NDRRMC UPDATE

Final Report re Preparedness Measures and Effects of El Niño (November 2018 to August 2019)

Releasing Officer:

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Sources: DSWD, DILG, NWRB, PNP, NEDA, DOST-PAGASA, DA, MWSS, DILG, DOH, NEA, BFP, AFP-PAF, and OCDROS I, II, III, CAR, CALABARZON, MIMAROPA, V, VI, VIII, IX, X, XI, XII, BARMM, and NCR

I. SITUATION OVERVIEW:

- PAGASA's climate monitoring and analyses indicated that the unusually warm Sea Surface Temperatures (SSTs) in the Central and Eastern Equatorial Pacific (CEEP) which started since November 2018 was expected to become a full-blown El Niño.
- From November 2018 to January 2019, rainfall analyses showed that impacts
 of below normal rainfall conditions in provinces of Western Mindanao and
 llocos Norte were already experienced and were expected to continue.
- Rainfall assessment for February 2019 showed that most areas of the country received way below to below normal rainfall.
- Rainfall assessment for March 2019 showed that most areas of the country received way below to below normal rainfall except for most parts of Davao Region which received near normal rainfall.
- Rainfall assessment for April 2019 showed that most areas of the country received way below to below normal rainfall except for most parts of Northern Luzon, Southern Leyte, and Lanao del Sur which received near normal to above normal rainfall.
- Rainfall assessment for May 2019 showed that most areas of Luzon experienced near to above normal rainfall conditions except for parts of Central Luzon, CALABARZON, and MIMAROPA which received way below to below normal rainfall. Moreover, most parts of Visayas and Mindanao received way below to below normal rainfall except for parts of Western and Eastern Visayas and Davao Region where near to above normal rainfall conditions were experienced.
- In June 2019, near normal conditions were experienced in most areas of Western Luzon, Western and Eastern Visayas, and most parts of Mindanao. Meanwhile, Bataan, Zambales, Leyte, Southern Leyte, and Davao Region received above normal rainfall.
- In July 2019, rainfall conditions in most parts of Luzon were near to above normal except for the western and southern parts that received below normal rainfall.

Rainfall for August 2019 was predicted to be generally near normal with areas
of above normal rainfall conditions in CALABARZON, MIMAROPA, Bicol
Region, Metro Manila, most parts of Eastern Visayas, and provinces of Nueva
Vizcaya, Quirino, Bataan, Aurora, Agusan del Norte, and Surigao del Norte.

II. EFFECTS:

A. Affected Population (TAB A)

A total of **503,012 families / 2,444,959 persons** were affected by Drought/Dry Spell in Regions I, V, VI, VIII, IX, X, XI, XII, CARAGA, and CAR.

Source: DSWD DROMIC Report #16 on the Effects of El Niño as of 09 October 2019, 6:00 PM

B. Affected Farmers

A total of 247,610 farmers were affected by Drought/Dry Spell in Regions CAR, I, II, III, CALABARZON, MIMAROPA, V, VI, VIII, IX, X, XI, XII, CARAGA, and BARMM:

Region	No. of Affected Farmers affected	Area affected (Has or Hectares)
Total	247,610	277,891
CAR	27,449	34,602
I	897	1,199
II	112,580	125,732
III	0	1,143
CALABARZON	5,257	5,509
MIMAROPA	13,204	17,847
V	22,902	26,676
VI	4,056	3,254
VIII	18,187	15,147
IX	6,859	7,230
X	5,085	6,498
XI	1,843	1,557
XII	8,655	9,977
CARAGA	2,213	2,525
BARMM	18,423	18,995

Source: Department of Agriculture (DA) as of 24 April 2019

C. Cost of Damage (TAB B)

An estimated **P7,962,521,863.48** worth of damage to agriculture were reported in Regions CAR, I, II, III, CALABARZON, MIMAROPA, V, VI, VIII, IX, X, XI XII, and BARMM.

Source: Department of Agriculture (DA)

D. Declaration of State of Calamity (TAB C)

A total of **226 Cities/Municipalities** under the State of Calamity were reported.

Sources: OCDROs CAR, II, CALABARZON, MIMAROPA, V, VI, VII, VIII, IX, XI, XII, and BARMM.

E. Hospitals Affected

A total of **five (5) hospitals** were affected:

HOSPITAL	REMARKS
Rizal Medical Center (RMC)	As of 21 March 2019, all the
National Center for Mental Health (NCMH)	DOH-retained hospitals have
National Kidney and Transplant Institute (NKTI)	adequate water supply.

HOSPITAL	REMARKS
Philippine Children's Medical Center (PCMC)	
Quirino Memorial Medical Center (QMMC)	

Source: DOH-HEARS Plus Report dated 21 March 2019

III. ACTIONS TAKEN:

A. Cloud Seeding Operations (TAB D)

A total of **184 sorties** were conducted from 24 March 2019 to 27 June 2019 by DA Bureau of Soils and Water Management (BSWM) with technical assistance from PAF and in coordination with DA Regional Field Offices, LGUs, and other concerned agencies. These operations were conducted in various areas in Regions II, III, MIMAROPA, VII, XI, and XII.

