,000,000.00 |
| 70 | PRRC-0027 | Rehabilitation and Development of Maytunas Creek (Phase 2), City of Mandaluyong | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 21,450,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Maytunas Creek. | Region-Specific | NCR | LFP | 2019 | 2019 | - | - | 21,450,000.00 | - | - | - | - | 21,450,000.00 |

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|----|--------------|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------|------------------------------------------|------------------|------------------|------------------|------|------|-------------------|------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| | | | | | | | | | | | | | | | | | | | |
| 71 | PRRC-0035 | Rehabilitation and Development of Estero de Sunog Apog, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 21,615,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de Sunog Apog. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 21,615,000.00 | - | - | - | - | 21,615,000.00 |
| 72 | PRRC-0036 | Rehabilitation and Development of Estero de San Lazaro, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 23,628,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de San Lazaro. | Region-Specific | NCR | LFP | 2019 | 2020 | - | - | 23,628,000.00 | - | - | - | - | 23,628,000.00 |
| 73 | PRRC-0044 | Rehabilitation and Development of Estero de San Lazaro (Phase 2), City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 11,088,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de San Lazaro. | Region-Specific | NCR | LFP | 2020 | 2020 | - | - | - | 25,260,000.00 | - | - | - | 25,260,000.00 |
| 74 | DILG-0016 | Post-Disaster Local Governance Support Programme | DILG | | Chapter 20 | This proposed Post-Disaster Local Governance Support Programme was developed based on previous experiences with the DILG-Recovery Assistance on Yolanda Project. Given this, the Department intends to continuously promote the mainstreaming of Build Back Better and Green Building Designs in rehabilitation/reconstruction of damaged public infrastructures as a way of pursuing good governance at the local level. Considering the growing number of roles and responsibilities expected of DILG during post-disaster events, the establishment of a post-disaster support programme or a Quick Response Fund (QRF) becomes essential to: (a) obtaining relevant local information through damage assessment activities, (b) providing support to LGUs that will facilitate the immediate resumption of local government operations and services, and (c) ensuring the safety and security of affected populations. | Interregional | NCR, CAR, Region I, Region II, Region III, Region IV, Region IVB, Region V, Region VI, Region VII, Region VIII, Region VIII, Region IX, Region X, Region XI, Region XII, Region XIII | LFP | 2018 | 2020 | - | 1,000,000,000.00 | 1,150,000,000.00 | 1,322,500,000.00 | - | - | - | 3,472,500,000.00 |
| 75 | DENR-0123 | Development of Pagbilao Mangrove Experimental Forest (PMEF) for Biodiversity and Genetic Conservation of Mangroves | DENR | | Chapter 20 | The project is initially a component of NGP which principally focuses on the rehabilitation of PMEF and conduct of resource inventory for identification and selection of mother trees for mangrove and beach forest development in the country. For 2017, the project is being expanded to provide technical support to the Five-Year Management and Development Plan (2015-2019) for PMEF which was mutually agreed upon by stakeholders from Quezon Province including the Provincial LGU, DENR Region 4A and ERDB in September 2014. The project is intended to serve as a national education, training and research site for mangroves and as a show case for ecotourism and sustainable eco-friendly livelihood opportunities. The project is also intended to serve as the backbone as possible source of planting materials for the sustainability of the Mangrove and Beach Forest Development Project which resulted in the establishment of 50,000 ha of mangrove plantations in 11 regions in the country. | Region-Specific | Region IVA | LFP | 2018 | 2020 | 16,600,000.00 | 4,700,000.00 | 4,700,000.00 | - | - | - | - | 26,000,000.00 |
| 76 | NAMRIA-0001 | Topographic Base Mapping and Geodetic Survey (Expanded) | DENR | NAMRIA | Chapter 20 | This includes production of topographic base maps at various scales for use as reference in development planning, environmental management and in support to geo-hazard mapping. It also includes the development of the geodetic network that is undertaken pursuant to Executive Order No. 45, series of 1993 (as amended by EO 280, series of 2000 and EO 21, series of 2004) which mandates the use of PRS92 as the standard reference system for all surveying and mapping activities in the country. Likewise, the inventory of the Philippine islands will be undertaken to provide accurate geographic statistics for official reference as basis for development planning. | Nationwide | | LFP | 2018 | 2018 | - | 506,520,000.00 | - | - | - | - | - | 506,520,000.00 |

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|----|--------------|--------------------------------------------------------------------------|-----------------------|-----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|----------------|----------------|----------------|----------------|----------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 77 | NAMRIA-0002 | Topographic Base Mapping and Geodetic Survey | DENR | NAMRIA | Chapter 20 | This includes production of topographic base maps at various scales for use as reference in development planning, environmental management and in support to geo-hazard mapping. It also includes the development of the geodetic network that is undertaken pursuant to Executive Order No. 45, series of 1993 (as amended by EO 280, series of 2000 and EO 21, series of 2004) which mandates the use of PRS92 as the standard reference system for all surveying and mapping activities in the country. Likewise, the inventory of the Philippine islands will be undertaken to provide accurate geographic statistics for official reference as basis for development planning. | Nationwide | | LFP | 2017 | 2022 | 572,560,000.00 | 572,560,000.00 | 744,283,000.00 | 701,453,000.00 | 869,550,000.00 | 726,620,000.00 | 4,187,026,000.00 |
| 78 | NAMRIA-0003 | Resource Assessment and Mapping (Expanded) | DENR | NAMRIA | Chapter 20 | This project provides latest data and statistics of the country's land resources for ENR management and development planning activities. Project outputs are different thematic maps such as land cover maps, coastal resource maps, validated forest reserve maps, control and hazard map of ENR datasets particularly tenurial instruments, and maps of low-lying areas. The Mapping and Assessment of Low-Lying areas aims to map and assess the vulnerability of coastal low-lying areas of the country at different sea level rise scenarios. The Coastal Resource Mapping and Assessment aims to map coastal and marine resources, particularly coral reefs, seagrass and mangroves including detailed land cover within one (1) kilometer distance from shoreline to landward. While, Land Cover Mapping provides opportunity to assess the extent of the country's remaining forest, agriculture, built-up, open areas and other types. | Nationwide | | LFP | 2018 | 2018 | - | 98,909,000.00 | - | - | - | - | 98,909,000.00 |
| 79 | NAMRIA-0004 | Resource Assessment and Mapping | DENR | NAMRIA | Chapter 20 | This project provides latest data and statistics of the country's land resources for ENR management and development planning activities. Project outputs are different thematic maps such as land cover maps, coastal resource maps, control and hazard map of ENR datasets particularly tenurial instruments, land classification maps and maps of low-lying areas. The Mapping and Assessment of Low-Lying areas aims to map and assess the vulnerability of coastal low-lying areas of the country at different sea level rise scenarios. The Coastal Resource Mapping and Assessment aims to map coastal and marine resources, particularly coral reefs, seagrass and mangroves including detailed land cover within one (1) kilometer distance from shoreline to landward. While, Land Cover Mapping provides opportunity to assess the extent of the country's remaining forest, agriculture, built-up, open areas and other types. | Nationwide | | LFP | 2017 | 2022 | 33,462,000.00 | 33,462,000.00 | 44,351,000.00 | 46,284,000.00 | 45,410,000.00 | 49,081,000.00 | 252,050,000.00 |
| 80 | NAMRIA-0007 | Hydrographic and Oceanographic surveys, and Nautical Charting (Expanded) | DENR | NAMRIA | Chapter 20 | This program/project undertakes hydrographic surveys of the national maritime jurisdictions, including the archipelagic and internal waters, territorial sea and contiguous zone, the exclusive economic zone, continental shelves and municipal waters. The surveys are conducted using ships, launches and small boats as basic platforms. From the data gathered nautical charts and other maritime publications are produced which are important references for all maritime activities, for safe navigation and management of our marine resources. | Nationwide | | LFP | 2018 | 2018 | - | 99,790,000.00 | - | - | - | - | 99,790,000.00 |
| 81 | NAMRIA-0008 | Hydrographic and Oceanographic Surveys, and Nautical Charting | DENR | NAMRIA | Chapter 20 | This program/project undertakes hydrographic surveys of the national maritime jurisdictions, including the archipelagic and internal waters, territorial sea and contiguous zone, the exclusive economic zone, continental shelves and municipal waters. The surveys are conducted using ships, launches and small boats as basic platforms. From the data gathered nautical charts and other maritime publications are produced which are important references for all maritime activities, for safe navigation and management of our marine resources. | Nationwide | | LFP | 2018 | 2022 | 256,120,000.00 | 256,120,000.00 | 223,670,000.00 | 294,634,000.00 | 241,094,000.00 | 231,123,000.00 | 1,502,761,000.00 |

