as of November 27, 2023 with PAGASA update

El Niño National Action Plan (NAP)

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The El Niño National Action Plan is a living document, subject to regular reviews and revisions to maintain its relevance, effectiveness, and alignment with evolving circumstances, emerging challenges, stakeholder insights, and the attainment of specified objectives.

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El Niño National Action Plan (NAP)

I. Background

The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) defines the El Niño phenomenon as a naturally-occuring large-scale oceanographic and meteorological phenomenon that develops in the Pacific Ocean, associated with extreme climatic variability such as devastating rains and drought. It occurs due to unusual warming of surface waters at the Central and Eastern Equatorial Pacific (CEEP) Ocean. This condition can prevail for more than a year, thus adversely affecting economic activities on both local and global scales.

In the Philippines, dry condition, dry spell, and drought events are associated with the occurrence of El Niño. Its climatic indicators in the country may include delayed onset of the rainy season, early termination of the rainy season, enhanced Southwest (SW) monsoon activity, isolated heavy downpour with short duration, far tropical cyclone tracks, and less number of tropical cyclones entering the Philippine Area of Responsibility (PAR).

A. Climate Outlook

PAGASA has been continuously monitoring the development of El Niño phenomenon for 2023 to 2024. It issues monthly climate outlook through the El Niño Southern Oscillation (ENSO) Alert and Warning System to provide concerned government agencies and the general public information on mitigating potential adverse impacts of the developing El Niño and allow the initiation of preparedness measures.

The following are the major advisories issued by PAGASA:

- *El Niño Watch (March 23, 2023).* Based on recent conditions and model forecasts, El Niño will likely develop in the period of July-August-September (JAS) 2023 and may persist until 2024.

- *El Nino Alert (May 2, 2023).* The first El Niño Alert indicated that it may emerge in June-July-August with 80 percent probability and may persist until the 1st quarter of 2024.
- *El Niño Advisory No. 1 (July 4, 2023).* El Niño is present in the tropical Pacific and will persist until the 1st quarter of 2024. With this development, PAGASA raised its monitoring status from El Niño Alert to El Niño Advisory. In the same advisory, it warned that El Niño increases the likelihood of below-normal rainfall conditions, which could cause dry spells and droughts in some areas of the country and may affect climate-sensitive sectors such as water resources, agriculture, energy, health, and public safety. For the western part of the country, above-normal rainfall conditions during the Southwest monsoon season *(Habagat)* may also be expected.
- *El Niño Advisory No. 2 (August 4, 2023)*. El Niño increases the likelihood of below normal rainfall conditions, which could cause dry spells and droughts in some areas of the country. For the western part of the country, above-normal rainfall conditions during the Southwest monsoon season *(Habagat)* may also be expected.
- *El Niño Advisory No. 3 (05 September 2023).* An increased positive sea surface temperature anomaly (SSTA) was observed across the tropical Pacific, indicating a moderate El Niño. Most climate models predict El Niño will strengthen further into a strong one later in the year and will likely continue until the second quarter of 2024.
- *El Niño Advisory No. 4 (05 October 2023).* The tropical Pacific still shows warmer-than-normal sea surface temperatures signifying a moderate El Niño. Meanwhile, a strong El Niño is predicted by the

majority of climate models to occur later this year with the event likely to continue until the second quarter of 2024.

- *El Niño Advisory No. 5 (07 November 2023).* A moderate-to-strong

  El Niño is present in the tropical Pacific, showing signs of further intensification in the coming months as sea surface temperature anomalies (SSTAs) reach more than 1.5^{0}C. Recent analyses from global climate models suggest that El Niño will likely continue until the second quarter of 2024.
- As of 22 November, during their 166th National Climate Forum, DOST-PAGASA pronounced that strong El Niño is now present in the tropical Pacific.

B. Rainfall Forecast

Based on the rainfall forecast of PAGASA, meteorological dry conditions, dry spells, and drought will be experienced in many parts of the country due to El Niño. PAGASA defines dry condition as below normal rainfall condition[1] for two consecutive months, dry spell is defined as below normal rainfall condition for three consecutive months or way below normal rainfall condition[2] for two consecutive months, while drought is defined as below normal rainfall condition for five consecutive months or way below normal rainfall condition for three consecutive months.

El Niño may peak during the November-December-January (NDJ) 2024 season Based on the forecast update of PAGASA issued on November 22, 2023, there will be sixty five (65) provinces that will experience meteorological drought by May 2024. Table 1 below shows the provinces that may experience dry conditions, dry spells, and drought.

Table 1. Outlook for areas that may experience dry conditions, dry spells, and drought[3]

1 Below normal rainfall condition is defined as 21 percent to 60 percent reduction from average

2 Way below rainfall condition is defined as more than 60 percent reduction from average

3 Source: PAGASA

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AREA	Dry Condition	Dry Spell	Drought
December 2023			
LUZON	PALAWAN (6) ABRA ILOCOS NORTE BATAAN ZAMBALES METRO MANILA OCCIDENTAL MINDORO	(18) BENGUET, IFUGAO, KALINGA,APAYAO, MOUNTAIN PROVINCE, ILOCOS SUR, LA UNION, PANGASINAN, CAGAYAN, ISABELA, NUEVA VIZCAYA, QUIRINO, BULACAN, NUEVA ECIJA, PAMPANGA, TARLAC, AURORA, PALAWAN	(3) BATANGAS CAVITE ORIENTAL MINDORO
VISAYAS	(1) ANTIQUE	NONE	NONE
MINDANAO	NONE	(2) MISAMIS OCCIDENTAL TAWI-TAWI	NONE
TOTAL for December 2023	**7**	**20**	**3**
March 2024			
LUZON	NONE	(9) QUEZON MARINDUQUE ROMBLON ALBAY CAMARINES NORTE CAMARINES SUR CATANDUANES MASBATE SORSOGON	(30) ABRA, BENGUET, IFUGAO, KALINGA, APAYAO, MOUNTAIN PROVINCE, ILOCOS NORTE, ILOCOS SUR, LA UNION, PANGASINAN, CAGAYAN, ISABELA, NUEVA VIZCAYA, QUIRINO, BATAAN, BULACAN, NUEVA ECIJA, PAMPANGA, TARLAC, ZAMBALES, AURORA, METRO MANILA, BATANGAS, CAVITE, LAGUNA, RIZAL, OCCIDENTAL MINDORO, ORIENTAL MINDORO, PALAWAN, including SPRATLY ISLANDS
VISAYAS	NONE	(12) AKLAN, CAPIZ, NEGROS ORIENTAL, BOHOL, CEBU, SIQUIJOR, BILIRAN, EASTERN SAMAR, LEYTE, NORTHERN SAMAR, SAMAR (WESTERN SAMAR),	(4) ANTIQUE GUIMARAS ILOILO NEGROS OCCIDENTAL

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AREA	Dry Condition	Dry Spell	Drought
		SOUTHERN LEYTE	
MINDANAO	NONE	(22) BUKIDNON, CAMIGUIN, LANAO DEL NORTE, MISAMIS ORIENTAL, DAVAO DE ORO, DAVAO DEL NORTE, DAVAO DEL SUR, DAVAO OCCIDENTAL, DAVAO ORIENTAL, SOUTH COTABATO, COTABATO, SARANGANI, SULTAN KUDARAT, AGUSAN DEL NORTE, AGUSAN DEL SUR, DINAGAT ISLANDS, SURIGAO DEL NORTE, SURIGAO DEL SUR, BASILAN, MAGUINDANAO, LANAO DEL SUR, SULU	(5) ZAMBOANGA DEL NORTE ZAMBOANGA DEL SUR ZAMBOANGA SIBUGAY MISAMIS OCCIDENTAL TAWI-TAWI
TOTAL for March 2024	**0**	**43**	**39**
May 2024			
LUZON		(5) ABRA KALINGA APAYAO ILOCOS NORTE LA UNION	
VISAYAS	NONE	NONE	(16) AKLAN, ANTIQUE, CAPIZ, GUIMARAS, ILOILO, NEGROS OCCIDENTAL, NEGROS ORIENTAL, BOHOL, CEBU, SIQUIJOR, BILIRAN, EASTERN SAMAR, LEYTE, NORTHERN SAMAR, SAMAR (WESTERN SAMAR), SOUTHERN LEYTE
MINDANAO	(6) BUKIDNON COTABATO AGUSAN DEL SUR SURIGAO DEL SUR MAGUINDANAO LANAO DEL SUR	NONE	(16) ZAMBOANGA DEL NORTE, ZAMBOANGA DEL SUR, ZAMBOANGA SIBUGAY, CAMIGUIN, LANAO DEL NORTE, MISAMIS OCCIDENTAL, MISAMIS ORIENTAL, DAVAO

AREA	Dry Condition	Dry Spell	Drought
			OCCIDENTAL, SOUTH COTABATO, SULTAN KUDARAT, AGUSAN DEL NORTE, DINAGAT ISLANDS, SURIGAO DEL NORTE, BASILAN, SULU, TAWI-TAW
TOTAL FOR MAY 2024	**6**	**5**	**65**

II. 2023-2024 El Niño National Action Plan Framework

The NAP consolidates the government's actions to mitigate the effects of El Niño based on the forecasts of PAGASA. The timeframe of actions under the NAP is from the 3rd quarter of 2023 to December 2024. Although El Niño is expected to end by the 2nd quarter of 2024, NAP will contain interventions to address its effects that may linger on until the end of the year. It also presents medium- to long-term interventions beyond 2024 to strengthen the country's defense against climate variability /climate change and related hazard events.

The document presents the overall framework for the action plan and an accompanying list of key interventions to achieve the specific sectoral outcomes and objectives.

A. Goals of the NAP

Consistent with the Philippine Development Plan (PDP) 2023-2028 and the National Disaster Risk Reduction and Management Plan (NDRRMP), the societal goal of the NAP is to increase the resilience of communities to the effects of El Niño. The key sectoral outcomes and objectives will guide government agencies in addressing the immediate effects of the current El Niño episode.

B. Overall framework and key sectors

The dry spells, dry conditions, and drought brought about by El Niño events pose threats to water supply, agriculture, electricity, health, and public safety. The NAP framework adopts these five key sectors wherein key interventions are identified by concerned agencies. In addition, it

identifies cross-cutting concerns that shall be pursued by several agencies through a whole-of-nation approach.

The 2023-2024 El Niño NAP framework is illustrated in the figure below.

Figure 1. El Niño National Action Plan Overall Framework

C. Key sectors

1. Water Security

The extended periods of low rainfall cause severe declines in inflows to water reservoirs. The depletion of dams can result in water supply interruptions and rationing in residential areas, as well as commercial and institutional areas such as hospitals and schools. It can also cause decreased water supply for agricultural production, particularly in

irrigated lands. Water security is therefore considered a top priority under the NAP framework. To mitigate said impacts, the water security action plan aims to efficiently allocate water supply during the El Niño period and develop alternative water sources. Agencies will convene to identify the needed policy reforms, and to intensify water conservation efforts through information, education, and communication (IEC) among households and various establishments.