List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in Php Exact Amount) | | | | | | |
|----|---------------|---------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------|------------------------|-----------------------|------|------------------------------------------|------------------|----------------|----------------|---------------|---------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 82 | NAMRIA-0009 | Geospatial Information Management (Expanded) | DENR | NAMRIA | Chapter 20 | This project involves the building, integration, packaging, sharing and dissemination of geospatial information utilizing information and communication technology (ICT) and geographic information system (GIS) technology. Activities are information system strategic planning; geospatial database management; information system web and network development. This also includes the provision of technical assistance; geomatic trainings; media relations and publication, promotion, marketing and client services; and maintenance of ICT equipment. | Nationwide | | LFP | 2018 | 2018 | - | 24,779,000.00 | - | - | - | - | 24,779,000.00 |
| 83 | NAMRIA-0010 | Geospatial Information Management | DENR | NAMRIA | Chapter 20 | This project involves the build up, integration packaging, sharing and dissemination of geospatial information utilizing information and communication technology (ICT) and geographic information system (GIS) technology. Activities are information system strategic planning; geospatial database management; information system, web and network development. This also includes the provision of technical assistance geomatics trainings; media relations and publication; and promotions, marketing and client services; and maintenance of ICT equipment. | Nationwide | | LFP | 2017 | 2022 | 10,151,000.00 | 10,151,000.00 | 22,150,000.00 | 25,925,000.00 | 21,101,000.00 | 22,266,000.00 | 111,744,000.00 |
| 84 | DENR-0097 | Integrated Natural Resources and Environmental Management Project (INREMP) | DENR | | Chapter 20 | The project will address unsustainable watershed management in four priority river basins namely, Chico River Basin, Wahig-Inabanga River Basin, Upper Bukidnon River Basin, Lake Lanao River Basin. With particular focus on indigenous peoples and resource-poor communities, the project will reduce and reverse degradation of watersheds and associated environmental services caused by forest denudation and unsustainable farming practices. It will also provide incentives to local communities, LGUs and the DENR for improving natural resource management by generating sufficient and tangible economic benefits. | Interregional | CAR, Region VII, Region X, ARMM | ODA-ADB, ODA-IFAD | 2013 | 2020 | 966,415,000.00 | 1,472,216,000.00 | 199,925,000.00 | 162,775,000.00 | - | - | 2,801,331,000.00 |
| 85 | PRRC-0019 | Rehabilitation and Development of Estero dela Reina, City of Manila | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 26,499,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Estero de la Reina. | Region-Specific | NCR | LFP | 2018 | 2019 | - | 29,599,000.00 | - | - | - | - | 29,599,000.00 |
| 86 | PRRC-0013 | Rehabilitation and Development of Estero de Paco (Apacible Bridge going to Pasig River) | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2017 | 2018 | 14,810,000.00 | 14,810,000.00 | - | - | - | - | 29,620,000.00 |
| 87 | PHIVOLCS-0006 | Enhancement of Volcano, Earthquake and Tsunami Warning Systems for Disaster Risk Reduction in the Philippines | DOST | PHIVOLCS | Chapter 20 | The Japanese Government approved the funding of the Grant Aid for the Project for Improvement of Equipment for Disaster Risk Management amounting to one billion Japanese Yen (¥1,000,000,000). The PHIVOLCS project on Enhancement of Volcano, Earthquake and Tsunami Warning Systems for Disaster Reduction in the Philippines is one of the two projects under this Grant Aid. (The other one is DPWH's Project on Disaster Mitigation Strengthening Tools). The PHIVOLCS project aims to efficiently provide fast and reliable earthquake, volcano and tsunami warning to the Office of Civil Defense, local government, media and the public. The project involves the installation of broadband seismometers, strong motion sensors, sea-level monitoring systems, and a network of intensity meters. Ultimately it will enhance our real-time earthquake monitoring and tsunami warning system and an integrated real-time volcano monitoring. | Nationwide | | LFP | 2013 | 2020 | 7,000,000.00 | 7,000,000.00 | 7,980,000.00 | 8,000,000.00 | - | - | 29,980,000.00 |
| 88 | TAU-0018 | Establishment of Bamboo Forest Park Ecotourism Project (Bamboo Theme Park) | CHED | TAU | Chapter 20 | The project aims to develop Titi-Calao into a bamboo ecotourism theme park and agroforestry area to conserve, and protect existing forest areas, sustain the development of the micro-watershed, and optimize its potential for recreation and production. | Region-Specific | Region III | TBD | 2019 | 2019 | - | - | 30,000,000.00 | - | - | - | 30,000,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in Php Exact Amount) | | | | | | | |
|----|---------------|-------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|---------------|--------------|------|------|------|-------------------|---------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 89 | PRRC-0029 | Rehabilitation and Development of Tumana - Malanday Creek in Marikina City | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 33,198,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Tumana-Malanday Creek. | Region-Specific | NCR | LFP | 2018 | 2019 | - | 37,098,000.00 | - | - | - | - | - | 37,098,000.00 |
| 90 | PHIVOLCS-0007 | Rehabilitation of earthquake monitoring stations | DOST | PHIVOLCS | Chapter 20 | This program is under the continuing initiative of PHIVOLCS on the enhancement of earthquake, tsunami and volcano monitoring systems and networks. PHIVOLCS currently operates a nationwide digital earthquake monitoring network of 92 stations consisting of 30 manned stations, 56 unmanned stations with real-time satellite communication for data transmission, and six (6) volcano observatories. PHIVOLCS also maintains several tsunami detection and alerting stations, and sea-level stations. This program specifically involves the establishment of new earthquake and tsunami monitoring stations. This program specifically involves the repair and rehabilitation of earthquake and tsunami monitoring stations. | Nationwide | | LFP | 2016 | 2020 | 15,900,000.00 | 17,500,000.00 | 3,700,000.00 | - | - | - | - | 37,100,000.00 |
| 91 | PRRC-0014 | Rehabilitation and Development of Estero de Pandacan | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2017 | 2018 | 25,057,421.05 | 18,223,578.95 | - | - | - | - | - | 43,281,000.00 |
| 92 | PRRC-0028 | Rehabilitation and Development of Taguig-Pateros River at Barangay Ususan, Taguig City | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 26,202,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of Taguig-Pateros River. | Region-Specific | NCR | LFP | 2018 | 2019 | - | 50,740,000.00 | - | - | - | - | - | 50,740,000.00 |
| 93 | PRRC-0026 | Rehabilitation and Development of San Juan River (Brgy. Talayan to Caliraya Bridge) Quezon City | PRRC | | Chapter 20 | The proposed locally funded projects aims to reduce the direct disposal of domestic liquid and solid waste in the Pasig River and tributaries and likewise aims to improve the water quality. For this area, the proposed cost is Php 33,462,000.00 which includes construction of linear park, and riverbanks slope protection development. All those mentioned component contributes in improving the water quality of San Juan River. | Region-Specific | NCR | LFP | 2018 | 2018 | - | 68,812,483.21 | - | - | - | - | - | 68,812,483.21 |
| 94 | PAGASA-0025 | Upgrading of Interactive Data Processing System | DOST | PAGASA | Chapter 20 | Today, Meteorological Services have at their disposal "in-house" an ever growing amount of meteorological data and products, available from a wide variety of sources and in different formats: surface and upper-air observations, numerical weather predictions (models), satellite and radar imagery, forecasts". The challenge is to add value to this amount of meteorological information by bringing it to the end-users and end-customers, inside and outside the premises of PAGASA. Automatic Message Switching System (AMSS) is the heart of meteorological telecommunication, the main functions are to receive, check and forward automatically, the meteorological data and products according to the WMO standards. Under the modernization, the availability of timely weather data, images and graphics is critical for effective weather forecasting that needs to be addressed. The system is capable of automatic message reception and distributions, switch all types of data products and image type products and connect to all type of subscribers. | Nationwide | | LFP | 2018 | 2018 | - | 75,000,000.00 | - | - | - | - | - | 75,000,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in PHP Exact Amount) | | | | | | |
|-----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------|------------------------|-----------------------|------|------------------------------------------|----------------|----------------|----------------|----------------|----------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 95 | DENR-0014 | Implementation of PCB Management Programs for Electric Cooperatives and Safe e-wastes Management | DENR | | Chapter 20 | To use non-combustion technology to destroy significant obsolete PCBs wastes and help remove barriers to the further adoption and effective implementation of the selected technology and meet the stockholm convention requirements as part of a Global Programme . | Interregional | | LFP | tbd | tbd | - | 687,633,333.34 | 687,633,333.34 | 687,633,333.34 | - | - | 2,062,900,000.00 |
| 96 | PAGASA-0021 | Strengthening and Expansion of Climate Database Management | DOST | PAGASA | Chapter 20 | A more robust centralized repository for storage, management, and dissemination of data which will provide better security and enhance database management system for the Agency. The expansion of the climate database storage will better address the wide range of workload demands from the various operations of PAGASA from weather forecasting to climate modeling to flood forecasting | Region-Specific | NCR | LFP | 2018 | 2018 | - | 98,912,000.00 | - | - | - | - | 98,912,000.00 |
| 97 | PAGASA-0002 | Automation of Flood Early Warning System for Disaster Mitigation in Metro Manila | DOST | PAGASA | Chapter 20 | This project is the extension of the early warning system for the mitigation of disaster to the repetitive flood zones in Metro Manila. With the expansion of the NCR-PAGASA Integrated Flood Information Control System (NCR-PIFICS) to monitor actual situation near the river banks, Greater Metro Manila will have the early warning system for mitigation of the disaster that rebounds to the mitigation of the damages in human and economic losses. | Region-Specific | NCR | ODA-Korea | 2015 | 2017 | - | - | - | - | - | - | - |
| 98 | PAGASA-0006 | Enhancement of Aviation Forecasting and Warning Capability by Setting up Lightning Detection System | DOST | PAGASA | Chapter 20 | This will provide real-time lightning occurrence data | Region-Specific | NCR | LFP | 2017 | 2017 | 186,600,000.00 | - | - | - | - | - | 186,600,000.00 |
| 99 | DENR-0021 | Reducing Pollution and Preserving Environmental Flows in the East Asian Seas through the Implementation of Integrated River Basin Management in Eight ASEAN Countries | DENR | | Chapter 20 | The objective of the project is to improve the integrated water resources management, reduce pollution loads from nutrients and other land-based activities, sustain freshwater environmental flows and reduce climate vulnerability through demonstrations and replications, planning and strengthening of integrated river basin management in selected countries in the East Asian Seas. | Interregional | | ODA-UNDP | 2018 | 2023 | 112,700,000.00 | 112,700,000.00 | 112,700,000.00 | 112,700,000.00 | 563,500,000.00 | 563,500,000.00 | 1,577,800,000.00 |
| 100 | DENR-0022 | Enhancing Biodiversity, Maintaining ecosystem flows, and enhancing carbon stocks through Sustainable Management of Forest Resources and Restoration of Degraded Forestlands | DENR | | Chapter 20 | It aims to deliver multiple and integrated environmental, livelihood and development benefits through the promotion of the cost-effective and sustainable restoration of the biological and productive capacities of degraded forest land ecosystems. | Interregional | CAR, Region XIII | LFP | 2018 | 2022 | - | 310,845,641.40 | 310,845,641.40 | 310,845,641.40 | 310,845,641.40 | 310,845,641.40 | 1,554,228,207.00 |
| 101 | DENR-0190 | Enhanced National Land Titling Program | DENR | | Chapter 20 | Massive land titling of the estimated remaining untitled alienable and disposable lands of four regions (Regions 1, 7, 8, and 13) consisting of twelve (12) provinces | Interregional | Region I, Region VI, Region VII, Region XIII | LFP | 2018 | 2020 | - | 86,300,000.00 | 529,729,370.00 | 529,729,370.00 | - | - | 1,145,758,740.00 |
| 102 | PCAARRD-0038 | National Assessment of Coral Reef Environments (NACRE) | DOST | PCAARRD | Chapter 20 | Includes the following projects: 1) Synoptic Investigation of Human Impacts on Nearshore Environments (SHINE): Coral Reefs projects; 2) People and the Environment: Assessment of Reef-fish Resiliency and Associated Livelihoods (PEARRAL); 3) Synoptic Investigation of Human Impacts on Nearshore Environments (SHINE): Reef-Associated Habitats; 4) Watershed and Ocean Parameters for Assessment of Coral Reef Health; and 5) Coral Reef Knowledge Management System: Bayesian Belief Network Modeling and Remote Sensing. The objectives of this include: Mapping the distribution of coral communities in representative sites around the Philippines; assess the current state of these coral communities using commonly used metrics such as hard coral cover and biodiversity, and their vulnerability and resilience to threats such as coral bleaching; establish a monitoring system to allow the quantification of changes in the structure of these reefs, and allow for projections of future state based on various scenarios. | Nationwide | | LFP | 2014 | 2017 | 14,795,979.47 | - | - | - | - | - | 14,795,979.47 |

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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 103 | PCAARRD-0047 | Rehabilitation Strategies for Critical Mangrove and Coastal Forests in Coastal Communities of Western and Northwestern Leyte (COASTAL FORESTS REHAB PROJECT) | DOST | PCAARRD | Chapter 20 | i. Assess the current socio-economic and biophysical condition of the prospective mangrove and coastal forest areas which will serve as a basis in the identification and implementation of alternative rehabilitation strategies i. Identify and develop through participatory process site- and situation specific mangrove and coastal forest rehabilitation approaches i. Adopt and implement IEC approaches to increase awareness, understanding; and appreciation of coastal communities on service value of mangrove and beach forests to mitigate climate change and for conservation of biodiversity i. Identify and evaluate possible gender roles of and responsibilities affecting men's and women's participation in the rehabilitation efforts i. Determine the impact of the project on the ecological and socioeconomic condition of covered communities i. Make policy recommendations for responsive and sustainable management and protection of critical mangrove and coastal forests while providing livelihood opportunities to local communities | Region-Specific | Region VIII | LFP | 2015 | 2018 | 409,918.00 | 819,836.00 | - | - | - | - | 1,229,754.00 |
| 104 | PCAARRD-0052 | SAFE Program | DOST | PCAARRD | Chapter 20 | 1) To provide S&T-based assistance to selected communities as a quick response to existing emergencies and/or hazards within the AANR sector; 2) To establish and maintain an institutional Quick Response Management Program as a technology transfer innovation in answer to various emergencies and hazards in the AANR sector especially in cases of ecological imbalance brought about by stress like climate change, pollution and other anthropogenic factors. Specific Objectives: 1) To establish the nationwide regional consortia-based SAFE Team network; 2) To initiate new collaborations with reputable academic institutions, government agencies and people's organizations to meet the S&T goals of SAFE client communities; 3) To capacitate proponent partners from the PCAARRD S&T Partner Institutions to become better researchers; 4) To develop IEC materials to support the awareness campaign and technology transfer efforts for the SAFE Program; 5) To document existing practices and technologies related to E/H across the countryside and identify gaps for possible R&D. | Region-Specific | Region III | LFP | 2017 | 2018 | 10,448,642.00 | 7,688,517.00 | - | - | - | - | 18,137,159.00 |
| 105 | PCAARRD-0055 | Secondary Metabolites from Coffee Waste Obtained from Dry Processing | DOST | PCAARRD | Chapter 20 | This project aims to 1) isolate and purify secondary metabolites from aqueous and dichloromethane extracts of coffee waste residues using chromatographic methods; 2) elucidate the structures of the isolates employing several 1D and 2D spectroscopic techniques 3) determine the antimicrobial activities of the isolates 4) find out the cytotoxic properties of the isolates; and 5) assess the coffee waste management practices that include product development | Region-Specific | Region IVA | LFP | 2017 | 2018 | 4,659,434.00 | 3,000,000.00 | - | - | - | - | 7,659,434.00 |
| 106 | DENR-0005 | Integrated Water Quality Management Project | DENR | | Chapter 20 | To improve the water quality monitoring capacity of DENR contributing to the improvement of the water quality of the Manila Bay | Interregional | | ODA-WB | 2017 | 2021 | 165,620,000.00 | 165,620,000.00 | 165,620,000.00 | 165,620,000.00 | 165,620,000.00 | - | 828,100,000.00 |
| 107 | PCAARRD-0097 | Bamboo Grove Establishment for Climate Change Resiliency on Quinali | DOST | PCAARRD | Chapter 20 | The target beneficiaries of the project are basically the stakeholders of the six LGUs that have their respective jurisdiction of the Quinali A sub-watershed, namely, the municipalities of Camalig, Guinobatan, Oas, Polangui, Libon and the City of Ligao. In totality, the Quinali A sub-watershed has about 330 kilometers stretch of rivers including its streams and creeks. | Region-Specific | Region V | LFP | 2016 | 2019 | 771,871.60 | 1,547,432.20 | 775,871.60 | - | - | - | 3,095,175.40 |
| 108 | PCAARRD-0098 | Biodiversity assessment and germplasm conservation of indigenous forest tree species in Mindanilla, Cebu | DOST | PCAARRD | Chapter 20 | Assess the biodiversity and germplasm conservation of indigenous forest tree species in Minglanilla, Cebu | Region-Specific | Region VII | LFP | 2017 | 2018 | 2,500,000.00 | 2,500,000.00 | - | - | - | - | 5,000,000.00 |
| 109 | PAGASA-0027 | Integration of Weather Observational Data and Information Through Automated Data Transmission - High Frequency Doppler Radar (HFDR) | DOST | PAGASA | Chapter 20 | The High Frequency Doppler Radar (HFDR) will monitor waves and currents in major shipping lanes and islands | Interregional | Region I, Region II, Region III, Region IV, Region IVB, Region V, Region VI, Region VII, Region VIII, Region XVIII, Region IX, Region XII, Region XIII, ARMM | LFP | 2017 | 2018 | 274,000,000.00 | 274,000,000.00 | - | - | - | - | 548,000,000.00 |