Key Interventions for the sector include the following:

a. Close monitoring of major dams

The National Water Resource Board (NWRB), together with the member-agencies of the Technical Working Group (TWG) on Angat Dam Operations and Management, will closely monitor the Angat Dam's water level and releases. The TWG will also identify the issues and concerns in relation to dam operations, as well as recommending viable solutions to address them. Furthermore, it will recommend the dams' outflows based on simulated water allocation scenarios given demand and climatic conditions. This is to satisfy the requirements of (a) National Irrigation Administration (NIA) for irrigation; (b) Metropolitan Waterworks and Sewerage System (MWSS) for domestic water supply; and (c) National Power Corporation (NPC) for hydropower, and to attain the optimum benefits from the reservoir. As a general rule, during periods of water shortage, releases of water supply for domestic use will be the priority and water supply for irrigation is reduced to conserve the resource.

b. Development of alternative water sources

The MWSS, in partnership with its concessionaires, will operationalize new water treatment plants in Poblacion Muntinlupa and East Bay in Laguna Lake, Anabu and Julian in Imus City, Cavite, Paranaque, and Marikina to augment water supply for MWSS service areas in Metro Manila, Rizal, Cavite and Bulacan Provinces. As needed, the NWRB will also temporarily

approved the activation of the existinge deep wells of MWSS/Concessionaires for additional supply. Moreover, the Department of Public Works and Highways (DPWH) will spearhead the construction of rainwater harvesting facilities.

c. Water conservation

In preparation for El Niño, the NWRB has issued Memorandum Order No. 2023-1 Water Management Conservation Measures enjoining water utility and water services providers to implement action plans which include reduction of non-revenue water or systems losses. This is in line with Bulletin No. 002 "El Niño and the Status of Metro Manila's Water Supply" issued by the Water Resources Management Office and Memorandum Circular No. 22 s. 2023 issued by the Office of the President, which mandates all government agencies and instrumentalities to strictly implement water conservation measures as part of efforts to prevent a water crisis amid a looming El Niño phenomenon.

NWRB and all concerned water service providers will also ensure timely repairs of leaks in the distribution systems. Meanwhile, NIA will promote the reuse of water from drainage and creeks using existing shallow tube wells.

In addition, the NWRB has conducted three (3) IEC campaigns for the year 2023 which promote its functions in the regulation, conservation, protection and sustainability of water resources, as well as behavior change of water users on Water Demand Management.

2. Food Security

El Niño can cause a wide range of impacts to the agriculture and fisheries sector such as reduction in food production, increase in food prices, and reduction in farm incomes. To address these, the food security sector aims to provide ample support services for local production and pursue supply-augmenting measures as necessary,

likewise, to provide social protection to affected farmers and fisherfolk that includes livelihood support, emergency employment and financial assistance. In addition, part of the sector's action plan is to facilitate efficient and unhampered transportation and distribution of food to ensure that consumers have access to safe, nutritious and affordable food commodities.

Key interventions for the sector include the following:

a. Crops

The decrease in rainfall results in water shortages, which in turn leads to crop damage and losses. In terms of rice production, water shortage is usually higher at the tail-end of the irrigation systems. Moreover, the projected adverse impacts of the dry season on agricultural productivity are especially significant in rain-fed and upland regions. To mitigate the risk of production losses, the Department of Agriculture (DA) will proactively implement early preparedness measures. These measures encompass various actions such as buffer stocking of seeds for rice, corn, and high-value crops, establishment and inventory of post-harvest facilities, promoting the use of short-cycle and drought-tolerant crops, and strategically prepositioning inputs like fertilizer and soil ameliorants.

On the other hand, weak to moderate El Niño can be beneficial to certain crops such as cassava, sweet potato, and mungbean which thrive in warm weather, which historical data also suggests may even experience increased production during such periods.

b. Water Management

The DA is currently implementing initiatives aimed at enhancing irrigation canals and other small-scale irrigation projects. These efforts include the adoption of water-saving technologies, such as Alternate Wetting and Drying (AWD), which involves a controlled irrigation strategy. Additionally, to ensure the availability of water

for agricultural production during El Niño-induced droughts, the DA plans to install water augmentation pumps and rainwater harvesting structures. These measures will help secure a reliable water supply for agricultural purposes.

c. Livestock and Poultry

Besides the decrease in water supply needed for livestock production, El Niño may also contribute to an increased occurrence of transboundary animal diseases. To adapt to this situation, the Department of Agriculture (DA) will persist in promoting the use of native animals to enhance farm productivity and strengthen the resilience of Philippine indigenous livestock and poultry breeds. Additionally, affected farmers will receive support in the form of replacement animals for those that have been lost as well as stock infusion.

d. Fisheries

The El Niño phenomenon may be favorable to some archipelagic species such as tuna and sardines as these fishes prefer warmer temperatures. However, El Niño-spawned dry spells can be detrimental to land-based aquaculture species like *bangus* and tilapia, since the lower water levels could result in high concentration of dissolved oxygen in their habitat.

To cushion the impact of El Niño on the aquaculture production, the Bureau of Fisheries and Aquatic Resources (BFAR) will promote good aquaculture practices, such as ensuring appropriate stock or sufficient number of fingerlings in fish cages to reduce the likelihood of fish kill occurrences. The BFAR will also continue their fish disease surveillance and red tide monitoring activities, and provide technical assistance to fisherfolks on fish disease detection and treatments.

e. Social Protection and Livelihood Projects

The Agricultural Credit Policy Council (ACPC) will continue to provide financial assistance to affected agri-fishery stakeholders through the Survival and Recovery (SURE) Loan Program.

To address the losses in yields and impacts to livelihoods of farmers, the Department of Labor and Employment (DOLE) will provide temporary wage employment assistance to qualified workers by engaging them in various agroforestry projects and community work through the *Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers Program (TUPAD). Alternative livelihoods for affected workers will also be implemented through the DOLE Integrated Livelihood Program (DILP).

3. Energy Security

The Philippines relies on hydroelectric power, which accounts for around 9.0 percent of the total electricity generation in 2022. However, an impending severe El Niño phenomenon threatens this critical energy source. El Niño is expected to result in reduced rainfall and higher temperatures that can significantly impact hydroelectric plant operations. Lower water levels may lead to decreased generation capacity, while rising temperatures may also increase transmission line losses and strain the power grid. At the same time, soaring temperatures will drive up power demand across the country, further exacerbating supply constraints and potentially causing disruptions and volatility in energy prices.

Key Interventions:

To mitigate these risks, the Department of Energy (DOE) in collaboration with energy industry participants, has developed a robust set of mitigation, preparedness, and response interventions. These key interventions aim to reduce power interruptions and promote energy efficiency and conservation through enhanced resilience, reliability of supply, and demand-side management programs before, during, and after El Niño.

a. Ensure adequate energy supply

The DOE through the Electric Power Industry Management Bureau (EPIMB) and Renewable Energy Management Bureau (REMB), will closely monitor the timely completion of committed power generation and transmission projects nationwide. As of June 30, 2023, there are 19 power plants in Luzon, eight in Visayas, and four in Mindanao targeted to commence commercial operations in the 1st quarter of 2024.

The DOE will also work with the National Electrification Administration (NEA), Office of Civil Defense (OCD), and the Department of the Interior and Local Government (DILG) to compile a detailed inventory of critical infrastructure with emergency backup power systems. The overarching goal is to help essential services withstand potential power disruptions and ensure continued operations while the damaged power system is being restored in case of disasters.

Meanwhile, water management will also be crucial during the El Niño period. In line with this, the NPC will conduct daily monitoring of dam and reservoir levels to ensure domestic water supply and contracted capacity of privatized hydroelectric plants in Luzon based on Dam Safety Guidelines. The monitoring results are published on the NPC website. Likewise, energy stakeholders will observe water harvesting and storage in energy facilities to ensure the continuous operation of services during El Niño season, through adequate water supplies captured and stored in advance.

Moreover, as part of ensuring adequate energy supply, the DOE will monitor the implementation and timely completion of committed power projects by the Department of Science and Technology (DOST).

b. Efficiently manage power distribution

The National Grid Corporation of the Philippines (NGCP), NPC, and NPC-Mindanao Generation (NPC-MinGen) will focus on addressing their Right-of-Way (ROW) and security issues. Correspondingly, IEC campaigns on the dangers of grass fires and kite flying will be implemented to raise awareness among the general public about fire safety and prohibited activities near power lines to minimize weather-induced disruptions and damage to energy facilities.

c. Promote energy efficiency and conservation

To manage demand, various communication efforts for residential customers, businesses, large corporations, conglomerates, and national government offices and entities will be administered to promote energy management programs and solutions that can help them manage their energy consumption, operate efficiently, and manage power supply shortages.

Moving forward, the Task Force on Energy Resiliency (TFER) is now activated and undertaking monitoring and coordination measures to ensure the resiliency and reliability of the energy system during El Niño season.

Overall, the coherent implementation of these interventions through collaborative action with energy stakeholders, government offices, and private sector is expected to significantly enhance the Philippine energy security and resilience to climate change impacts.

4. Health

Extreme heat, scarcity of clean water, and frequent rains brought about by El Niño may result in increased incidence of communicable diseases and water-related sickness. Increase in temperature in the physical environment may also lead to heat-related incidents such as exhaustion, stroke, and precipitate or trigger attack of illnesses like asthma, among others.

In terms of access to household water supply, the Social Weather Stations (SWS) reports only 67 percent of Filipino households have access to running or piped in water. The lack of clean drinking water may lead to increased incidence of water and sanitation-related illnesses. Furthermore, increase in temperature, humidity, and precipitation amplified by food and water issues may serve as breeding ground for infectious diseases such as dengue and malaria, while exposure to flood and contaminated water sources may lead to leptospirosis, typhoid fever, and cholera.

The Department of Health (DOH) highlights the importance of adequate water supply to healthcare facilities for life-saving procedures. For instance, the 2019 El Niño caused water shortages and interrupted operations in major health facilities and hospitals such as Rizal Medical Center, Kidney Center of the Philippines, National Center for Mental Health, Philippine Children's Medical Center, and Quirino Memorial Medical Center.

Learning from such experiences and guided by the overall NAP framework, the health sector aims to prevent the occurrence of disease by ensuring adequate water supply in hospitals and health facilities and the provision of timely advisories and support to its constituents.

Key interventions:

a. Water quality analysis and provision of water supply

DOH issued Department Circular 2023-0183 instructing all healthcare facilities to prepare for El Niño to ensure service continuity. It instructs all healthcare facilities to maintain an adequate amount of water supply, including safe drinking water sufficient for at least 72 hours, anticipate intermittent supply of electricity, and anticipate increase in consultations.

In addition, to ensure the safety of water in health facilities and communities during El Niño, the DOH will establish a network for

water testing in Centers of Health Development (CHDs) and hospitals. Further, the DOH and local government units (LGUs) will identify alternative water sources and ensure water supply through tankering or conduct of rationing to health facilities.

b. Inventory of health facilities and mobilization of Water, Sanitation, and Hygiene (WASH) in affected areas

Inventory of water storage capacities of health facilities will be conducted to ensure availability of adequate water supply. The DOH will spearhead the preparation of surge capacity and continuity plans for CHDs and hospitals to ensure sufficient medical response in the event of an increase in the number of health cases affected by El Niño. WASH commodities and supplies will also be prepositioned to CHDs and hospitals and provided to affected communities.

c. Continuous monitoring of health-related incidents and conduct of outbreak investigations

Disease outbreak and epidemiological investigations will be conducted in affected areas. The DOH will capacitate communities to effectively monitor vulnerable areas and report significant diseases and health events related to El Niño. Health Advisories and IEC materials will also be distributed to capacitate CHDs and hospitals.