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|-----|--------------|--------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------|------------------------------------------|---------------|---------------|---------------|---------------|---------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 110 | NCIP-0001 | Ancestral Domain/Land Recognition | CABSEC | NCIP | Chapter 20 | Through the Indigenous Peoples Rights Act (IPRA), Certificate of Ancestral Domain Titles (CADTs) are issued to formally recognize the rights of possession and ownership of Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) over their ancestral domains as identified and delineated in accordance with this law, while Certificate of Ancestral Land Titles (CALTs) formally recognize the rights of ICCs/IPs over their ancestral lands. Components: 1.1.Social preparation activities 1.2.Establishment of project control and conduct of perimeter survey 1.3.Approval of survey plan 1.4.Approval of CADT/CALT application 1.5. Awarding of CADTs/CALTs: | Interregional | NCR, CAR, Region I, Region II, Region III, Region IV, Region IVB, Region V, Region VI, Region VII, Region IX, Region X, Region XI, Region XII, Region XIII | LFP | 2017 | 2022 | 10,863,000.00 | 63,101,000.00 | 89,175,000.00 | 90,893,000.00 | 71,101,000.00 | 54,595,000.00 | 379,728,000.00 |
| 111 | DENR-0110 | Strengthening the Marine Protected Area System to Conserve Marine Key Biodiversity Areas (SMART SEAS) | DENR | BMB, BFAR | Chapter 20 | The Strengthening Marine Protected Areas to Conserve Marine Key Biodiversity Areas in the Philippines (MKBA Project), was developed due to the desire of BMB, conservation NGOs, academe and research organizations to accelerate the establishment of MPAs and MPANs to include more key marine biodiversity areas and improve MPAMPAN management effectiveness to reduce the rapid degradation of marine and coastal habitats. | Interregional | Region IVA, Region IVB, Region VII, Region XVIII, Region XI, Region XIII | ODA-UNDP | 2012 | 2017 | 60,732,000.00 | 89,124,000.00 | 66,192,000.00 | - | - | - | 216,048,000.00 |
| 112 | PAGASA-0031 | X-Band Radar Network | DOST | PAGASA | Chapter 20 | PAGASA Doppler weather network comprises of S-Band and C-Band Doppler radars that (almost) covers the entire country. However, there are some gaps or blind (or partially blind) areas that the long range (400 km) and mid-range (250 km) radars cannot cover due to rugged terrains. In light of this, X-Band Radars will be established on river basins where there are blind spots in existing radars. | Interregional | CAR, Region I, Region II, Region III, Region V, Region VI, Region XI, Region XII, Region XIII | LFP | 2017 | 2017 | 335,000,000.00 | - | - | - | - | - | 335,000,000.00 |
| 113 | PAGASA-0030 | Weather Radar | DOST | PAGASA | Chapter 20 | This will cover more areas in the tracking of tropical cyclones and other weather systems | Interregional | Region V, Region VII | LFP | 2017 | 2017 | 300,000,000.00 | - | - | - | - | - | 300,000,000.00 |
| 114 | PCAARRD-0162 | Germplasm Conservation of Select Indigenous Forest Tree Species in Mt. Makiling Forest Reserve | DOST | PCAARRD | Chapter 20 | Study on Germplasm Conservation of Select Indigenous Forest Tree Species in Mt. Makiling Forest Reserve | Region-Specific | Region IVA | LFP | 2016 | 2019 | 1,430,018.00 | 1,100,000.00 | 159,819.00 | - | - | - | 2,689,837.00 |
| 115 | DENR-0192 | Responsible Land Governance in Mindanao | DENR | | Chapter 20 | The project will contribute to the overall program goal of COSERAM in the focal area of the BMZ of peace and security that states that the governance of natural resources and assets benefits marginalized groups in selected areas of Mindanao | Interregional | Region XII, Region XIII | ODA-Germany | 2018 | 2020 | - | 97,500,000.00 | 97,500,000.00 | 97,500,000.00 | - | - | 292,500,000.00 |
| 116 | DILG-0020 | Manila Bay Clean Up, Rehabilitation and Preservation Program | DILG | | Chapter 20 | The DILG is mandated to monitor all LGUs in Regions III, IV-A and NCR within the Manila Bay Watershed Area to perform activities in service of six (6) Key Performance Indicators (KPIs) which focuses on the inspection and compliance to having hygienic septic tanks and/or waste water treatment facilities, and the implementation of Solid Waste Management Act (R.A. No. 9003), Clean Water Act (R.A. No. 9275) and Urban development and housing Act of 1992 (R.A. No. 7279). | Interregional | NCR, Region III, Region IVA | LFP | 2012 | 2022 | 10,000,000.00 | 20,000,000.00 | 30,000,000.00 | 30,000,000.00 | 30,000,000.00 | 30,000,000.00 | 150,000,000.00 |
| 117 | DENR-0007 | Ecosystem-Based Management and Ecosystem Services Valuation in Two (2) River Basins in the Philippines | DENR | | Chapter 20 | Support coordinate implementation of priority ecosystem-based adaptation management measures that protect, maintain, enhance integrity of permanent vegetative cover, regulate water extraction and pollution, as well as protect coastal ecosystems and regulate coastal settlements. | Interregional | | ODA-Germany | 2016 | 2020 | - | 66,113,250.00 | 66,113,250.00 | 66,113,250.00 | 66,113,250.00 | - | 264,453,000.00 |
| 118 | DOST-0075 | Strengthening of DOST Regional Metrology Laboratory Services-Phase 2 | DOST | | Chapter 20 | Expansion of the capabilities of the Regional Metrology Laboratories in the fields of sphygmomanometer calibration, thermometer calibration, volume, weight and height calibration. | Interregional | CAR, Region I, Region II, Region III, Region IVA, Region IVB, Region V, Region VI, Region VII, Region VIII, Region IX, Region X, Region XI, Region XII, Region XIII | LFP | 2017 | 2020 | 38,769,486.40 | 70,887,486.40 | 32,500,486.40 | 40,000,000.00 | 40,000,000.00 | 40,000,000.00 | 262,157,459.20 |
| 119 | DENR-0020 | Combatting Environmental Organized Crime in the Philippines | DENR | | Chapter 20 | It aims to combat environmental organized crime in the Philippines through legal and institutional reform, capacity building in the full law enforcement chain and to reduce demand for illegal wildlife and wildlife parts. | Interregional | CAR, Region IVB, Region V | LFP | 2017 | 2020 | 87,136,079.34 | 87,136,079.34 | 87,136,079.34 | - | - | - | 261,408,238.02 |
| 120 | NCIP-0002 | Assistance to Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) Formulation | CABSEC | NCIP | Chapter 20 | The program is to provide technical and/or financial assistance to the Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) in the formulation of their Ancestral Domain Sustainable Development and Protection Plan (ADSDPP). This holistic, comprehensive and integrated plan shall promote a culture and rights-based approach to development. It reflects the present and future desired conditions of the ICCs/IPs and contains the types of programs/projects that they will adopt for the sustainable management and development of their domain and community. | Interregional | CAR, Region I, Region II, Region III, Region IVA, Region IVB, Region V, Region VI, Region VII, Region IX, Region X, Region XI, Region XII, Region XIII | LFP | 2017 | 2022 | 17,282,000.00 | 17,282,000.00 | 25,923,000.00 | 38,884,500.00 | 58,326,750.00 | 87,490,125.00 | 245,188,375.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in PHP Exact Amount) | | | | | | |
|-----|---------------|-------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------|------------------------------------------|------------------|----------------|----------------|------|------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 121 | DENR-0114 | Implementation of the Payapa at Masaganang Pamayanan (PAMANA) | DENR | | Chapter 20 | The objective of attaining a just, inclusive and lasting peace and rule of law is one of the cornerstones of the Aquino administration. The government is pursuing a peace process that is based on the understanding of the roots and causes of conflict through a strategy that intends to win peace not only through negotiated political settlements but also addressing palpable needs and concerns of conflict-affected communities. The OPAPP and DENR agreed to establish the following guidelines to support the integration of former rebels from two groups: Cordillera Peoples Liberation Army (CPLA) and Rebolusyonaryong Partido ng Manggagawa-Pilipinas, Revolutionary Proletarian Army and Alex Boncayo Brigade/ Tabara-Paduan Group (RPM-P/RPA/ABB-TPG) who have entered into agreements with the government and beneficiaries of CLIP of PAMANA to become productive members of society in particular through NGP, forest protection and other forestry-related activities. DENR and OPAPP provided livelihood support and assistance particularly in National Greening Program and Forest Protection Program. | Interregional | CAR, Region VI, Region VII, Region XVIII, Region X, Region XI, Region XIII | LFP | 2013 | 2022 | 83,204,000.00 | - | - | - | - | - | 83,204,000.00 |
| 122 | DENR-0010 | Conflict, Climate and Disaster Sensitive Reform of Spatial Planning and Management in the Philippines | DENR | | Chapter 20 | The proposed project directly capitalizes on the accomplishments of the EnRD and COSERAM programs in improving conflict, climate and disaster sensitive spatial planning, especially in urbanizing and rural areas. It will provide advice and support to the regulatory authorities in developing the future institutional and legal structure for spatial planning, develop improved guidelines and technical rules on spatial and land-use planning, and create new training schemes for the national and local government agencies responsible for implementation. This will allow the different government levels, especially the local governments, to apply improved land and water management strategies for more sustainable resource use in response to the various challenges of climate change, food insecurity and conflict. The project will strive for bridging the gap between such a refined planning process and the implementation of the very process. This will benefit vulnerable farm and fisher folk households and indigenous groups both in existing pilot regions, such as Caraga, and nationwide. | Interregional | | ODA-Germany | 2017 | 2019 | 65,333,333.00 | 65,333,333.00 | 65,333,334.00 | - | - | - | 196,000,000.00 |
| 123 | PHIVOLCS-0005 | Dynaslope: Development of site-specific threshold for deep-seated landslides and slope failures | DOST | PHIVOLCS | Chapter 20 | The Dynaslope Project aims to reduce socioeconomic losses associated with relocation of communities by developing the capacity of a community to monitor potential deep-seated landslides, wherever landslide monitoring is deemed a viable alternative risk mitigation measure. Likewise, it aims to provide an alternative to engineering interventions, and thus contributes to the reduction of deep-seated landslide hazard mitigation costs. | Interregional | CAR, Region I, Region IVB, Region V, Region VI, Region VII, Region VIII, Region XVIII, Region X, Region XI, Region XIII | LFP | 2014 | 2020 | 26,677,000.00 | 37,866,000.00 | 37,300,000.00 | 39,870,000.00 | - | - | 141,713,000.00 |
| 124 | PCAARRD-0212 | Climate Change Programs/Projects (Forestry and Environment) | DOST | PCAARRD | Chapter 20 | The programs/projects will deal on rehabilitation, assessment and development of selected ecosystems in AANR. It aims to develop a decision support systems and early warning systems for PCAARRD priority commodities. Further, it aims to increase the adaptation and mitigation capacity of vulnerable communities and ecosystems. | Nationwide | | TBD | 2018 | 2020 | - | 52,000,000.00 | 73,000,000.00 | 40,000,000.00 | - | - | 165,000,000.00 |
| 125 | PCAARRD-0218 | NATIONAL MARINE RESOURCES RESEARCH & DEVELOPMENT PROGRAM | DOST | PCAARRD | Chapter 20 | The Program will focus on exploring the potentials of marine resources including stock assessment and biological studies, oceanography, marine biotechnology and biodiversity. This will include conservation, management and sustainable development of ocean and deep sea resources. The Program also includes formulation of appropriate policies and strategies for the sustainable management and conservation of aquatic and marine resources. Reseaches will focus on vulnerable marine ecosystems and resources to include deep-sea fish stocks, coral reefs, marine plants and sponges, among others. | Nationwide | | LFP | 2018 | 2021 | - | 1,251,197,462.00 | 685,745,206.00 | 466,140,792.00 | - | - | 2,403,083,460.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

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|-----|---------------|----------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|--------------|--------------|--------------|------|------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 126 | PHIVOLCS-0001 | Capacity-building of Philippine Local Communities on the Use of REDAS Software | DOST | PHIVOLCS | Chapter 20 | REDAS software can be used as a tool to mainstream DRR into the local development planning process, emergency preparedness and contingency planning. This project allows PHIVOLCS to distribute the software and conduct trainings to various key stakeholders like local government units, State Universities and Colleges and even private companies. The software distribution comes with a week-long training and post training support. As of 2016, a total of 70 provinces, 530 towns/cities including 17 govt institutions, 26 SUCs, one Church group, 46 private companies had been provided trainings. The request has increased especially since after the 2012 Negros, 2013 Bohol earthquakes and Yolanda events. At least 8 LGUs requests to be provided the software and training each year are received although PHIVOLCS also selects LGUs that are highly vulnerable to give the training to. This training and accompanying software offer savings for the country as similar software are expensive, hard-to-acquire and needs in-depth data preparation. | Nationwide | | LFP | 2016 | 2020 | 2,500,000.00 | 4,700,000.00 | 5,000,000.00 | 5,500,000.00 | - | - | 17,700,000.00 |
| 127 | PRRC-0002 | Implementation of Pilot Water Quality Improvement Project at Ermitaño Creek | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 500,000.00 | - | - | - | - | - | 500,000.00 |
| 128 | PRRC-0003 | Implementation of Pilot Water Quality Improvement Project at Estero de Binondo | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 129 | PRRC-0004 | Implementation of Pilot Water Quality Improvement Project at Estero de Concordia | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 130 | PRRC-0005 | Implementation of Pilot Water Quality Improvement Project at Estero de Paco | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 250,000.00 | - | - | - | - | - | 250,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

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|-----|--------------|-----------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------------|-----------------------|------|------------------------------------------|------|------|------|------|------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 131 | PRRC-0006 | Implementation of Pilot Water Quality Improvement Project at Estero de Pandacan | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 132 | PRRC-0007 | Implementation of Pilot Water Quality Improvement Project at Estero de Sampaloc | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 133 | PRRC-0008 | Implementation of Pilot Water Quality Improvement Project at Estero de San Miguel | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 134 | PRRC-0009 | Implementation of Pilot Water Quality Improvement Project at Estero de Uli-Uli | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 250,000.00 | - | - | - | - | - | 250,000.00 |
| 135 | PRRC-0010 | Implementation of Pilot Water Quality Improvement Project at Estero de Valencia | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 1,900,000.00 | - | - | - | - | - | 1,900,000.00 |
| 136 | PRRC-0011 | Implementation of Pilot Water Quality Improvement Project at Maytunas Creek | PRRC | | Chapter 20 | The pilot water quality improvement projects of the Commission are anchored to the 2017-2022 Philippine Development Plan specifically in "Ensuring Ecological Integrity, Clean and Healthy Environment." Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. The pilot water quality improvement projects are an integral part with regards to the fulfillment of PRRCs mandate. The proposed projects aim to improve the water quality of ten (10) selected tributaries through the implementation of wetland system and Effective Microorganism (EM) technology. | Region-Specific | NCR | LFP | 2017 | 2017 | 740,000.00 | - | - | - | - | - | 740,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

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|-----|--------------|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|------------------------|-----------------------|------------|------------------------------------------|----------------|---------------|---------------|---------------|---------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 137 | DENR-0164 | Environmental Impact Assessment | DENR | EMB | Chapter 20 | Consistent with the principles of sustainable development, it is the policy of the DENR to implement a systems-oriented and integrated approach to the EIS system to ensure a rational balance between socio-economic development and environmental protection for the benefit of present and future generations. The EIS System is concerned primarily with assessing the direct and indirect impacts of a project on the biophysical and human environment and ensuring that these impacts are addressed by appropriate environmental protection and enhancement measures. It aids proponents in incorporating environmental considerations in planning their projects as well as in determining the environment's impact on the project. | Nationwide | | LFP | 1978 | Continuing | 38,508,000.00 | 39,663,240.00 | 40,853,137.20 | 42,078,731.32 | 43,341,093.25 | 44,641,326.05 | 249,085,527.82 |
| 138 | PRRC-0015 | Rehabilitation and Development of Maytunas Creek | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2015 | 2017 | 17,411,711.98 | - | - | - | - | - | 17,411,711.98 |
| 139 | PRRC-0016 | Rehabilitation and Development of San Francisco River Package 1 | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2013 | 2017 | 59,638,818.59 | - | - | - | - | - | 59,638,818.59 |
| 140 | PRRC-0017 | Rehabilitation and Development of San Francisco River Package 2 | PRRC | | Chapter 20 | Our mandate and organizational outcome is to rehabilitate the Pasig River system and restore the river to its pristine condition conducive to transport, recreation and tourism. This project ensures the establishment of Environmental Preservation Areas (EPAs) which is the contribution of PRRC to the national government priority of preserving the "Ensuring Ecological Integrity, Clean and Healthy Environment". To be precise, our EPAs seeks reduce the loss of lives caused by natural calamity through the relocation of informal settler families (ISFs) to safe decent and formal housing units and dismantling of privately-owned properties to recover the legal easement of the Pasig River and its tributaries. | Region-Specific | NCR | LFP | 2014 | 2017 | 45,494,589.98 | - | - | - | - | - | 45,494,589.98 |
| 141 | PAGASA-0024 | Upgrading of Advanced Forecast Computing Facilities | DOST | PAGASA | Chapter 20 | This will deliver extended short range, sub-seasonal to seasonal climate forecast, products and services. | Nationwide | | LFP | 2017 | 2018 | 150,000,000.00 | 100,000,000.00 | - | - | - | - | 250,000,000.00 |
| 142 | PAGASA-0019 | Regional Instrumentation Center/Calibration Facility | DOST | PAGASA | Chapter 20 | The instruments, equipment and related facilities of the RIC-Manila and the LICs have to be modernized to enable more efficient maintenance, calibration and/or checking and repair of the meteorological and hydrological instruments of the PAGASA, other government agencies and the private sectors. The calibration certificates from the synoptic stations and the AWSs shall be submitted and entered to the PAGASA Unified Meteorological Information System (PUMIS) station configuration for data correction and other metadata information. | Interregional | NCR, Region VII, Region X | LFP | 2018 | 2019 | - | 45,000,000.00 | 90,000,000.00 | - | - | - | 135,000,000.00 |
| 143 | DENR-0171 | Modernization of Infrastructure Facilities of ERDB's Six Research Centers as Premier Areas of Excellence in Research | DENR | | Chapter 20 | The improvement of ERDB's research facilities in the diffent regions of the Philippines part of the overall RDE framework. As ERDB's areas of excellence in research, the six clustered centers have been performing various research services and functions for more than 40 years such as plant and tissue analyses; soil physical and chemical analyses; pests and disease diagnoses on seeds, nurseries, and plantations, and their control measures; and seed testing of various forest tree species among others. Additional infrastructure and facilities as well as upgrading of existing ones aims to facilitate the efficient conduct of ENR RDE activities. | Nationwide | | LFP | 2018 | 2022 | - | 36,000,000.00 | 51,392,000.00 | 97,208,000.00 | 56,107,000.00 | 25,500,000.00 | 266,207,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 144 | DENR-0166 | Implementation of Toxic Substances and Hazardous Waste Management | DENR | EMB | Chapter 20 | This program is implemented based on the established environmental laws specifically RA 6969, " Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990" that provides for the management of industrial chemicals in all aspects of its life cycle, from importation, manufacture, distribution, transportation, use and disposal. It also covers the environmentally sound management of hazardous wastes from its generation, transport, treatment and disposal. | Nationwide | | LFP | 1990 | Continuing | 46,492,000.00 | 47,886,760.00 | 49,323,362.80 | 50,803,063.68 | 52,327,155.59 | 53,896,970.26 | 300,729,312.33 | |
| 145 | PAGASA-0003 | Back-up Supercomputing Facility | DOST | PAGASA | Chapter 20 | In 2010, PAGASA invested in a high performance computing facility, realizing the importance of Numerical Weather Prediction (NWP) as a major tool for forecasting weather beyond a few hours to several days. Since then, this facility has been sufficiently providing the necessary computing resource needed to forecast critical mesoscale structures associated with convective scale systems. Lately however, more and more sectors are clamoring for a more tailored-fit and complex forecasts that demand for a much higher computing power. The procurement of a new super computing machine as a back-up is essential to ensure that the demands of the public can be sustained even during the failure of the systems in Metro Manila due to unforeseen calamitous events. | Region-Specific | Region VII | LFP | 2018 | 2018 | - | 400,000,000.00 | - | - | - | - | 400,000,000.00 | |
| 146 | PAGASA-0026 | Advance Data Consolidation, Enhancement of Web and Dissemination Including Mirror Forecasting Project | DOST | PAGASA | Chapter 20 | The project would provide business continuity of the forecasting operation using regional centers of Mactan (primary), Tuguegarao, Legazpi and El Salvador PAGASA Field Offices as mirrored forecasting and data disaster recovery sites. The project will also enhance the forecasting capability of the field offices by providing them the necessary forecasting tools, computing environment, and data back-up storage facilities | Interregional | Region I, Region V, Region VII, Region X | LFP | 2017 | 2017 | 130,950,000.00 | - | - | - | - | - | 130,950,000.00 | |
| 147 | PAGASA-0017 | PAGASA Meteorological-Hydrological Telecommunication Network | DOST | PAGASA | Chapter 20 | At present, much of the observational data are transmitted to the PAGASA collection servers through Short Message Service by Telecommunication Service Providers at hourly or 15-minute intervals. Some Synoptic field stations also transmit their observations through Single Sideband Radios (HF/SSB) or through SMS as well. This method does not usually provide 100% reliability for reception of data. This is the primary reason why the establishment of the meteorological telecommunication system is very important for PAGASA | Nationwide | | LFP | 2018 | 2018 | - | 450,000,000.00 | - | - | - | - | 450,000,000.00 | |
| 148 | DENR-0003 | Establishment of Groundwater Monitoring Stations (GWMS) for groundwater critical areas | DENR | NWRB | Chapter 20 | The proposed establishment of groundwater monitoring stations in groundwater critical areas will provide a major advance in our knowledge of this valuable and yet vulnerable resource. It will also serve as a mechanism in monitoring the effectiveness of existing groundwater policy in the area as well as basis for appropriate protection and conservation interventions. Each plan will be completed for a period of one (1) year. Annual GMP and GWMS targets will be undertaken simultaneously. Purpose: To establish long-term groundwater monitoring stations to monitor the effectiveness of existing policy and validate the result of groundwater assessment studies Rationale: To formulate science-based policies for groundwater towards sustainable management and development of groundwater resources in water constraint areas. | Interregional | NCR, Region III, Region IVA, Region IVB, Region VI, Region VII, Region VIII, Region IX, Region X, Region XIII | LFP | 2013 | 2022 | 15,600,000.00 | 15,600,000.00 | 15,600,000.00 | 15,600,000.00 | 15,800,000.00 | 15,800,000.00 | 94,000,000.00 | |
| 149 | PAGASA-0022 | Telemetry and Installation of Automatic Raingauge and Water Level Sensor Gauges in 5 River Basins | DOST | PAGASA | Chapter 20 | This project aims to establish telemetry system and install technical/scientific equipment in selected areas | Interregional | CAR, Region II, Region X, Region XI, Region XII, Region XIII, ARMM | LFP | 2017 | 2017 | 120,000,000.00 | - | - | - | - | - | - | 120,000,000.00 |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

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|-----|--------------|--------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------------|------------------------------------------|----------------|----------------|----------------|------------------|------------------|-------------------|---------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 150 | PCSDS-0001 | Palawan Environmentally Critical Areas Network (ECAN) Management Program | DENR | | Chapter 20 | The Palawan ECAN Management Program aims to maintain and optimize Palawan ecosystem goods and services. It ensures that (i) core zones are protected and buffer and multiple use zones are sustainably managed; (ii) human and institutional capacities for ECAN management and coordination are enhanced; (iii) threatened indigenous wildlife species of Palawan and their habitats are conserved and protected; and (iv) ECAN support mechanisms such as environmental research, environmental monitoring and evaluation system, and environmental education and extension strengthened. Satisfying these objectives will ease pressures on Palawan's natural ecosystems and in collaboration with LGUs and other concerned agencies/institutions, harmonize the three core elements of sustainable development: environmental protection, social inclusion, and economic growth. | Region-Specific | Region IVB | LFP | 2017 | 2022 | 55,326,000.00 | 117,554,000.00 | 101,273,000.00 | 100,661,000.00 | 86,534,000.00 | 81,257,000.00 | 542,605,000.00 | |
| 151 | RMTU-0015 | Indigenous People Community Based Watershed Management for Sustainable Livelihood in Zambales | CHED | RMTU | Chapter 20 | Owing to the devastation brought by the eruption of the Mt. Pinatubo, the Aetas were among those who were most adversely affected. The decimation brought by ashfall and lahar flow to the forest of Pinatubo have caused an estimated 35,000 aetas to be physically and economically displaced. This project aims to boost the existing food sufficiency efforts by empowering families from indigenous communities of Zambales, not only to produce their own food, but also to generate income from their produce and at the same time improve the watershed conditions of the province. | Region-Specific | Region III | LFP | 2018 | 2022 | - | 4,300,000.00 | 4,300,000.00 | 4,300,000.00 | 4,300,000.00 | 4,300,000.00 | 21,500,000.00 | |
| 152 | PAGASA-0014 | Establishment of the IT Infrastructure of the Hydrologic Decision Support System (HDSS) of HMD | DOST | PAGASA | Chapter 20 | The IT Infrastructure will house the hydrologic data and various hydrologic tools necessary for the production of timely and accurate flood information to the affected areas in the Philippines. It allows for the automatic retrieval of time series data from field stations to the Centers and to the HMD Central Office for analysis through the flood forecasting models that will be incorporated in the said infrastructure. | Interregional | | LFP | 2018 | 2018 | - | 100,000,000.00 | - | - | - | - | 100,000,000.00 | |
| 153 | PAGASA-0016 | Integration of Weather Observational Data and Information Through Automated Data Transmission - Wind Tunnels | DOST | PAGASA | Chapter 20 | Instrumented with suitable sensors to measure aerodynamic forces, pressure distribution, or other aerodynamic-related characteristics. | Interregional | Region VI, Region VII, Region VIII, Region IX, Region X, Region XI, Region XII, Region XIII, ARMM | LFP | 2017 | 2017 | 91,000,000.00 | - | - | - | - | - | - | 91,000,000.00 |
| 154 | DENR-0001 | Comprehensive Water Resources Assessment Prioritizing the 18 Major River Basins | DENR | NWRB | Chapter 20 | Program Purposes: 1.To conduct water resource assessment 2.To assess the resilience of major water resources 3.To recommend appropriate water policies and management strategies 4.To enhance resource allocation Rationale: To update existing water resources database which is the basis for allocating water. | Interregional | CAR, Region I, Region II, Region V, Region VI, Region VII, Region X, Region XI, Region XII, Region XIII | LFP | 2015 | 2022 | 7,400,000.00 | 14,800,000.00 | 14,800,000.00 | 14,800,000.00 | 15,000,000.00 | 15,000,000.00 | 81,800,000.00 | |
| 155 | PAGASA-0001 | Advanced Visualization and Enhancement of Weather Forecasting Project | DOST | PAGASA | Chapter 20 | The project for aeromet will help to identify the risk for airplane for landing and take-off and other related information for aviation safety. Model run would be faster if the implementation of higher number of computer nodes were created. The projects address the following: Detection of lightning and the possible occurrence of heavy rainfall and thunderstorm. Cluster computers addresses the lagging time running nested model map. | Interregional | | LFP | 2017 | 2017 | 83,000,000.00 | - | - | - | - | - | - | 83,000,000.00 |
| 156 | DENR-0162 | Solid Waste Management Program | DENR | EMB | Chapter 20 | The Philippines has endeavored to improve its management of solid waste through the passage of RA 9003 or The Ecological Solid Waste Management Act that provides for a systematic, comprehensive and ecological waste management program to ensure the protection of public health and the environment. It mandates EMB to provide secretariat support to the National Solid Waste Management Commission in the implementation of the solid waste management plans and prescribe policies to achieve the objectives of the National Ecology Center in charge of information dissemination, consultation, education and training of various local government units on ecological waste management. The ecological solid waste management program is expected to assist Local Government Units in implementing RA 9003 or the Ecological Solid Waste Management Act particularly in the development of their 10 yr. SWM Plan, Establishment of Materials Recovery Facilities, and an Environmentally Sound Disposal System. | Nationwide | | LFP | 2001 | Continuing | 907,150,000.00 | 934,364,500.00 | 962,395,435.00 | 991,267,298.05 | 1,021,005,317.00 | 1,051,635,476.50 | 5,867,818,026.55 | |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