5. Public Safety

Prolonged drought can affect the peace and order situation of communities. Research indicates that El Niño events may exacerbate civil unrest, similar to what happened in Kidapawan in 2016. In the wake of the drought caused by El Niño that year, around 3,000 protesters composed of farmers, indigenous peoples, and other cause-oriented groups gathered to block the Davao-Cotabato Highway, criticizing the alleged Provincial Government's failure to provide assistance to farmers despite the availability of resources,

such as rice subsidies, seeds, and other farm inputs. The ensuing riot due to the dispersal by the Philippine National Police (PNP) resulted in the deaths of two protesters, and injuries to ten protesters and three police officers.

Aside from peace and order, the Bureau of Fire Protection (BFP) also attributed the increase of fire incidents in residential and grasslands of Western Visayas in 2019 to El Niño. The security sector therefore also aims to reduce fire incidents during El Niño and maintain public safety, peaceful, and orderly communities through fire prevention measures. It also aims to strengthen partnerships with LGUs, volunteer groups, and other stakeholders in preparing and responding to the needs of the communities.

Key Interventions:

a. Fire safety

The BFP will intensify its fire safety operations to ensure that buildings are up to standard and fire safety systems and equipment are in working conditions. Fire prevention programs and activities such as *Oplan Ligtas na Pamayanan* and fire prevention seminars in fire prone areas will be implemented in partnership with the local community.

To ensure that immediate and effective response to fire incidents will be provided, the BFP will spearhead the identification of alternative water sources for fighting units in the event of conflagration as a consequence of El Niño. Fire truck visibility operations will also be conducted in fire prone areas such as forests and grasslands. To aid in these responses, procurement of forest firefighting tools and equipment will be pursued.

b. Peace and order

The scarcity of water may affect not only the sustainable development of the different sectors but may also result in civil

unrest. To ensure public safety and peace and order conditions are maintained during the El Niño, the BFP will provide support to LGUs in the creation of their contingency plans. Water rationing will also be implemented to ensure available water supply in affected areas.

The detailed list of programs and projects (PAPs) of the Public Safety sector are shown in Annex 5.

6. Cross-cutting interventions

All agencies concerned shall develop and implement their respective communication strategies and interventions to ensure information dissemination and increase public awareness on the possible impacts of El Niño. These agencies, including LGUs, will closely coordinate in the conduct of these IEC activities.

DOST-PAGASA regularly conduct their National Climate Forum every month to provide the El Niño status, update and its outlook for the coming six months, including drought assessment and outlook. Furthermore, nine (9) Regional/Provincial El Niño Forum have been conducted since July 2023.

Following the Task Force El Niño structure, the Strategic Communications Units shall prepare the communications and advocacy strategy for the NAP.

7. Medium to Long-term strategies

The government will continue to implement strategies that will enable the country to be more resilient to climate risks and other related hazards. These strategies shall be implemented beyond the timeframe of the NAP and shall be incorporated in the respective agencies' priority programs and projects.

These include the following:

a. Water Security

For the medium-to-long-term domestic use, the MWSS will fast-track the development of new water sources including the New Wawa Dam and Kaliwa Dam, which are expected to be completed by 2025 and 2027, respectively.

For irrigation, NIA will pursue the Bayabas Irrigation Project to service rice lands in Bulacan and Pampanga. The NWRB will also formulate groundwater management plans in critical areas in the country which shall include systematic and science-based management strategies that not only consider the current situation but also the future impact of climate change, to ensure the long-term sustainability of this resource.

Assessment and updating of water availability and quality situation for the 18 major river basins will also be conducted to assess the resilience of major water resources. This is in consideration of current changes and trends in its use, such as climate change and increasing population. In addition, the NWRB will formulate Groundwater Management Plans for critical areas.

b. Food Security

Medium to long-term measures specifically geared to lessen the potential effects of El Niño to the agriculture and fishery sector shall be in place before the next El Niño event occurs. The adoption of El Niño cultural practices such as pruning, mulching with organic matter (e.g., cocopeat, husks, pruned leaves), use of biodegradable wastes or compost, readjustment of implementation calendar of regular PAPs in threatened areas, are seen to build farmers' ability to adapt to the changing climate.

Other adaptive measures such as rotational water distribution and shifting to alternate and high value crops with less water requirement shall also be strongly advocated. The effects of El Niño in crops, livestock, poultry, and fisheries sectors will need to

be periodically documented to inform the necessary improvements to the existing measures.

c. Energy Security

In order to effectively address the challenges faced by the energy sector in the medium to long term, it is imperative to implement strategic measures that prioritize the improvement of energy infrastructure and the promotion of efficient energy usage.

The NPC, NPC-Mindanao Generation, and NGCP are actively addressing ROW issues to ensure proper maintenance and repair and timely completion of energy projects. By securing unencumbered access to critical transmission lines and facilities, these agencies can efficiently conduct preventive maintenance and emergency repairs to avoid disruptions. This strategic effort will enhance the resilience and integrity of the energy network.

Additionally, the DOE, through the Energy Utilization and Management Bureau, is spearheading initiatives to promote energy efficiency and conservation. Mass media campaigns, school programs, and collaborations with industry partners promote best practices and a culture of responsible energy usage. By stimulating energy awareness and reducing wasteful consumption, the Philippines can optimize its energy resources, ultimately benefiting both consumers and the environment.

Adopting energy-efficient technologies like LED lights, inverter appliances, smart plugs, and power strips will manage peak demand better. With well-timed load balancing measures, power shortfalls can be avoided, especially during extreme weather events like El Niño.

In summary, upgrading infrastructure security, operations, and maintenance while promoting energy efficiency and conservation, will lead to a more reliable and sustainable power supply for the Philippines. With prudent strategies, we can achieve energy

security and continue powering the nation's progress despite the effects of the El Niño phenomenon.

d. Public Safety

As part of its medium-to-long term strategies, the public safety sector will mobilize force multipliers empowering local communities to be active partners in maintaining peace and order. The PNP will activate the Reactionary Standby Support Force to boost its force and lead incident management and response in the affected communities.

8. Implementing mechanism

The NAP is in accordance with Presidential Directive No. PBBM-2023-320 dated April 18, 2023, for concerned government agencies to come up with a whole-of-government strategy in preparation for El Niño. The National Disaster Risk Reduction and Management Council (NDRRMC) created a National El Niño Team on April 18, 2023 tasked primarily to develop a comprehensive national action plan that will outline the government's mitigation activities to address the El Niño phenomenon. It shall also coordinate the implementation of key measures through the concerned agencies or LGUs.

a. El Nino team lead agencies:

The DILG, the Department of Social Welfare and Development (DSWD), and the Office of Civil Defense.

b. Key sectors and lead agencies

Food Security: DA
Water Security: Department of Environment and Natural Resources (DENR)
Energy Security: DOE
Health Security: DOH
Public Safety: DILG

These lead agencies shall carry out the mitigation efforts and implement specific interventions in their respective sectors. Likewise, these agencies shall prepare their respective sector action plans which shall form part of the NAP:

c. Strategy Management Unit (SMU)

Lead agency: National Economic and Development Authority (NEDA)

The SMU is tasked to coordinate the preparation of the NAP. It shall recommend actions for implementation at the regional or local levels to address emerging issues and concerns based on monitoring reports.

d. Strategic Communication Unit (SCU)

Lead agency: Presidential Communications Operations Office (PCOO)

The SCU is tasked to develop a communication plan to effectively inform various stakeholders regarding the government initiatives and mitigation efforts through a unified messaging approach aligned with the Presidential directive of a whole-of-government mitigating measures for El Niño.

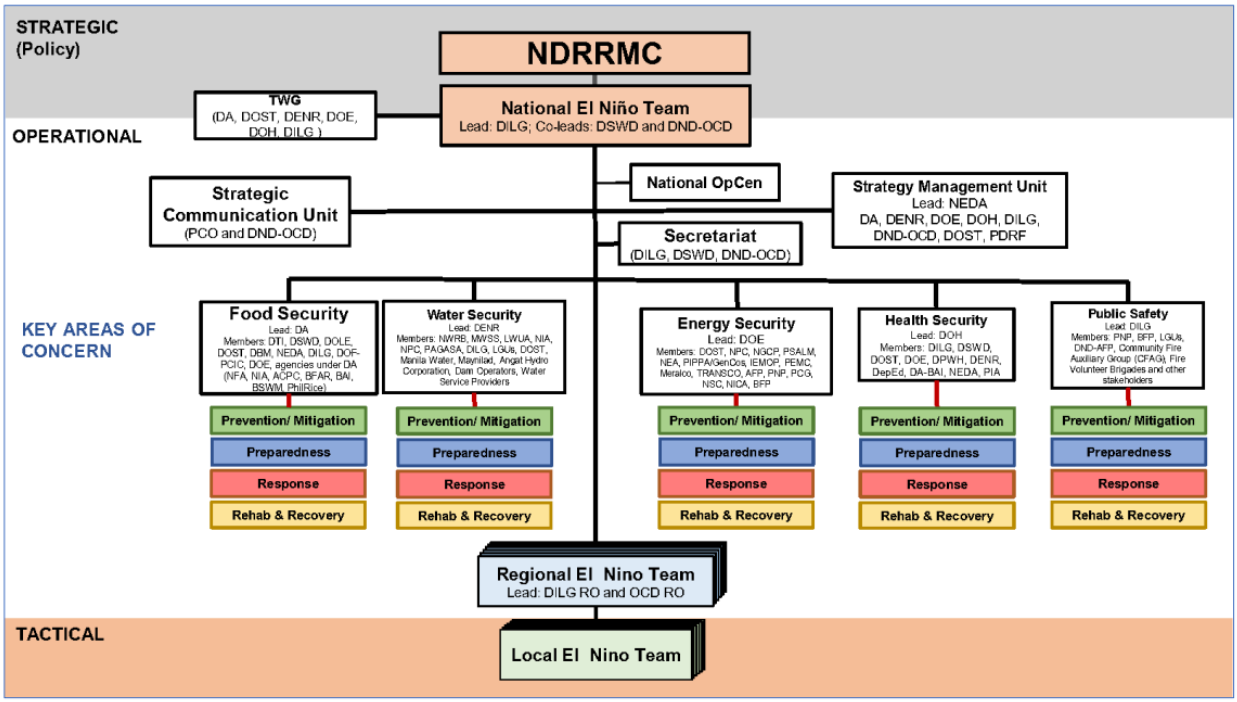
e. Technical Working Group (TWG).

Lead agencies: DILG and OCD
Members: DA
DENR
DILG
DOE
DOH
DOST

The TWG will provide the scientific and technical information to guide NAP implementation.

The El Niño Team Secretariat: DILG, DSWD, and OCD

Figure 2. Organizational Structure of the National El Niño Team



Regional El Niño Teams to be co-led by DILG and OCD Regional Offices are also created to coordinate sub-national actions. Local DRRM Councils are also directed to organize their respective local El Niño Teams to implement LGU-led interventions.

ANNEX 1: Water Security Sector Action Plan

Sector: **Water Sector**

Impacts: *Economic losses, such as reduction in power generation, industries, shortage of water supply, and deterioration of water quality. Social impacts where normal activities are disrupted.*

Reduced Supply

Outcome 1: **Sufficient water supply ensured**

Objective 1.1 : *To efficiently allocate water supply during El Nino*

Objective 1.2: *To develop alternative water sources*

Objective 1.3: *To Intensify water conservation efforts in the country*

Objective 1.4: *To enhance water governance*

No.	Outcome/Objective/PAP	Target (e.g,, number of cash for work beneficiaries, training courses conducted)	UNITS (e.g. persons, famillies, hectares)	Location/Area	Time Frame (month/quarter & year)	Total Cost (PhP '000)	Funding status (funded/unfunded)	Funding source (e.g., GAA etc.,)	Implementing Agency	Thematic Pillar (mitigation/preparedness/response/recovery)
Outcome 1: Sufficient water supply ensured										
Objective 1.1:To efficiently allocate water supply during El Nino										
1.1.1	Regular conduct of close monitoring of the Angat Dam and review of the reservoir water supply	Water sufficiency for Metro Manila and nearby provinces Improve Angat rainfall and inflow data collection		Bulacan					Angat TWG members, (NIA, NPC, MWSS, and PAGASA), and the two concessionaires (MWSI and MWCI)	Mitigation
1.1.2	Implementation of rotational water delivery								NIA	Response
1.1.3	Cloud Seeding Operations			Angat Watershed					Thru the Angat TWG; MWSS,	Response
1.1.4	Cross Border Flow from MWCI to MWSI	25 MLD		Metro Manila			Funded		MWSS	Mitigation
Objective 1.2: To develop alternative water sources										
1.2.1	Operationalization of Water Treatment Plants (Anabu, Julian, Cavite; Marikina, Paranaque)			NCR	Jun-23		Funded		MWSS	Mitigation
1.2.2	Fast track the completion of the additional water sources from approved water permit granted to MWSS such as Sumag, Wawa River Project, and Kanan and Kaliwa River Projects			NCR	Tayabasan - 2023 New Wawa Dam - 2025 New Kaliwa Dam - 2026		Funded		DENR, MWSS	Recovery/ **Mitigation**
1.2.3	Development of Bayabas Dam for irrigation purposes, rehabilitation of irrigation canals and construction of infratructure to capture excess water			Region 3			Funded		MWSS, NIA	Recovery
1.2.4	Temporary activation of MWSI/MWCI's deepwells								NWRB	Mitigation
Objective 1.3: To intensify water conservation efforts in the country										
1.3.1	Leak Management Program	100 MLD		Nationwide	Jul-23				DENR, NWRB, NGAs, MWSS	Mitigation
1.3.1a	Reduction of Non-Revenue Water (NRW), through immediate leak repairs (same as 1.3.1?)	100 MLD		Metro Manila	23-Dec				MWSS Concessionaires	Response
1.3.2	Reuse of Water from drainage or creeks using existing Shallow Tube Wells (STWs)			Pampanga, Bulacan					NIA	Response

1.3.3	Construction of rain-water harvesting facilities			Nationwide					DPWH	Recovery
1.3.4	Adoption and use of more efficient and water-saving technologies for domestic and irrigation system			Pampanga, Bulacan					NIA	Recovery
1.3.5	Construction of structures to capture excess water from Angat Reservoir								NWRB, MWSS, NPC	Recovery
1.3.6	Installation of Groundwater Monitoring Wells in Groundwater Critical Areas								NWRB	Recovery
Objective 1.4: To improve water governance										
1.4.1	Water Summit				23-Aug				DENR, LWUA	Mitigation
1.4.2	Comprehensive Water Resource Assesment of 18 major RB								NWRB	Recovery
Cross-cutting										
	Water Demand Management Program (Behavioral Change Campaign)	LGUs (Regions 3 & 4), Schools NCR		Nationwide	23-Jul				NWRB	Mitigation
	Drafted and Approved Memorandum Circular No. 22 on Water Conservation	Ten percent (10%) reduction water volume reduction of the first quarter water consumption		Nationwide					All National Government Agencies (NGAs) and instrumentalities, including Government-Owned-and-Controlled Corporations	Mitigation
	Continous Issuance of Bulletin on Water Management				June 2023 July 2023				DENR/WRMO	Preparedness
	Issuance of Order to Water Service Providers (WSP) Nationwide to Implement Preparedness and Mitigating Measures (Intensive Water Conservation Campaign)	Memo is currently being drafted for the WSPs nationwide		Nationwide	Jul-23				NWRB	Preparedness

ANNEX 2: Food Security Sector Action Plan

Sector: **Food Security**
Impacts: *Reduced food production, Increased food prices, Reduced farm income*

Outcome 1: **Adequate supply of food made available at stable prices to affected communities**
Objective 1.1 : To ensure ample support services for food production

Outcome 2: **Minimized income losses of farmers and fisherfolk**
Objective 2.1: To provide social protection for farmers and fisherfolk, including livelihood support, emergency employment and financial assistance

Outcome 3: **Access of consumers to affordable food commodities expanded**
Objective 3.1: To stabilize prices of basic necessities and prime commodities
Objective 3.2: To facilitate efficient and unhampered transportation and distribution of food

No.	Outcome/Objective/PAP	Target (e.g. number of cash for work beneficiaries, training courses conducted)	UNITS (e.g. persons, famillies, hectares)	Location/Area	Time Frame (month/quarter & year)	Total Cost (PhP '000)	Funding status (funded/unfunded)	Funding source (e.g. GAA etc.,)	Implementing Agency	Thematic Pillar (Prevention and Mitigation, Preparedness, Response, Rehabilitation and Recovery)
Outcome 1: Adequate and stable supply of key food commodities ensured										
Objective 1.1: To provide ample support services for local food production, and pursue supply-augmenting measures, as necessary										
1.1.1	**Water Management**									
1.1.1.1	*Improvement of Irrigation Canals*									
1.1.1.1a	Concreting of irrigation canals	843	kilometers	Nationwide	Short Term (May 2023 - June	21,211,833.00	funded	ARB	NIA	Mitigation
1.1.1.1b	Desiltation of canals	56,622	kilometers	Nationwide	Short Term	99,476.13	funded	ARB	NIA	Preparedness
1.1.1.2	Construction of rainwater harvesting structures	25,661	unit	Nationwide	Short Term	836,245.00	funded	ARB	DA	Mitigation
1.1.1.3	Repair and rehabilitation of water harvesting	13,574	unit	Nationwide	Short Term	191,388.00	funded	ARB	DA	Mitigation
1.1.1.4	*Cloud Seeding Operation (CSO)*									
1.1.1.4a	Cloud Seeding Operation in Magat Dam	1	number of CSO Operation	Region II	Short Term (4th Quarter 2023)	8,131.20	funded	ARB	DA	Response
1.1.1.4b	Cloud Seeding Operation in Bohol	1	number of CSO Operation	Region VII	Short Term (4th Quarter 2023)	5,000.00	unfunded		DA	Response
1.1.1.4c	Cloud Seeding Operation in affected areas (Luzon,	3	number of CSO Operation	Luzon, Visayas,	Short Term (January - Dec 2024)	18,502.20	unfunded	NEP	DA	Response
1.1.1.5	Install water augmentation pumps	31,864	units	Nationwide	Short Term	4,779,600.00	unfunded		NIA	Response
1.1.1.6	*Provision of Irrigation Network Services (Pumps and*									
1.1.1.6a	Rice	3,428	number	Nationwide	Short Term	380,531	unfunded		DA	Mitigation
1.1.1.6b	Corn	4,500	number	Region II, III, IVB, V, VIII	Short Term	458,800	unfunded		DA	Mitigation
1.1.1.6c	HVC	1,260	number	CAR, Region II, III, IVA, IVB, V, VIII, IX,	Short Term	111,773.00	unfunded		DA	Mitigation
1.1.1.6d	Livestock	20	number	Region V	Short Term	1,540.66	unfunded		DA	Mitigation
1.1.1.7	Provision of Water Plastic Drum, Water Tank/Reservoir	3,755	number	CAR, Region II, IVA, IVB, V, VII, IX, XI, XII, CARAGA	Short Term	15,687.50	unfunded		DA	Mitigation
1.1.1.8	Rehabilitation of SSIPs (i.e. Open Source Pump)									
1.1.1.8a	Rice	702	number	CAR	Short Term	58,860.00	unfunded		DA	Mitigation
1.1.1.8b	Corn	30	number	Region IX	Short Term	3,000.00	unfunded		DA	Mitigation
1.1.1.9	Provision of Observation Wells	29,680	number	Region III	Short Term	11,872.00	unfunded		DA	Mitigation
1.1.1.10	Provision of Shallow Tube Wells	29	number	Region IV-A	Short Term	6,650.00	unfunded		DA	Mitigation

1.1.1.11	Generating and restoring irrigable areas through construction and repair of irrigation facilities, including establishment of solar-powered pumps, alongside climate-change adaptation measures. This entails assessing existing infrastructure, planning improvements, integrating sustainable water sources, and implementing strategies to withstand climate challenges.	Farmer beneficiaries (to be determined)	Hectares, length of canals, number of structures	CIS/NIS	Medium Term/Long Term	21,012,000.00	unfunded	NEP	NIA	Preparedness
1.1.1.12	Introduction of the Rehabilitation and Protection of Water Resources for Supporting Irrigation Systems (RPWRSIS) aims to safeguard identified National Irrigation Systems (NIS) with critical watersheds. This program will be accomplished through the following key initiatives: a.) Cultivation of high-value crops and economically significant trees. b.) Execution of information, education, and communication campaigns. c.) Enhancement of the capabilities of NIA staff and upland farmers, encompassing environmental considerations, economic advantages, social acceptance, and establishment of market	163 National Irrigation System (NIS)	number of systems	NIS	Short Term (CY 2021 - 2023)	3,800,000.00	funded	GAA	NIA	Recovery
					Medium Term/Long Term (CY 2024-2030)		unfunded	NEP	NIA	Recovery
1.1.1.13	Development of smart water management strategies for high value crops	2	developed technologies		Medium Term/Long Term (October 2023 to September 2025)	10,000.00	unfunded	ARB	DOST-PCAARRD	Mitigation
1.1.1.14	Adopt rotational water distribution	644,009	hectares		Short Term		N/A		NIA	Response
1.1.1.15	Utilize Alternate Wetting and Drying (AWD)	2,561,131	hectares		Short Term		N/A		NIA	Response
1.1.1.16	Implement of Quick Turn Around (QTA) strategy	13,551	hectares		Short Term		N/A		NIA	Response
1.1.1.17	DSWD's Project LAWA (SFR)	90	ponds	Regions CAR, VI and XI	Short Terms (Aug. 31-Dec. 31,	35,590,288.00	funded	GAA - DRRP	DSWD	Mitigation
1.1.2	**Crops**									
1.1.2.1	*Provision of seeds*									
1.1.2.1a	Rice	41,998,318	kilograms	Nationwide	Short Term	8,724,672.00	funded	ARB	DA	Response
	Rice	1,298,034	kilograms	Nationwide	Short Term	245,028.06	unfunded		DA	Response
1.1.2.1b	Multi-stress seed varieties (High Quality Seeds)	5,014	bags	Region II	Short Term	7,621.28	unfunded		DA	Mitigation
1.1.2.1c	Multi-stress seed varieties (Green Super Rice,	1,359,720	kilograms	Region III	Short Term	51,669.36	unfunded		DA	Mitigation
1.1.2.1d	Multi-stress seed varieties (OPV Green Corn)	17,100	kilograms	Region III	Short Term	15,750.00	unfunded		DA	Mitigation
1.1.2.1e	Corn	1,155,936	kilograms	Nationwide	Short Term	687,314.00	funded	ARB	DA	Response
	Corn	148,931		Nationwide	Short Term	595,120.78	unfunded		DA	Response
1.1.2.1f	Cassava	5,593,000	pieces	Nationwide	Short Term	7,249.00	funded	ARB	DA	Response
1.1.2.1g	Soybean	3,500	kilograms	Nationwide	Short Term	1,052.00	funded	ARB	DA	Response
1.1.2.1h	High-value crops	3,673,649		Nationwide	Short Term	1,735,419.10	unfunded		DA	Response
1.1.2.2	*Distribution of fertilizer and other soil ameliorants*									
1.1.2.2a	Rice (fertilizer and soil ameliorants)	2,446,800	kilograms	Nationwide	Short Term	13,387,178.00	funded	ARB	DA	Response
	Rice (fertilizer and soil ameliorants)	995,351		Nationwide	Short Term	1,502,841.24	unfunded		DA	Response
1.1.2.2b	Corn (fertilizer)	5,748,850	kilograms	Nationwide	Short Term	366,777.00	funded	ARB	DA	Response
	Corn (fertilizer)	426,343		Nationwide	Short Term	227,567.56	unfunded		DA	Response
1.1.2.2c	Bio-fertilizer	209,886	packs	Nationwide	Short Term	21,071.00	funded	ARB	DA	Response