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|-----|--------------|---------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------------|------------------------------------------|---------------|----------------|----------------|----------------|----------------|-------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 157 | PCAARRD-0100 | Coastal Acidification: How it Affects the Marine Environment and Resources in the Philippines | DOST | PCAARRD | Chapter 20 | Includes the following projects: 1) Spatio-Temporal Trends of pH, pCO2 and Related parameters; 2) Impacts of Ocean Acidification on the Base of the Marine Food Web and their Effects on Marine Production; 3) Possible Influence of Ocean Acidification on Specific Reef Resources; and 4) Acidification Impacts on the Demography of Corals (ACID Corals). | Interregional | NCR, Region IVA | LFP | 2017 | 2019 | 26,596,483.00 | 25,407,667.00 | 24,152,262.00 | - | - | - | 76,156,412.00 |
| 158 | DENR-0169 | Water Level and Quality Monitoring Information System (WQMS) -SMS Telemetry for Monitoring Station (Phase 3) | DENR | NWRB | Chapter 20 | Development of a real-time water level and quality monitoring system (Telemetry Data Transmission), a data transfer mechanism that can log down thru a sensor network. The data is transferred to a central monitoring station using a wireless network sensor network for display and storage and real time monitoring. The project will monitor groundwater level and quantity (basic parameters) in NWRB's groundwater monitoring wells in groundwater-critical cities nationwide. Real time data can be sent and retrieved remotely at a regular time intervals. Realtime data collection and monitoring is necessary for groundwater regulation . The data collected will be used in calibrating the hydrologic models and as a monitoring tool to determine the impacts of climate change to groundwater resources. | Interregional | Region VI, Region X | LFP | 2018 | 2022 | - | - | - | 8,300,000.00 | 29,300,000.00 | 29,300,000.00 | 66,900,000.00 |
| 159 | DENR-0002 | Development of Groundwater Management Plan (GMP) for groundwater critical areas | DENR | NWRB | Chapter 20 | Purpose: 1.To conduct basic groundwater assessment 2.To assess resiliency of the groundwater critical areas 3.To develop groundwater model as a tool for GW assessment 4.To recommend appropriate water policies and management strategies 5.To establish long-term groundwater monitoring stations to monitor the effectiveness of existing policy and validate the result of groundwater assessment studies. Rationale: Facilitate the formulation of science-based groundwater policies towards sustainable management and development of groundwater resources in water constraint areas. | Interregional | NCR, CAR, Region III, Region IVA, Region IVB, Region VI, Region VII, Region VIII, Region IX, Region X, Region XII, Region XIII | LFP | 2013 | 2022 | 6,000,000.00 | 6,600,000.00 | 6,600,000.00 | 6,800,000.00 | 6,800,000.00 | 6,800,000.00 | 39,600,000.00 |
| 160 | DENR-0189 | Conduct of ENR Research Studies (Tier 1) | DENR | | Chapter 20 | This is a component of Research and Development and Extension program that contains the following projects: Action Research, Development and Extension Program on Addressing Hazards in Watersheds for Water Supply Sufficiency and Resources Availability; the Conservation and Sustainable Management of Natural and Plantation Forest; Stabilize Mined-out and Degraded Areas through Rehabilitation Technology; Ecosystems Dynamics and Sustainable Management of Coastal and Freshwater Ecosystems; Client-Based Technology Transfer and Extension Services for ENR Management; Research and Development Program on Emerging Issues and Sustainability of Laboratory and Experimental/ Demonstration Services in Support to RDE Programs, Activities and Projects of ERDB Main Office and Research Centers, R & D Program on Forest Ecosystems Resiliency and Sustainability and RDE Action Program on Land Management and Sustainability. | Nationwide | | LFP | 2015 | 2022 | 52,388,000.00 | 87,558,000.00 | 119,792,000.00 | 134,644,000.00 | 132,829,000.00 | 147,408,000.00 | 674,619,000.00 |
| 161 | DENR-0188 | Conduct of ENR Research Studies (Tier 2) | DENR | | Chapter 20 | This is a component of Research and Development and Extension program focuses on the following projects: Enhancing Biomethane Production from Wood and other Ligno-Cellulosic Materials; Flora of Baler and Dipaculao, Aurora; An Inventory and Creation of Comprehensive Pictorial Guide and Herbarium for Beginners, Students, and Tourists and Megafauna Comprehensive Biological Research and Awareness Campaign in Region XII. | Nationwide | | LFP | 2017 | 2018 | 3,183,040.00 | 3,183,040.00 | - | - | - | - | 6,366,080.00 |
| 162 | DENR-0187 | Land Administration and Management Program | DENR | | Chapter 20 | Issuance of Residential Free Patents. A major program which issues patent on all lands zoned as residential areas, including town sites as defined under the Public Land Act. Its major objective is to provide security of tenure to occupants and possessors of untitled residential lands through a simplified streamlined and cost-effective process of administrative titling. | Nationwide | | LFP | 2011 | Continuing | 53,016,700.00 | 59,183,300.00 | 62,700,000.00 | 68,200,000.00 | 73,700,000.00 | 79,200,000.00 | 396,000,000.00 |
| 163 | DENR-0185 | Implementation of Sulu Celebes Seas Large Marine Ecosystems Regional and National Strategic Action Plans | DENR | | Chapter 20 | To catalyze actions and investments at the regional, national and local levels to rehabilitate and sustain fisheries and coastal and marine ecosystem services in the Sulu Celebes LME in support of regional and national commitments. | Nationwide | | ODA-UNDP | TBD | TBD | - | - | - | - | - | - | - |

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Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in Php Exact Amount) | | | | | | |
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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 164 | DENR-0183 | Eco-tourism Development Program | DENR | | Chapter 20 | It aims to develop Protected Areas that are potential for ecotourism to provide livelihood to the communities. The major activities that will be conducted under the Program are the following: site assessment; formulation of ecotourism business plan/investment plan; capacity building of Peoples Organizations; provision of assistance for sustainable livelihood; and construction of ecotourism facilities. | Nationwide | | LFP | 2017 | 2022 | 100,480,166.66 | 100,480,166.66 | 100,480,166.66 | 100,480,166.66 | 100,480,166.66 | 100,480,166.66 | 602,880,999.96 |
| 165 | PAGASA-0011 | Establishment of an Integrated Hydrological Data Management System for Flood Forecasters | DOST | PAGASA | Chapter 20 | This will equip PAGASA's hydrologists of the necessary tools to come up with a reliable, quality-controlled hydrologic data for the production of flood bulletins and other hydrologic information to warn the public of impending floods in affected areas. | Interregional | | LFP | 2018 | 2018 | - | 52,028,000.00 | - | - | - | - | 52,028,000.00 |
| 166 | DENR-0179 | Protected Area Development and Management | DENR | | Chapter 20 | This program covers the main in-situ measures to conserve biodiversity within and adjacent to protected areas. It will ensure that the current NIPAS coverage is rationalized by retaining and prioritizing those with high biodiversity values while providing appropriate governance regime for the protection of Key Biodiversity Areas (KBAs) such as through Local Conservation Areas (LCAs) with the LGU concerned and through Indigenous Community Conserved Areas (ICCAs). | Nationwide | | LFP | 2017 | Continuing | - | 1,219,506,000.00 | 793,744,000.00 | 657,523,000.00 | 657,523,000.00 | 657,523,000.00 | 3,985,819,000.00 |
| 167 | PHIVOLCS-0004 | Construction and rehabilitation of earthquake monitoring stations, volcano observatories, seismic vaults and instrument housing - Construction of seismic vaults and housing for volcano monitoring | DOST | PHIVOLCS | Chapter 20 | This program is under the continuing initiative of PHIVOLCS on the enhancement of earthquake, tsunami and volcano monitoring systems and networks. PHIVOLCS currently operates a nationwide digital earthquake monitoring network of 92 stations consisting of 30 manned stations, 56 unmanned stations with real-time satellite communication for data transmission, and six (6) volcano observatories. PHIVOLCS also maintains several tsunami detection and alerting stations, and sea-level stations. This program specifically involves the enhancement of multi-parameter volcano monitoring networks and systems thru construction or establishment of seismic vaults, borehole stations, tilt and ground deformation stations, instrument housing, and including transmission, repeater and receiver stations. | Interregional | Region II, Region III, Region IVA, Region V, Region XVIII, Region X, Region XII | LFP | 2016 | 2020 | 10,000,000.00 | 11,500,000.00 | 7,000,000.00 | 11,000,000.00 | - | - | 39,500,000.00 |
| 168 | DENR-0193 | Implementation of Wealth Creation Program (WEPROGRESS) | DENR | | Chapter 20 | The Philippines is a member of the Nagoya Protocol on Access and Benefit Sharing (ABS) of the Convention on Biological Diversity (CBD). The Protocol seeks to achieve the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components. In compliance to the Nagoya Protocol on ABS, the DENR developed a program that will establish the system and institutional capacity to undertake in-country commercial research on genetic resources and generate revenue for equitable social and economic benefits especially for local communities, as well as generation of resources to support protection, development and management of biological resources. The realization of the Wealth Creation Program is the fulfillment of one of the commitments of the Philippines under the Protocol. | Nationwide | | LFP | 2018 | 2019 | - | 500,000,000.00 | 1,500,000.00 | - | - | - | 501,500,000.00 |
| 169 | DENR-0191 | Management of Coastal and Marine Resources/Areas | DENR | | Chapter 20 | The Management of Coastal and Marine Resources/Areas is an umbrella program with two major programs, namely: 1) National Integrated Coastal Management Program, and 2) Coastal and Marine Ecosystems Management Program. | Nationwide | | LFP | 2017 | 2028 | - | 1,813,628,000.00 | 1,144,550,000.00 | 1,058,215,000.00 | 676,268,000.00 | 675,780,000.00 | 5,368,441,000.00 |
| 170 | DENR-0125 | Enhancing Resilience of Wetland and Coastal Areas to Support Biodiversity Conservation and Ecotourism Development in the Visayas Region | DENR | | Chapter 20 | The program aimed for the sustainable management of wetlands and coastal ecosystem considering its biodiversity and potential for ecotourism. | Interregional | Region VI, Region VII, Region VIII, Region XVIII | LFP | 2015 | onwards | 4,800,000.00 | 5,800,000.00 | 6,350,000.00 | 6,350,000.00 | 6,540,000.00 | 6,737,000.00 | 36,577,000.00 |
| 171 | LGA-0004 | Strengthening the Capacities of Philippine Local Governments in Disaster Risk Reduction | DILG | LGA | Chapter 20 | The project will assist strengthen the system of DRR in the LGUs and communities by integrating DRR and CCA in policies, plans and local budgets, equip communities with skills and capabilities to address impact of disasters, increase capacity of LDRRMCs, LDRRMOs and operations centers and improve preparedness for response. | Interregional | Region III, Region VI, Region VIII, Region XI | ODA-AECID | 2016 | 2018 | - | - | - | - | - | - | - |