1.1.2.2d	High-value crops (fertilizer)	150,776		Nationwide	Short Term	176,457.95	unfunded		DA	Response
1.1.2.3	*Provision of Flower Inducers*	5,800		Region III, IVB	Short Term	3,275.00	unfunded		DA	Mitigation
1.1.2.4	*Mulching Film/Plastic Mulch*	1,482		Region IVA	Short Term	3,680.00	unfunded		DA	Mitigation
1.1.2.5	*HDPE Pipes*	31,200		Region II, XII, CARAGA	Short Term	11,800.00	unfunded		DA	Preparedness
1.1.2.6	*Establishment of production facilities such as greenhouses, sheds, rain shelters and storage facilities*	158	number	Nationwide	Short Term	53,017.00	funded	ARB	DA	Mitigation
1.1.2.7	*Production-related trainings*	36	number	Nationwide	Short Term	5,846.00	funded	ARB	DA	Mitigation
1.1.2.8	*Pest management trainings*	15	number	Region II, IVB, V, VI, XI	Short Term	948.00	funded	ARB	DA	Mitigation
1.1.2.9	*Provision of technical assistance for the establishment of local organic seed centers/seed banks by the LGUs*	7	number		Short Term	3,577.00	funded	ARB	DA	Mitigation
1.1.2.10	*Bufferstocking of seeds, pesticides*									
1.1.2.10a	Rice	9,302,690	kilograms	Nationwide	Short Term	563,558.00	funded	ARB	DA	Preparedness
1.1.2.10b	Corn	221,378	kilograms	Nationwide	Short Term	70,612.00	funded	ARB	DA	Preparedness
1.1.2.10c	High Value Crops	12,593	kilograms	Nationwide	Short Term	40,700.00	funded	ARB	DA	Preparedness
1.1.2.10d	Pesticides	6,935	liters	Nationwide	Short Term	17,289.00	funded	ARB	DA	Preparedness
1.1.2.11	*Establishment of Fertilizer/Compost Production*	91	number	Nationwide	Short Term	97,246.00	funded	ARB	DA	Preparedness
1.1.2.12	*Establishment of Small-scale Composting Facilities (SSCF)*	198	number	Nationwide	Short Term	89,253.00	funded	ARB	DA	Preparedness
1.1.2.13	*Establishment of Vermicomposting Facility*	22	number	CALABARZON, Region V, VI, VII	Short Term	13,264.00	funded	ARB	DA	Preparedness
1.1.2.14	*Distribution of organic agriculture inputs*									
1.1.2.14a	Molasses	113,703	liter	Nationwide	Short Term	5,128.00	funded	ARB	DA	Preparedness
1.1.2.14b	African Night Crawlers (ANCs)	3,860	kilograms	Nationwide	Short Term	3,598.00	funded	ARB	DA	Preparedness
1.1.2.14c	Insect Nets	95	number	Region I	Short Term	47.50	unfunded		DA	Preparedness
1.1.2.15	*Provision of early maturing/short gestation/drought*	3,886,824	bags	Nationwide	Short Term	2,953,986.00	funded	ARB	DA (RCEF)	Response
1.1.2.16	*Provision and distribution of inputs, farm supplies*									
1.1.2.16a	Plastic drums and water tanks	13,143	number	Nationwide	Short Term	18,620.00	funded	ARB	DA	Preparedness
1.1.2.16b	Shade nets and plastic mulch	1,218	rolls	Nationwide	Short Term	11,452.00	funded	ARB	DA	Preparedness
1.1.2.16c	Provision of Organic Agriculture inputs (seeds,	276,204	number	Nationwide	Short Term	80,084.00	funded	ARB	DA	Response
1.1.2.16d	Provision of production, postharvest and	705	number	Nationwide	Short Term	350,000.00	funded	ARB	DA	Response
1.1.2.17	*Maintenance of production, postharvest, processing and storage facilities*	102	number	Nationwide	Short Term	89,114.00	funded	ARB	DA	Mitigation
1.1.2.18	*Strategic Application of Bio Organic Fertilizers (MYKOVAM) for Coconut farms in least affected*	126	Area (ha) fertilized	Nationwide	Short Term (July to December 2023)	75.60	funded	PCA CFIDP 2023	PCA	Response
1.1.2.19	*Establishment of clear zone as protective barrier*	2	No. of seed farms		Short Term (August to December	700.00	funded	PCA CFIDP 2023	PCA	Response
1.1.2.20	*Covercropping (coconut)*	2	No. of seed farms		Short Term (August 2023)	50.00	funded	PCA CFIDP 2023	PCA	Response
1.1.2.21	*Coconut Planting and Replanting Project*	3,182	hectares		Short Term	40,907.36	funded	CFIDP & GAA- PRLC	PCA	Recovery
1.1.2.22	*Coconut Fertilization Project Implementation*	140,300	number of trees fertilized		Short Term	23,842.37	funded	GAA - CFP	PCA	Recovery
1.1.2.23	*Provision of inputs and agri supplies*									
1.1.2.23a	Seeds and planting materials to affected farmers and fisherfolk	1,033,581	number	Nationwide	Short Term	2,139,809.54	unfunded	QRF/NDRRMF	DA	Recovery
1.1.2.23b	Fertilizers to affected farmers and fisherfolk	1,279,635	number	Nationwide	Short Term	5,266,078.08	unfunded	QRF/NDRRMF	DA	Recovery
1.1.2.23c	Agricultural supplies (plastic drum)	440	number	Nationwide	Short Term	1,100.00	unfunded	QRF/NDRRMF	DA	Recovery

1.1.2.24	*Shifting to alternate/high value crops with less water requirement (Assorted vegetable seeds, mungbean, peanut, onion, watermelon, green corn)*	3,071,213		Nationwide	Short Term	1,011,964.60	unfunded		DA	Mitigation
1.1.2.25	*Crop Pest Management*	18,096	number			17,687.00	unfunded	QRF/NDRRMF	DA	Recovery
1.1.2.26	*Development of high-yielding and drought-resilient rice varieties*	at least 1 new varieties developed	Variety	Drought-prone areas; Nationwide	Medium Term/Long Term (December 2025)	N/A	funded	ARB	DA	Preparedness
1.1.2.27	*Enhancement of rice production monitoring system in the Philippines (under PRiSM Project)*	at least 3 capacity building conducted	Trainings or Workshops	Nationwide	Medium Term/Long Term (December 2025)	20,000.00	funded	ARB	DA	Preparedness
1.1.2.28	*Development of climate risk maps and local adaptation plans for farming communities (under CS-*	70 provinces with climate risk maps and local adaptation	Province, Admininstrative	Nationwide	Medium Term/Long Term (December 2025)	10,000.00	funded	ARB	DA	Preparedness
1.1.2.29	*Scaling of Rice Business Innovation System (RiceBIS) Community as farmers' support system in carrying out rice-based enterprises*	at least 10 new RiceBIS communities or hubs established	individual or Farmer's Association	Nationwide	Medium Term/Long Term (December 2025)	N/A	funded	ARB	DA	Response, Recovery
1.1.2.30	*Continuous seed subsidy to rice farmers every*	at least 70 provinces covered	Province, Admininstrative	Nationwide	Medium Term/Long Term	N/A	funded	ARB	DA	Mitigation, Preparedness
1.1.2.31	*Scaling of Palayamanan Plus to promote farm diversification*	at least 10 new Palayaman Farms established	individual or families	N/A	Medium Term/Long Term (December 2025)	N/A	funded	ARB	DA	Preparednes, Response
1.1.2.32	*Improvement of Garlic and Other Agri-Food Condiments Productivity through Integrated Crop Management (ICM) System*	1	formulated adaptable strategies and developed decision support system		Short Term (May 1, 2021 - April 30, 2024)	10,670.24	funded	ARB	DOST-PCAARRD	Preparedness
1.1.2.33	*Evaluation of Coconut Accessions at PCA-ZRC for Heat and Drought Tolerance Towards Hybridization*	45	evaluated and validated potential coconut hybrid, dwarf, and tall accessions at		Medium Term/Long Term (May 16, 2023-May 15, 2026)	17,781.41	funded	ARB	DOST-PCAARRD	Preparedness
1.1.2.34	*Landslide Susceptibility Analysis, Monitoring,*		developed platform	CAR	Medium Term/Long Term	4,999.44	funded	ARB	DOST-PCAARRD	Preparedness
1.1.2.35	*Integration of traditional and modern bioproduction*	1	report		Medium Term/Long Term	17,072.99	funded	ARB	DOST-PCAARRD	Preparedness
1.1.2.36	*Application of eDNA metabarcoding in faunal*	1	report		Medium Term/Long Term (April	14,985.64	funded	ARB	DOST-PCAARRD	Preparedness
1.1.2.37	*Rehabilitation and Streambank Stabilization of Catubig River Through Vegetation Engineering Systems Using Bamboo, Nipa, Annona glabra (pond apple), and Mangrove*	1	report	Region VIII	Medium Term/Long Term (January 1, 2023 to December 31, 2025)	4,967.59	funded	ARB	DOST-PCAARRD	Preparedness
1.1.3	**Fisheries**									
1.1.3.1	*Conduct of technical assistance (Harmful Algal Bloom or HAB, water quality and fish disease surveillance and monitoring)*	370,222	number		Short Term (May 2023 to March 2024)	7,209.75	funded	ARB	DA BFAR	Mitigation
	Conduct of technical assistance (Harmful Algal Bloom or HAB, water quality and fish disease surveillance and monitoring)	14,692	number		Short Term (May 2023 to March 2024)	5,550.00	unfunded	QRF/NDRRMF	DA BFAR	Mitigation
1.1.3.2	*Conduct of Quality Control and Inspection (procurement of lab equipment, test kits, reagents,*	21	number		Short Term (May 2023 to March 2024)	3,168.39	unfunded	QRF/NDRRMF	DA BFAR	Mitigation
1.1.3.3	*Establishment/Operation/Maintenance of aquaculture and/or posthavest facilities including Technology Outreach Stations*	47	number		Short Term (May 2023 to March 2024)	96,947.00	funded	ARB	DA BFAR	Mitigation
	Establishment/Operation/Maintenance of aquaculture and/or posthavest facilities including Technology Outreach Stations	116	number		Short Term (May 2023 to March 2024)	242,857.33	unfunded	QRF/NDRRMF	DA BFAR	Mitigation
1.1.3.4	*Establishment/Operation/ Maintenance of Seaweed Facilities*	38	number		Short Term (May 2023 to March 2024)	10,721.00	funded	ARB	DA BFAR	Mitigation
	Establishment/Operation/ Maintenance of Seaweed Facilities	1	number		Short Term (May 2023 to March 2024)	3,000.00	unfunded	QRF/NDRRMF	DA BFAR	Mitigation