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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 172 | PAGASA-0007 | Establishment and Upgrading of Weather Stations - Purely Synoptic | DOST | PAGASA | Chapter 20 | Establishment of purely synoptic stations on selected areas where observation of almost all meteorological elements are made at fixed observation times and are transmitted to the Central Office. This will be responsible for the dissemination of public weather forecasts, tropical cyclone bulletins, warnings and advisories and other related information to protect lives and property of the general populace. | Interregional | CAR, Region II, Region III, Region IVB, Region VI, Region VII, Region VIII | LFP | 2018 | 2019 | - | 25,000,000.00 | 10,000,000.00 | - | - | - | 35,000,000.00 | |
| 173 | PCAARRD-0156 | Geophysical Coral Mapping | DOST | PCAARRD | Chapter 20 | Produce seafloor cover maps to depths of 200m for selected portions of the study sites; Identify and document the continuity of coral reefs beyond the usual working depths of 20 m; Identify and document the occurrence of deep sea corals in the three proposed study sites; and Identify factors that influence the morphology of the reefs. | Interregional | Region IVA, Region IVB | LFP | 2014 | 2017 | 2,497,038.00 | - | - | - | - | - | 2,497,038.00 | |
| 174 | DENR-0178 | Community-based Eco-tourism Livelihood Development | DENR | | Chapter 20 | This is a component of PA Development and Biodiversity Conservation that includes the following projects: Aqua-silviculture project cum tourism development and mangrove conservation project; Botanical Eco-Tourism Natural Park and Forest Biodiversity Conservation: Ascot-Ermita Hill Baler, Aurora, Consolacion; Mangrove Aquaculture, Diversified Aquafarm and Eco-tourism; Mt. Pulag Community conservation and ecotourism plan; Capability Enhancement and Organizational Strengthening of the Park Civilian and Government Partners in Mt. Pulag National Park and Sagrada Familia Cave Nature Expedition; Community and Livelihood Improvement through Management and Technology; Adaptation and Development Action Program and Training for Indigenous Peoples in Mount Kalatungan Range Natural Park (CLIMATE ADAPT 4 IPs). | Interregional | CAR, Region III, Region VIII | LFP | 2016 | 2018 | 10,050,666.66 | 10,050,666.66 | - | - | - | - | 20,101,333.32 | |
| 175 | DENR-0106 | Protect Wildlife | DENR | BMB | Chapter 20 | The Protect Wildlife Activity will contribute to the reduction of threats to biodiversity, reduction of poaching/use of illegally harvested wildlife and wildlife products, and improvement of relevant ecosystem services that contribute to wildlife conservation and human well-being. It will begin implementation in two core sites: the province of Palawan, including Tubbataha Reef, and the Sulu Archipelago to the southwest of Zamboanga City. | Interregional | Region IVB, Region IX | ODA-USAID | 2016 | 2021 | 4,083,333.33 | 4,083,333.33 | 4,083,333.33 | 4,083,333.33 | 4,083,333.33 | - | 20,416,666.65 | |
| 176 | DENR-0094 | Biodiversity and Watersheds Improved for Stronger Economy and Ecosystem Resilience (B+WISER) | DENR | | Chapter 20 | The B+WISER Program supports the Philippine Government's thrust on inclusive and broad-based economic growth and ecosystem services. This Program aims to improve conservation and governance of priority forest landscapes and biodiversity areas to support low-emissions development of a green economy of the Philippines. The Program's expected results include, among others, the improved management and governance of 780,000 hectares of KBAs/watersheds, and sequestration of 1.9 M metric tons and reduction of 3.4 M metric tons of greenhouse gases. The Program will adopt the integrated ecosystems management (IEM) framework to strengthen resource management and land use planning and implementation. It will also employ application of wealth accounting and valuation of ecosystem services, payment for ecosystems services (PES), REDD+, and science-based planning and decision making to help improve forest governance, policy refinement and forestland rehabilitation. | Interregional | Region II, Region IVA, Region IVB, Region VI, Region X, Region XI, Region XII | ODA-USAID | 2012 | 2017 | 3,733,333.33 | - | - | - | - | - | - | 3,733,333.33 |
| 177 | DENR-0184 | CMEMP-Livelihood Projects | DENR | | Chapter 20 | This is a component of CMEMP that includes the following projects: Coastal Coral Reefs Evaluation/Monitoring for Sustainable Coral Re-growing Initiatives; a community-based Project Establishing Coral Gardens; Local Ecotourism and Livelihood Development in Municipality of Medina, Misamis Oriental, Brgy Bagakay; Aquasilviculture and Diversified aquafarm, Conservation of Mangrove Fuel Wood Thru Rice Hull Fuel Wine Distillery-Nipa Wine (Lambanog-Sasa) Production; Hermana Menor Reef Discovery; Marine Sanctuary Protection and Seaweed Farm Production for Biodiversity Protection and Conservation; Mudcrab culture, and Establishment of Sea Cucumber Farm and Production of Sea Cucumber in Lobo, Batangas. | Interregional | Region III, Region IVA, Region IVB, Region V, Region VIII | LFP | 2016 | 2020 | 4,032,761.00 | 4,032,761.00 | 4,032,761.00 | 4,032,761.00 | - | - | - | 16,131,044.00 |
| 178 | PAGASA-0009 | Establishment and Upgrading of Weather Stations - Synoptic/International Airport | DOST | PAGASA | Chapter 20 | This will establish synoptic/international station located at airports that give weather data, information and advice for aviation activities transmitted directly to CAAP towers. | Interregional | Region VI, Region VII, Region VIII, Region X | LFP | 2018 | 2019 | - | 10,000,000.00 | 10,000,000.00 | - | - | - | 20,000,000.00 | |

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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 179 | DENR-0104 | Biodiversity Partnerships Project (BPP) | DENR | BMB | Chapter 20 | The project will directly address fragmentation of landscapes, ensure that activities in the surrounding landscape conserve species assemblages, and maintain ecosystem functions by strengthening enabling policies at the national level, enhancing capacities of LGUs, and doing project demonstration in selected pilot sites. These will be achieved through partnerships with key national government agencies, LGUs, and national and local conservation NGOs to muster their resources and expertise. | Interregional | Region II, Region IVB, Region XI, Region XIII | ODA-UNDP | 2011 | 2017 | 2,431,723.00 | - | - | - | - | - | 2,431,723.00 |
| 180 | PHIVOLCS-0003 | Construction and rehabilitation of earthquake monitoring stations, volcano observatories, seismic vaults and instrument housing - Rehabilitation of volcano monitoring stations | DOST | PHIVOLCS | Chapter 20 | This program is under the continuing initiative of PHIVOLCS on the enhancement of earthquake, tsunami and volcano monitoring systems and networks. PHIVOLCS currently operates a nationwide digital earthquake monitoring network of 92 stations consisting of 30 manned stations, 56 unmanned stations with real-time satellite communication for data transmission, and six (6) volcano observatories. PHIVOLCS also maintains several tsunami detection and alerting stations, and sea-level stations. This program specifically involves the rehabilitation of existing volcano observatories. | Interregional | Region III, Region IV, Region V, Region XVIII, Region X, Region XII | LFP | 2016 | 2020 | 3,500,000.00 | 9,000,000.00 | - | - | - | - | 12,500,000.00 |
| 181 | DENR-0180 | ENGP-Community-Based Livelihood and Reforestation Project | DENR | | Chapter 20 | It aims to provide livelihood projects to natural resources-dependent communities, including indigenous peoples, through agroforestry, enrichment planting, handicraft making and environmental protection. It consists of the following small projects: Agroforestry Development Employing Sloping Agricultural Land Technologies (SALT) within the indigenous Farming Practices of Dumagats; Agroforestry thru Enrichment Planting for Livelihood Project; Cacao Intercropping under Acacia Plantation with Livelihood Project; Community-based Livelihood and Environmental Protection Project for Bangon Tribe in So. Naswak, Brgy. Hangan, Bongabong, Oriental Mindoro; Enhancing Sustainable Livelihood through Handicraft Making using Non-Timber Forest Products (NTFPs) for Catibanghan-Talaba CARP Beneficiaries Association; Establishment of Five Hectares Sloping Agricultural Land Technology (SALT) within 2011 NGP Located at Rosacara, Bansud, Oriental Mindoro; Community-based Livelihood and Environmental Protection Project for Agro-Forestry with Livelihood Project in Brgy. Ansiray, Ilin Island San Jose, Oc. Mindoro. | Interregional | Region II, Region IVB | LFP | 2016 | 2019 | 3,167,125.00 | 3,167,125.00 | 3,167,125.00 | - | - | - | 9,501,375.00 |
| 182 | DENR-0006 | Strengthening Capacity for Integrating Ecosystem Services in the Forest Land Use Planning Process to Enhance Climate Resilience and Poverty Reduction in the Philippines (PROFOR2) | DENR | | Chapter 20 | The proposed project aims to enhance the capacity of stakeholders involved in the development of Forest Land Use Plans (FLUPs) in the Philippines to better integrate climate change resilience and poverty reduction concerns into these plans through the use of ecosystem service data and information. | Interregional | | ODA-WB | 2017 | 2018 | 9,408,000.00 | - | - | - | - | - | 9,408,000.00 |
| 183 | DENR-0182 | Conduct of Biodiversity-related Studies | DENR | | Chapter 20 | This is a component of PA Development and Biodiversity Conservation that aims to enhance the capacity of the agency in the biodiversity conservation and for the effective management of the Protected Areas. It includes the following projects: Alien Species Crisis: Assessing the ecological impacts of invasive alien species of amphibians and reptiles in the Philippines; Biodiversity Profiling and Updating of Carrying Capacity of Boracay Island, Malay, Aklan; Dugongs and Marine Turtles Comprehensive Biological Research in the Province of Davao Oriental (Phase II); Spatial Distribution and Biogeography of Philippine Tarsier (Tarsius syrichta) in the Province of Davao Oriental; Philippines and Species-site Adaptability and Growth Potentials of Critically-Endangered Narek (Hoepa cagayensis Foxw.) | Interregional | Region VI, Region X, Region XI | LFP | 2016 | 2018 | 3,075,666.66 | 3,075,666.66 | - | - | - | - | 6,151,333.32 |

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| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) | |
| 184 | DENR-0103 | Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs | DENR | EMB | Chapter 20 | The project aims to create resource efficient waste management systems to reduce U-POPs emissions through the introduction of BAT/BEP in open burning sources and achieve a reduction of approx. 90% of current PCDD/PCDF releases at the pilot demonstration sites in the participating countries. The Project will play a vital role in supporting the participating countries in fulfilling the objectives reported in the NIPs and specific national plans. The project will provide the opportunity for involving national stakeholders, such as ministries/departments, municipalities, local authorities, research and academic institutions, and universities and environmental NGO as executing partners. The private sector will be tapped to participate in the project. Pilot demonstration activities will address selected dumpsites, landfills and villages. These enterprises will be the key stakeholders in implementing BAT/BEP, and making a shift from burning of waste to recycling or re-use. | Interregional | Region VII, Region XII | ODA-UNIDO | 2015 | 2020 | 1,496,666.66 | 1,496,666.66 | 1,496,666.66 | 1,496,666.66 | - | - | 5,986,666.64 | |
| 185 | DENR-0095 | Strengthening National Systems to Improve Governance and Management of Indigenous Peoples and Local Communities Conserved Areas and Territories (Philippine ICCA Project) | DENR | BMB | Chapter 20 | The aim of this project is strengthen the conservation, protection and management of key biodiversity sites in the Philippines by institutionalizing Indigenous Peoples and Local Communities Conserved Areas and Territories (ICCAs) as a sustainable addition to the national PA estate. This shall be achieved through strengthening the legal and regulatory framework and administrative procedures that harmonizes the mandates, plans and activities amongst national government agencies involved (Biodiversity Management Bureau, National Commission on Indigenous Peoples, Bureau of Fisheries and Aquatic Resources), and local government units; and to effectively identify, map, recognize and support the governance and management of ICCAs. At the site level, the Project will improve capacities of indigenous peoples (IPs) and key stakeholders for the effective governance and management of ICCAs. | Interregional | CAR, Region II, Region III, Region IVB, Region X, Region XII | ODA-UNDP | 2016 | 2019 | 2,002,834.00 | 2,002,834.00 | 2,002,834.00 | - | - | - | 6,008,502.00 | |
| 186 | PCAARRD-0205 | Determination of the Extent and Distribution of Heavy Metals Contamination in Soils and Selected Crops and Potential Mitigating Measures to Alleviate Their Adverse Effects | DOST | PCAARRD | Chapter 20 | Determination of the Extent and Distribution of Heavy Metals Contamination in Soils and Selected Crops and Potential Mitigating Measures to Alleviate Their Adverse Effects. | Interregional | NCR, Region IVA | LFP | 2017 | 2018 | 4,900,000.00 | 3,000,000.00 | - | - | - | - | 7,900,000.00 | |
| 187 | PCAARRD-0080 | Training on Reef Assessment and Coral Taxonomy (TRACT) | DOST | PCAARRD | Chapter 20 | To training researchers and stakeholders concerned on Reef Assessment and Coral Taxonomy (TRACT) | Interregional | NCR, Region IVA, Region IVB | LFP | 2017 | 2018 | 3,001,597.87 | 2,748,094.74 | - | - | - | - | 5,749,692.61 | |
| 188 | DENR-0090 | Preparation of a National REDD+ Mechanism for Greenhouse Gas Reduction and Conservation of Biodiversity in the Philippines (National REDD+ System Philippines) | DENR | | Chapter 20 | With this project, functional structures for registration, coordination and governance of REDD+ activities in the Philippines at national and decentralized levels, social, ecological and governance safeguards, and tested options for financing and benefit-sharing, based on clear regulations and definition of roles and tasks of government agencies will be in place. By 2017 REDD+ pilot implementation in at least 3 areas, based on integrated forest land use planning and clear tenure and conservation arrangements, have generated at least 100,000 t CO2 emissions reduction and removals. Project results will be incorporated into reviews, decisions and resolutions at national and international level; and independent surveys show an increase of knowledge and awareness at national and local levels on REDD+ and its importance for climate mitigation and forest and biodiversity conservation. | Interregional | Region V, Region VIII, Region XI | ODA-GIZ | 2013 | 2017 | 1,124,000.00 | - | - | - | - | - | - | 1,124,000.00 |
| 189 | PCAARRD-0136 | Establishing patterns between Harmful Algal Blooms and weather phenomena in support of early-warning systems (Old Title: Linkages between HAB and Weather Phenomena) | DOST | PCAARRD | Chapter 20 | To establish patterns between harmful algal blooms and weather phenomena in support of early-warning systems. | Interregional | Region I, Region V, Region VIII | LFP | 2017 | 2019 | 2,629,688.00 | 2,359,688.00 | - | - | - | - | 4,989,376.00 | |
| 190 | PCAARRD-0153 | Impact Assessment of the Filipinovation Coral Rehabilitation Program in the Philippines | DOST | PCAARRD | Chapter 20 | To assess the impact of the Filipinovation Coral Rehabilitation Program in the Philippines | Interregional | NCR, Region IVA, Region VI, Region XII | LFP | 2016 | 2018 | 2,261,648.00 | - | - | - | - | - | 2,261,648.00 | |
| 191 | DENR-0181 | ENGP- Community-Based Nursery Establishment Project | DENR | | Chapter 20 | It aims to establish community-based nurseries, including a mechanized nursery for fruit trees, that will be used in the reforestation/afforestation activities. It consists of the following small projects: Establishing Indigenous Tree Species Nurseries in Ifugao; and Establishment of Mechanized Nursery for Fruit Trees. | Interregional | Region II, Region IVB | LFP | 2017 | 2022 | 666,667.00 | 666,667.00 | 666,667.00 | 666,667.00 | 666,667.00 | 666,667.00 | 4,000,002.00 | |
| 192 | SPAMAST-0019 | Environmental Services and Management and Mangrove Ecotourism Establishment | CHED | SPAMAST | Chapter 20 | Program to provide environmental services and development of sites for ecotourism | Region-Specific | Region XI | LFP | 2018 | 2022 | - | 8,000,000.00 | 3,000,000.00 | 3,000,000.00 | 3,000,000.00 | 3,000,000.00 | 20,000,000.00 | |

**List of Priority Programs and Projects in the 2017-2022 Public Investment Programs (PIP)*
Chapter 20: Ensuring Ecological Integrity, Clean and Healthy Environment**

| Nr | Project Code | Project Title | Implementing Agencies | | PDP Chapter | Description | Spatial Coverage | | Mode of Implementation | Implementation Period | | Investment Targets (in PHP Exact Amount) | | | | | | |
|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------|------|------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| | | | Mother Agency | Attached Agency | | | Main | Region | | Start | End | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (2017-2022) |
| 193 | PCAARRD-0202 | CEPA (Communication, Education and Public Awareness) and policy review towards improving coastal erosion management in the Philippines | DOST | PCAARRD | Chapter 20 | 1. To promote awareness of various stakeholders on the problem of coastal erosion; 2. To enhance knowledge, awareness and capacity for coastal erosion management through the development of appropriate communication, education and public awareness materials for specific target audiences; 3. To review existing policies related to coastal erosion; and, 4. To identify policy gaps and recommend new policies for coastal erosion management | Interregional | NCR, Region IVA | LFP | 2016 | 2018 | 952,149.20 | - | - | - | - | - | 952,149.20 |
| 194 | DENR-0101 | Protected Area Management Enhancement (PAME) in the Philippines | DENR | BMB | Chapter 20 | The proposed action aims to enhance the management of 60 existing Protected Areas (PAs), and establish at least 100 new terrestrial or marine PAs under different management regimes (nationally designated or through local legislation) in selected Key Biodiversity Areas. | Interregional | NCR, CAR, Region I, Region II, Region III, Region IVA, Region IVB, Region V, Region VI, Region VII, Region VIII, Region XVIII, Region IX, Region X, Region XI, Region XII, Region XIII | ODA-GIZ | 2012 | 2017 | 556,666.66 | - | - | - | - | - | 556,666.66 |
| 195 | DENR-0009 | Capacity Development on Monitoring for Solid Waste Management for Environmental Management Bureau | DENR | | Chapter 20 | To enhance the capacity of the national government in the implementation of laws, regulations and guidelines relevant to the monitoring of innovative technologies to alleviate pollutions from waste disposal facilities while these innovative technologies are being disseminated in the Philippines | Interregional | | ODA-JICA | 2018 | 2019 | - | - | - | - | - | - | - |
| TOTAL | | | | | | | | | | | | 15,368,659,964.99 | 36,862,854,088.89 | 25,076,864,899.43 | 21,888,110,333.02 | 15,940,168,373.60 | 16,036,768,138.94 | 131,173,425,798.87 |

**Based on the agencies submission in the PIPOL System as of June 2017 and validation by the NEDA PIP Focals as of March 2018. Please note that the implementation mode, investment targets and other project details in the 2017-2022 PIP list may be updated at the time of publication.*