1.1.3.5	*Development of Climate-Adaptive and resilient broodstock*	17			Short Term (May 2023 to March 2024)	80,700.00	unfunded	QRF/NDRRMF	DA BFAR	Mitigation
1.1.3.6	*Positioning of buffer stocks (fingerlings)*	1	number		Short Term (May to August 2023)	115.00	funded	ARB	DA BFAR	Preparedness
1.1.3.7	*Establishment/Operation/ Maintenance of aquaculture and/or postharvest facilities*	5	number		Short Term (June 2023 to March 2024)	5,100.00	funded	ARB	DA BFAR	Preparedness
	Establishment/Operation/ Maintenance of aquaculture and/or postharvest facilities	208	number		Short Term (June 2023 to March 2024)	17,743.04	unfunded	QRF/NDRRMF	DA BFAR	Preparedness
1.1.3.8	*Provision of environment-friendly fishing gears and paraphernalia*	3,483	number		Short Term (May to December 2023)	34,525.21	funded	ARB	DA BFAR	Response
	Provision of environment-friendly fishing gears and paraphernalia	1,040	number		Short Term (May to December 2023)	8,800.00	unfunded	QRF/NDRRMF	DA BFAR	Response
1.1.3.9	*Distribution of fishery inputs and farm implements*									
1.1.3.9a	Fingerlings/seed stocks	11,354,209	number		Short Term (May 2023 to March 2024)	36,798.65	funded	ARB	DA BFAR	Response
	Fingerlings/seed stocks	18	number in million pcs			12,750.00	unfunded	QRF/NDRRMF	DA BFAR	Response
1.1.3.9b	Broodstock	30,500	number		Short Term (May 2023 to March 2024)	50.00	funded	ARB	DA BFAR	Response
1.1.3.9c	Seaweed farm implements	254	number		Short Term (May to July 2023)	3,832.00	funded	ARB	DA BFAR	Response
1.1.3.9d	Longline for mussel culture	30	number		Short Term (October 2023 to March 2024)	1,000.00	funded	ARB	DA BFAR	Response
1.1.3.10	*Dispersal of fish in inland bodies of water (BASIL, communal waters)*	344,368	number		Short Term (May 2023 to March 2024)	3,620.18	funded	ARB	DA BFAR	Response
1.1.4	**Livestock and Poultry**									
1.1.4.1	*Promotion of raising native animals*	2	No. of seminars conducted		Short Term	50.00	funded	ARB	DA	Mitigation
	Promotion of raising native animals	5,000	No. of IECs distributed		Short Term	200.00	funded	ARB	DA	Mitigation
1.1.4.2	*Promotion of alternative feeds for livestock and*	2,000	No. of IECs distributed		Short Term	80.00	funded	ARB	DA	Mitigation
1.1.4.3	*Provision of Drugs, Biologics & Feeds for affected farmers*	*16,535*	number		Short Term	5,483.03	unfunded	QRF/NDRRMF	DA	Recovery
	Provision of Drugs, Biologics & Feeds	*387,216*	number	Region I, II, III, IVA, V, VII, IX, X, XI, CARAGA	Short Term	102,260.54	unfunded		DA	Preparedness
1.1.4.4.1	*Replacement for animal casualties / Stock Infusion*									Recovery
1.1.4.4.1a	Forage and pasture planting materials (cuttings)	200,000	cuttings		Short Term	4,000.00	funded	ARB	DA	Recovery
1.1.4.4.1b	Forage and pasture planting materials (seeds)	20	seeds		Short Term	20.00	funded	ARB	DA	Recovery
1.1.4.4.2	*Provision of Resources for Livestock Forage*									Recovery
1.1.4.4.2a	Forage and pasture planting materials (cuttings)	35,000	cuttings			875.00	unfunded	QRF/NDRRMF	DA	Recovery
1.1.4.4.2b	Forage and pasture planting materials (seeds)	32	seeds			57.60	unfunded	QRF/NDRRMF	DA	Recovery
1.1.4.3	*Animal Health Improvement Program - Continuous*	69,400	doses		Short Term	80,021.00	funded	ARB	DA	Mitigation
1.1.4.4	*Replacement for animal casualties / Stock Infusion*	17,044	number		Short Term	8,670.50	funded	ARB	DA	Recovery
	Replacement for animal casualties / Stock Infusion	51,280	number			105,310.00	unfunded	QRF/NDRRMF	DA	Recovery
1.1.4.5	*Provision of training on silage making*	7	number			310.00	unfunded	QRF/NDRRMF	DA	Recovery
1.1.4.6	*Provision of Livestock and Poultry Animals*	5,000		Region IV-A		2,800.00	unfunded		DA	Response
1.1.4.7	*Provision of Feed Supplement*	42,494		Region IVA, V, VIII, X, XI, CARAGA		54,766.00	unfunded		DA	Response
1.1.4.8	*Provision of Agricultural Facilities and Equipment (Forage Chopper, Silage Packaging Set)*	1,308	number	CAR, IVA, V		8,460.00	unfunded		DA	Response
1.1.5	***Fuel Subsidy***									
1.1.5.1a	Rice	454,969		Region II, IVB	Short term	1,365,180.00	unfunded		DA	Response
1.1.5.1b	Corn	115,827		Region II, IVB, V, VII,	Short term	339,250.00	unfunded		DA	Response
1.1.5.1c	High Value Crops	3,210		Regions II and VIII	Short term	807.00	unfunded		DA	Response

Outcome 2: Income losses of affected farmers and fisherfolk minimized										
Objective 2.1: To provide social protection for farmers and fisherfolk, including livelihood support, emergency employment and financial assistance										
2.1.1	*Provision of financial assistance through Survival and*	20,000	number of borrowers	Nationwide	Short Term	500,000.00	funded	GAA/AMCFP	DA ACPC	Recovery
2.1.2	*Tulong Panghanapbuhay sa Ating*		No. of beneficiaries provided	Nationwide	Short Term (July to December	Regular program funds of DOLE will be used. Since the TUPAD			DOLE	Response
2.1.3	*DOLE Integrated Livelihood Program (DILP). Extend*		No. of beneficiaries provided	Nationwide	Short Term (July to December		funded	ARB	DOLE	Recovery
2.1.4	*Insurance to farmers and fisherfolk*	1,680,790	number of farmers and	Nationwide	Short Term (June to December	3,321,477.63	funded	ARB	DOF-PCIC	Recovery
2.1.5	**Livestock**									
2.1.5.1	*Provision of native animals thru the implementation*	238,039	heads		Short Term	79,748.00	funded	ARB	DA	Response
2.1.6	**Fisheries**									
2.1.6.1	*Provision of diversified alternative livelihood and*	163	number		Short Term (May to December	116,738.22	funded	ARB	DA BFAR	Mitigation
2.1.6.2	*Provision of fisheries-related Technology*	105	number		Short Term (May to December	10,025.00	funded	ARB	DA BFAR	Response
2.1.6.3	*Establishment of fish cages for livelihood*	124	number		Short Term (May to December	74,509.00	funded	ARB	DA BFAR	Response
	Establishment of fish cages for livelihood	12	number			16,800.00	unfunded	QRF/NDRRMF	DA BFAR	Recovery
2.1.6.4	*Provision of livelihood assistance (i.e. fingerling,*	8,154,809	number		Short Term (May 2023 to March	31,962.67	funded	ARB	BFAR	Recovery
	Provision of livelihood assistance (i.e. fingerling,	207,787	number			49,776.05	unfunded	QRF/NDRRMF	BFAR	Recovery
2.1.6.5	*Provision of Fuel Assistance*	18,459	number of fisherfolk availed		Short Term (July 2023 to March	55,377.00	funded	ARB	DA BFAR	Response
2.1.6.6	*Facilitation of access to credit, business and market*	5	number of activity		Short Term (June-August-October-	100.00	funded	ARB	BFAR	Recovery
2.1.7	Provision of Cash for Work (CFW) program	Based on LGU request	number of affected farmers	Nationwide	Short term	Regional minimum		QRF/NDRRMF	DSWD	Response
2.1.8	Provision of DSWD Family Food Packs	Based on LGU request	number of affected farmers	Nationwide	Short term	Php 930.00 each		QRF/NDRRMF	DSWD	Response
Outcome 3: Access of consumers to affordable food commodities expanded										
Objective 3.1: To stabilize prices of basic necessities and prime commodities										
3.1.1	Capacity building for Central and Regional Bantay	1			Short Term (May to June 2023)	1,100.00	funded	ARB	DA	Mitigation
3.1.2	Publication of the BNPC SRP bulletin to serve as	5	No. of SRP Bulletin published			350.00		ARB	DTI	Preparedness
3.1.3	Intensified Price and Supply Monitoring of BNPCs		No. of markets monitored			9,450.00		ARB	DTI	Preparedness
3.1.4	Implementation of Automatic Price Control for areas		Number of validation		January to December				DA	Response
3.1.5	Monitor farmgate, wholesale, and retail prices of	1,068	number		Short Term (May 2023 to March	388.00	funded	ARB	DA BFAR	Mitigation
	Monitor farmgate, wholesale, and retail prices of	14	number			92.00	unfunded		DA BFAR	Mitigation
3.1.6	Price and supply monitoring of agri-fishery	357	No. of markets and trading		Short Term	10,474.00	funded	GAA	DA	Mitigation
3.1.7	Convening the National Price Coordinating Council	4			Once every quarter or as the	100.00			DTI	Preparedness
Objective 3.2: To facilitate efficient and unhampered transportation and distribution of food										
3.2.1	Establishment of market linkages/assistance for				Short Term	100.00	funded	ARB	DA	Preparedness
	Establishment of market linkages/assistance for	40	number of market linkage		Short Term	32.40	unfunded	NEP	DA	Preparedness
3.2.2	To maintain an optimal level of national rice		persons/families		At any given time	N/A	funded	ARB	DA	Response
Cross-cutting Interventions										
	Extensive advocacy and dissemination on Alternate Wetting and Drying (AWD)	1,201,144	farmer beneficiaries			N/A			NIA	Mitigation
	Strengthen the established BFAR CC-DRRM Task Force	9	number		Short Term (May 2023 to March 2024)	949.00	unfunded	NDRRMF	DA BFAR	Mitigation
	Increase awareness of farmers on how to mitigate	100	stakeholders		Short Term (August 2023 to May	N/A			DOST-PCAARRD	Mitigation
	Conduct of consultation meetings/dialogues/workshops with fisherfolk, LGU and/or other stakeholders in fisheries	15	number		Short Term (May 2023 to March 2024)	1,224.00	funded	ARB	DA BFAR	Preparedness
	Issuance of Technical Advisories and other Early Warning Alerts for fisheries sector	1,900	number		Short Term (May 2023 to March 2024)		funded	ARB	DA BFAR	Preparedness
	Issuance of Technical Advisories and other Early Warning Alerts for fisheries sector	26	number			1,000.00	unfunded	QRF/NDRRMF	DA BFAR	Preparedness
	Strengthening fisheries stakeholders through enhanced extension support, education and training	3,341	number		Short Term (May 2023 to March 2024)	16,777.36	funded	ARB	DA BFAR	Preparedness
	Strengthening fisheries stakeholders through enhanced extension support, education and training	120	number			1,215.80	unfunded	ARB	DA BFAR	Preparedness

Generation and dissemination of climate and weather-informed farming and fishing advisories	15	number		Short Term	12,000.00	funded	ARB	DA	Preparedness
Weekly monitoring of local field conditions	133	number		Short Term	96.00	funded	ARB	DA	Preparedness
Conduct of massive information dissemination campaign using available media platforms	27,444	number		Short Term	5,357.00	funded	ARB	DA	Preparedness
Capacity Building: Enhance Farmers Field School and other learning platform tools in technology	10	number		Short Term (February to November 2023)	3,350.00	funded	ARB	DA ATI	Preparedness
Educate farmers on drought mitigation measures thru SMS Broadcast of advisories and technotips,		recipients		Short Term	500.00	funded	ARB	DA ATI	Preparedness
Readjustment of implementation calendar of regular PAPs in threatened areas (fisheries)	57	number		Short Term	3,999.98	funded	ARB	DA BFAR	Mitigation
Promote research and documentation of effects of El Niño in livestock production and non-food animals	2	number of research conducted		Short Term (August 2023 to May 2024)	N/A	unfunded		DA BAI	Mitigation
Deployment of SARAI Integrated Crop Monitoring and Forecasting in Selected LGUs in the Philippines for Rice and Corn	4	number of LGUs		Short Term (August 2023 to July 2024)	5,000.00	funded	ARB	DOST-PCAARRD	Mitigation
Real-time carbon flux monitoring in natural, plantation, and mangrove forests in Mindanao, Philippines: An Eddy Covariance Approach	1	prediction models developed		Medium Term/Long Term (October 2023 to September 2025)	13,971.92	unfunded	ARB	DOST-PCAARRD	Mitigation
Stable Isotopes-Based Evaluation of the Climate Change Mitigation Potential, Recovery Status, and Resilience of Reforested Soils Under the National Greening Program (ReforeStable Carbon-Plus)	1	report		Medium Term/Long Term (September 2023 to August 2026)	3,478.18	funded	ARB	DOST-PCAARRD	Mitigation
Mangrove-sediment-microorganism carbon dynamics to enhanced CO2 sequestration capacity of Mangrove forests	1	report		Medium Term/Long Term	4,993.61	unfunded	ARB	DOST-PCAARRD	Mitigation
Conduct of monitoring and evaluation of PPAs (fisheries) extended in affected areas	29	number of field visits conducted, PPAs monitored		Short Term (May 2023 to March 2024)	726.36	funded	ARB	BFAR	Recovery
Conduct of monitoring and evaluation of PPAs (fisheries) extended in affected areas	300	number of field visits conducted, PPAs monitored		Short Term (May 2023 to March 2024)		unfunded		BFAR	Recovery
Provision of technical assistance to LGUs in conducting resource assessment for fisheries sector	5	number of LGUs		July-December 2023	2,311.00	funded	ARB	BFAR	Recovery
Adoption of El Niño cultural practices, pruning, mulching with organic matter like cocopeat, husks, pruned leaves, use of biodegradable wastes/	220	hectares		Short Term (July to December 2023)	2,129.50	funded	PCA CFIDP	DA PCA	Response
Enhancement of management areas to include climate change adaptation in its framework plan	1	number		Short Term (July to December 2023)	515.00	funded	ARB	DA BFAR	Mitigation
Maximization of production of mariculture parks	30	number		Short Term (May to December 2023)	3,887.00	funded	ARB	DA BFAR	Response
Maximization of production of mariculture parks	3	number			9,000.00	unfunded	QRF/NDRRMF	DA BFAR	Response
Conduct of regional coordination meetings/trainings/ assessment/	200	number		Short Term (May 2023 to March 2024)	1,058.50	funded	ARB	DA	Preparedness
Shifting to alternate/high value crops with less water requirement	670	hectares		Short Term	758.00	funded	GAA	DA	Response
Convening the National Price Coordinating Council	4			Once every quarter or as the need arises	100.00			DTI	Preparedness

ANNEX 3: Energy Security Sector Action Plan

Sector: **Energy Security**

Impacts: *Economic losses, lower quality of life*

Outcome 1: **Reduced incidence of power interruption through enhanced energy resilience, increased reliability of power supply and promotio**

Objective 1.1 : To ensure adequate energy supply

Objective 1.2: *To efficiently manage power distribution and secure energy facilities*

Objective 1.3: *To promote energy efficiency and conservation*

No.	Outcome/Objective/PAP	Target	UNITS	Location/Area	Time Frame	Total Cost	Funding status	Funding source	Implementing Agency	Thematic Pillar
Outcome 1: Reduced incidence of power interruption through enhanced energy resilience, increased reliability of power supply and promotion of energy efficiency and conservation before, during and after El Niño season.										
Objective 1.1: To ensure adequate energy supply										
1.1.1	Close monitoring for the timely completion of	No. of committed private sector-initiated	Power plants	Nationwide	Immediate (2023-	NA	NA	NA	Department of Energy	Mitigation
1.1.2	Ensure emergency backup power system such as modular generator sets to critical	• 17 regions with list of critical facilities with • NPC-SPUG Luzon have new three (3) Units of	List of critical Generator Sets	Nationwide	Immediate (2023-2024)	TBD PHP6.0M	Funded	DOE, NEA, NPC-SPUG	DOE, NEA, OCD, DILG NPC-SPUG	Mitigation Response
1.1.3	Regular monitoring of dams and reservoir	•Daily monitoring of dams and reservoir levels	Reports	Nationwide	Immediate (2023-	TBD		PSALM, NPC-	PSALM, NPC-PES and NPC	Mitigation
1.1.4	Implement water harvesting and storage in	• Construction of 5x10kL Rainwater Collector in		Zamboanga	Immediate (2023-	PHP1.10M	Funded	Universal	NPC SPUG	
1.1.5	Monitor implementation and ensure timely									
	a. Microgrid Solar PV	•1 Demo site of a 50kW microgrid facility	Demo Site	Davao de Oro	Medium term (April			Ateneo De	Ateneo De Davao	Preparedness
	b. Deployment of Energy Monitoring	Demonstrated energy monitoring system at		TBD	Immediate (Feb.	P8.03M	Funded	ITDI-DOST	ITDI-DOST	Mitigation
	c. Sustainable development of Cascaded microhydro power facility.	•1 Demo site for the cascaded microhydro facility to be established at a local Community of Rogongon (with 103 Household, in 5 Sitios) with a capacity of 20kw electricity from a single river source	Demo Site	TBD	Medium term (May 2022 - April 2024)	13.5M	Funded	MSU-IIT	MSU-IIT	Preparedness
	d. Utilising Marine RE to support energy demand in island communities.	•Assess three (3) identified straights for marine RE (to determine applicability of wave energy harvesting devices)		TBD	Medium term (Aug 2021 - July 2023)	6.5M	Funded	Ateneo De Davao University	Ateneo De Davao University	Preparedness
	e. Gasification of MSW/biomass with cohydrothermal process.	•Utilize MSW and biomass waste to reduce landfill gas emission, improvement of fuel properties for gasification process		TBD	Medium term (August 2021 - July 2023)	15M	Funded	Mindanao State University (MSU) and Iligan Institute of Technology (IIT)	Mindanao State University (MSU) and Iligan Institute of Technology (IIT)	Mitigation
	f. Maritime energy demand and information analysis.	•Developed a software that centralized database for maritime energy requirement, including transportation activity, domestic shipping fleet characteristics and ship operation		TBD	Immediate (Jan 2022 - Dec 2022)	4.9M	Funded	UP Diliman	UP Diliman	Mitigation
Objective 1.2: To efficiently manage power distribution and secure energy facilities										
1.2.1	Address the Right-of-Way(ROW) and Security Issues in the energy facilities.	No. of ROW Issues: •NGCP - 82 •NPC - 25 •NPC MinGen - 19	ROW and Security Issues	Nationwide	Long term (2023 Onwards)	TBD		Bourne by NPC, NPC-MinGen and NGCP	NGCP, NPC, NPC-MinGen	Mitigation

1.2.2	Conduct IEC campaigns on dangers of grassfires and kite flying.	• 26 IECs	IEC	Luzon especially in Pampanga and Bulacan	Immediate (2023-2024)	TBD		NGCP	NGCP	Mitigation
Objective 1.3: To promote energy efficiency and conservation										
1.3.1	Promoting for the advancement and use of energy efficiency and conservation technologies that can reduce energy consumption and impact of El Niño.	•Regular promotion of the advancement and use of energy efficiency and conservation technologies to reduced energy demand and peak loads (Regular Activity of the DOE-Energy Utilization and Management Bureau (EUMB)		Nationwide	Long term (2023 Onwards)	TBD		DOE	DOE-Energy Utilization and Management Bureau (EUMB)	Mitigation
1.3.2	Implement communication efforts for **Residential customers, businesses, large corporations, conglomerates, and the national government** to promote energy management programs and solutions that can help them manage their energy consumption, operate efficiently and manage power supply shortage.	No. of beneficiaries from: • Residential customers (TBD) • Businesses (TBD) • Large Corporations and conglomerates (TBD) • National Government offices/ entities (TBD)	No. of IEC materials disseminated: Social Media Radio TV	MERALCO franchise area in Luzon	Immediate (2023-2024)	TBD		MERALCO	MERALCO	Mitigation
Cross-cutting Interventions										
	Activation and monitoring of the Task Force on Energy Resiliency (TFER) during extreme weather and disasters events (typhoons, earthquakes, etc.).	•Perform functions specified in Department Circular No. DC2022-06-0028 to strengthen the resiliency and reliability of the energy system during El Niño season.		Nationwide	Continuing (2023 onwards)	NA		NA	DOE	

ANNEX 4: Health Sector Action Plan

Sector: **Health**

Impacts: *Increased incidence of communicable diseases/ water-related sickness*

Outcome 1: **Outbreak of diseases are managed**

Objective 1.1 : To ensure adequate water supply in hospitals and health facilities.

Objective 1.2: To provide timely advisories and support to hospitals and health facilities.

No.	Outcome/Objective/PAP	Target (e.g,, number of cash for work beneficiaries, training courses conducted)	UNITS (e.g. persons, famillies, hectares)	Location/Area	Time Frame (month/quarter & year)	Total Cost (PhP '000)	Funding status (funded/unfunded)	Funding source (e.g., GAA etc.,)	Implementing Agency	Thematic Pillar (mitigation/preparedness/response/recovery)	Status as of August 30	
											Number of Units	Location
Outcome 1: Outbreak of diseases are managed												
Objective 1.1: To ensure adequate water supply in hospitals and health facilities												
1.1.1	Inventory of the capacity of water storage of health facilities	CHDs and Hospitals			April - May 2023				DOH and LGUs	Mitigation		
1.1.2	Drafting of Surge Capacity and Continuity Plans	CHDs and Hospitals			April - May 2023				DOH	Preparedness		
1.1.3	Establishing network for water testing capacity	CHDs and Hospitals			April - May 2023				DOH	Preparedness		
1.1.4	Prepositioning of WASH commodities and supplies	CHDs and Hospitals			April - May 2023				DOH	Preparedness		
1.1.5	Provision of WASH commodities	Communities			2023-onwards				DOH and LGUs	Response		
1.1.6	Provision of water supply through tankering / rationing to health facilities	Health Facilities			2023 - onwards				DOH and LGUs	Response		
1.1.7	Identification of Sustainable Alternative Water Sources	Health Facilities			2024-onwards				DOH and LGUs	Recovery		
1.1.8	Conduct of water testing	Health Facilities and Communities			2023 - onwards				DOH	Response		
Objective 1.2: To provide timely advisories and support to hospitals and health facilities												
1.2.1	Health Promotion Activities through Health Advisories Instructional Education Campaign Materials (IECs)	CHDs and Hospitals			April - May 2023				DOH	Mitigation		
1.2.2	Continuous Surveillance Activities of Health Related Incidents	LGUs / Communities			April - May 2023				DOH and LGUs	Mitigation		
1.2.3	Issuance of Memorandum on monitoring the readiness of Health Facilities in relation to El Nino Phenomenon	CHDs and Hospitals			April - May 2023				DOH	Preparedness		
1.2.4	Strengthened surveillance and conduct of outbreak investigations	Communities			2023-onwards				DOH	Response		
Cross-cutting Interventions												
	Orientation of Local Drinking Water Quality Monitoring Committee (LDWQMC) to DILG's Seminar on Local Water Governance for Decision Makers	LGUs Chief Executives			July 2023	c/o DILG		c/o DILG	DOH	Preparedness		
	Orientation of Local Drinking-Water Quality Surveillance (LDWQS) for selected provinces and cities	Regions with selected provinces/cities: 3, 4B, 6, 8, 11, Agusan Sur			July-August 2023	Funded by WHO		World Health	DOH	Preparedness		

ANNEX 5: **Public Safety Sector Action Plan**

Sector: **Public Safety**

Impacts: *Increased incidence of fire and civil unrest*

Outcome 1: **Reduced fire incidents due to El Niño.**

Objective 1.1 : Prevent fire incidents, and reduce damages caused by fires.

Objective 1.2: Strengthen partnership with NGAs, LGUs, CSOs, NGOs, Private Sector and other relevant stakeholders in addressing public safety due to the impacts of El Niño

Outcome 2: **Maintained public safety, peaceful and orderly communities.**

Objective 2.1 : Ensure public safety and peace and order conditions.

Objective 2.2: Contribute to the government initiatives in mitigating the effects of El Niño by ensuring peace and order and delivery of public safety services in affected communities.

Strategies: Mobilization of force multipliers.
Activation and orientation of Reactionary Standby Support Force (RSSF).

Number	Outcome/Objective/PAP	Target (e.g,, number of cash for work beneficiaries, training courses conducted)	UNITS (e.g. persons, famillies, hectares)	Location/Area	Time Frame (month/quarter & year)	Total Cost (PhP '000)	Funding status (funded/unfunded)	Funding source (e.g., GAA etc.,)	Implementing Agency	Thematic Pillar (mitigation/preparedness/response/recovery)	Status as of August 30	
											Number of Units	Location
Outcome 1: Reduced fire incidents due to El Niño.												
Objective 1.1: Prevent fire incidents, and reduce damages caused by fires.												
1.1.1	Intensified conduct of fire safety inspections on all buildings with all types of occupancy											
	- MC 2022 - 015 dated 16 June 2022 re: Intensifying Fire Safety Enforcement In The Bureau Of Fire Protection And Institutionalizing Standard Process In The Conduct Of Inspection And Defining Accountabilities Of Concerned Bfp Personnel In The Issuance Of Fire Safety Evaluation Clearance (Fsec), Fire Safety Inspection Certificate (Fsic) And Fire Safety Installation Clearance And Standard Operating Procedures In The Preparation Of Inspection Order And After Inspection Report	June 16, 2022			Continuous			c/o Office of the Fire Safety Enforcement Division	Fire Safety Enforcement Division (FSED), BFP	Mitigation		
1.1.2	Mitigate fire hazard through Fire Safety activities (e.g. Fire Code Revenue Awareness Month, Government Occupancy Month, Fire Prevention Month, Fire Safe Summer Vacation Month, Special People Fire Safety Month, etc.)				Continuous			c/ Office of the Fire Safety	Fire Safety Enforcement Division (FSED), BFP	Mitigation		
1.1.3	Conduct of firetruck visibility operations in fire prone areas (ex. forests, grasslands).				Whole year			Included in the monthly response activity for Oplan El Niño of the	BFP	Preparedness		
1.1.4	Procurement of Forest Firefigthing Tools and Equipment							Included in the APP 2020 and budget were downloaded to 7 regions	BFP	Preparedness		
1.1.5	Identification of alternative sources of water for firefighting units, that can be utilized in the event of conflagration as a consequence of El Nino.	Whole year			Ongoing/ upon activation of OPLAN EL NIÑO			Unfunded	BFP, LGUs	Mitigation		
Objective 1.2: Strengthen partnership with NGAs, LGUs, CSOs, NGOs, Private Sector and other relevant stakeholders in addressing public safety due to the impacts of El Niño												
1.2.1	Intensification of the following fire prevention programs and activities: - Conduct of **OPLAN Ligtas na Pamayanan**; - Fire prevention seminars to the identified fire prone areas; -Conduct of simulation of exercises, drills, table top evaluation				Whole year			c/o Office of the Fire Safety Enforcement Division	BFP, LGUs (LDRRMOs, LENRO)	Preparedness		
Outcome 2: Maintained public safety, peaceful and orderly communities.												
Objective 2.1: Ensure public safety and peace and order conditions.												
2.1.1	Preparation of contingency plans				Ongoing			c/o Office of the Directorate for Operations	BFP	Preparedness		
2.1.2	Conduct of water rationing to the affected areas.							included in the monthly response activity for Oplan El Niño of the regions.	BFP, LGUs	Response		

2.1.3	Lead in fire prevention and suppression operations in forested areas, in collaboration with DENR.	whole year			Continuous			unfunded	BFP	Response		
2.1.4	**MITIGATION** -Preparation of contingency plan; -Inter-agency coordination and linkages; and -Coordination LGUs, CSOs, NGOs, and relevant stakeholders.				Continuous				PNP	Mitigation		
2.1.5	**PREPAREDNESS** -Conduct of simulation of exercises, drills, table top exercise (SEMEX, CEREX, and others) and evaluation; -Conduct of Red Team Operations; -Identification of critical areas and/or target hardening; and -Activation and orientation of Reactionary Standby				Continuous				DO-PNP	Preparedness		
2.1.6	**RESPONSE** -Perform law and order and public safety activities (Checkpoints, Chokepoints and Oplan Sita, Police Presence, Foot patrol, Bike patrol, and Mobile patrol); -Organization and Mobilization of force multipliers; and -Deployment of administrative and logistical support.				Continuous				DO-PNP	Response		
2.1.7	**REHABILITATION AND RECOVERY** -Assessment and critiquing; and -Support to rehabilitation.				pre and post action				PNP	Response		
Objective 2.2: Contribute to the government initiatives in mitigating the effects of El Niño by ensuring peace and order and delivery of public safety services in affected communities.												
2.2.1	**Peatland Fire Prevention, Management and Control Training.** Conduct of Peatland Fire Prevention, Management and Control Training to community volunteers within the Peatland protected sites in Leyte and Agusan Del Sur, in collaboration with DENR.	Whole year			On going			Ensuring Sustainable Benefits from Peatland through Protection and Wise Use (ESBenePeat) Project under BMB-DENR	Fire Suppression Operations Division (FSOD), Directorate for Operations BFP/Biodiversity	Preparedness		
	Information and awareness campaigns through TRIMP, the importance of utilizing a variety of communication channels to ensure that information reaches a diverse audience are essential for fostering community resilience and encouraging proactive measures in the face of environmental challenges like El Niño.	affected communities			when phenomenom arises				DPCR-PNP	Response		
Cross-cutting Interventions												
	Information dissemination about fire prevention											

ANNEX 6: **PAGASA**

No.	Outcome/Objective/PAP	Target	UNITS	Location/Area	Time Frame	Total Cost	Funding status	Funding source	Implementing Agency	Thematic Pillar
Objective: Contribute to the government initiatives in mitigating the effects of El Niño through climate service delivery										
SHORT – TERM INTERVENTIONS										
	1. Press Conferences	5	Unit	nationwide	March 2023 - April 2024		Funded	GAA	DOST-PAGASA	Preparedness
	2. Monthly Climate Forum	12	Unit	nationwide	March 2023- April 2024		Funded	GAA	DOST-PAGASA	Preparedness
	3 National/Regional/Provincial Forum on El Nino	10	Unit	nationwide	June 2023- April 2024		Funded	GAA	DOST-PAGASA	Preparedness
	4. Advisory Issuances and El Nino Briefers, Dry Spell/Drought Assessment and Outlooks	~30	Unit	nationwide	March 2023- April 2024		Funded	GAA	DOST-PAGASA	Preparedness
	5. Printing of El Niño Flyers, Posters and IEC Materials	1	Lot	nationwide	March 2023 - June 2023		Funded	GAA	DOST-PAGASA	Preparedness
	6. Development of Short Audio Visual Presentation (AVP) about El Nino	3	Unit	nationwide	May 2023-August 2023		Funded	GAA	DOST-PAGASA	Preparedness
	7. Attendance to Meetings, Conferences and Inter agency collaborations	~20	Unit	nationwide	April 2023-April 2024		Funded	GAA	DOST-PAGASA	Preparedness
	8. Localization of IEC materials for area-specific advisories	10	Unit	nationwide	June 2023- April 2023		Funded	GAA	PCO with PAGASA	Preparedness
	9. Issuance of Standardized Precipitation Index (SPI) Forecast for Drought Severity	~6	issuances							
MEDIUM TO LONG TERM										
	Development of Dashboard of Simplified Communication Tool for ENSO			all synoptic stati	In house- ongoing					
	Development of ENSO Response Matrix Tool for LGUs	~10		nationwide	2025-2027		unfunded	Submitted to DBM for 2(	DOST-PAGASA	Mitigation
	Updating of El Nino Vulnerability Map for Rice and Corn			nationwide	2025-2027		Unfunded	Submitted to DBM for 2(	DOST-PAGASA	Preparedness
	Action-based forecasting of Drought (ABFDrought) with Partner institutions			nationwide	2026 onwards		Unfunded	plan	plan	Mitigation
	R & D support on Cloud Seeding with Partner Agencies			selected sites	2025 onwards		unfunded	DOST-GIA proposal for 2	DOST-GIA proposal for 2025 with PAF and DA-BSWM	Preparedness
	Agri-Drought Forecasting			nationwide	2025 onwards		unfunded	plan	DOST-PAGASA, DA-DSWM	Preparedness