Source: BSWM Memorandum on the Status of Cloud Seeding Operations as of 9 May 2019 and 19 June 2019

B. National Disaster Risk Reduction and Management Council (NDRRMC)

1. NDRRM Operations Center (NDRRMOC)

- a. Monitored and disseminated El Niño Advisories issued by DOST-PAGASA to NDRRMC member-agencies, stakeholders, and OCD Regional Offices concerned through facsimile, e-mail, and official social media websites for further dissemination to its respective Local Disaster Risk Reduction and Management Councils (LDRRMCs).
- b. Facilitated the conduct of Technical Management Group meeting re El Niño held on 05 March 2019, 10:00 AM and 13 March 2019, 2:00 PM, respectively at NDRRMOC Conference Room, NDRRMC Building, Camp General Emilio Aguinaldo, Quezon City.

2. Philippine Atmospheric, Geophysical, Astronomical Services Administration (DOST-PAGASA)

- a. Provided briefing on the possible effects and assessment re El Niño during the TMG meeting on 05 March 2019.
- b. Disseminated El Niño advisories and updates.

3. National Economic and Development Authority (NEDA)

- a. Formulated Roadmap for Addressing the Impact of El Niño (RAIN) which aim to mitigate the impacts of El Niño in four (4) critical areas namely: food security, energy security, health, and safety. Under Food security, it targeted the issue of reduced food production together with increasing food prices and decreased income of farmers and agricultural workers.
- b. Consolidated and presented accomplishments of member-agencies based on RAIN.

4. Department of the Interior and Local Government (DILG)

Cascaded El Niño Information and Education Campaign materials, preparedness actions, and responses and plans in the regional offices and LGUs.

5. Department of Social Welfare and Development (DSWD)

DSWD Central Office (CO), Field Offices (FOs), and National Resource Operations Center (NROC) ensured the availability of stockpiles and standby funds amounting to **P1,841,197,425.14** with breakdown as follows:

- Standby Funds ₱1,114,541,754.24 standby funds in the CO and FOs. Of which, ₱1,076,221,717.34 is the available QRF in the CO.
- Family Food Packs 356,698 / ₱136,723,008.94
- Other Food and Non-Food Items ₱589,932,661.96

6. Department of Agriculture (DA)

- a. Issued Special Order No. 945, s. 2019 re Creation of the DA National El Niño Task Force to monitor and coordinate the various El Niño programs/ projects/activities with DA units and NDRRMC.
- b. Coordinated with DOST-PAGASA, NDRRMC-OCD, NIA, Regional Field Offices (RFOs), and other concerned bureaus, attached agencies, and corporations.
- c. Released a total of ₱18.3M for cloud seeding operation.
- d. Monitored the water quantity and quality of fisheries sector in vulnerable areas.
- e. Crafted the El Niño Mitigation and Adaptation Plan.
- f. Advised farmer leaders, technicians, and other stakeholders to report damages and losses caused by El Niño.
- g. Monitored the affected/vulnerable areas through situation report and National Agricultural Drought (NAD) Monitor using satellite images.
- h. Monitored incidents relative to pests and diseases.
- i. Conducted crop intensification to compensate losses by affected areas (quick turn-around, rationing, no idle time and space).
- j. Promoted more efficient soil supplementation/fertilization strategies (soil amelioration, slow release of fertilizer, deep placement, and mulching).
- k. Conducted vaccination, deworming, and vitamins supplementation programs.
- Conducted massive information and education drive to create awareness on El Niño phenomenon and its impact in agriculture and fisheries sector.
- m. Motivated stakeholder's participation and mobilize LGUs and Civil Society to actively participate in planning and program implementation.
- n. Initiated nationwide water conservation.

7. Department of Health (DOH)

- a. Conducted health monitoring on the effects of El Niño due to sudden change of temperature.
- b. Provided food supplementation against increase malnutrition, information, and health campaign and health advisories.
- c. Alerted all hospitals and health facilities.
- d. Augmented funds and logistics to regional offices and hospitals.
- e. DOH HEMB coordinated with the DRRM-H Managers of the Centers for Health Development and DOH-Retained and Specialty hospitals regarding the incident.
- f. Sent three (3) HEMB Staff to attend El Niño Action Planning Meeting at Local Water Utilities Administration (LWUA).

8. National Water Resource Board (NWRB)

- Conducted reduction of water allocation from Angat Dam for Municipal Water Supply and Irrigation in the provinces of Bulacan and part of Pampanga farm areas.
- b. Monitored the water level of major dams.

- c. Conducted aggressive campaign on water conservation in coordination with Metro manila LGUs and Government Institutions.
- d. Required water utilities/service providers (CPC Grantees) to prepare water conservation measures and submit the program to NWRB.

9. Metropolitan Waterworks and Sewerage System (MWSS)

- a. Assured water sufficiency and availability in Metro Manila.
- b. Managed water supply by reducing water pressure from 16 psi to 7 psi for water household consumption and irrigation.

10. National Electrification Administration (NEA)

- a. Placed electric cooperatives on alert.
- b. Ensured the availability of Cooperative Emergency Response and Action Plans.
- c. Established Task Force for quick response actions in relation to the effects of El Niño.

11. Bureau of Fire Protection (BFP)

- a. Conducted information campaign to indigenous communities in Pampanga due to the mode of cooking associated with grass and forest fires.
- b. Conducted Orientation on Safety Measures upon tourist registration prior to mountaineering activities.

12. Philippine National Police (PNP)

Placed assets (Utility Trucks, Light Trucks, Ambulance, Motorized Banca, Rubber Boats with OBM and Drum Boat) and search and rescue equipment (PNP Blue Box, Life Vest, Spine Board, Rescue Rope, Rappelling Set, Floaing Ring, Megaphone, Chainsaw, and Portable Electric Generator) on standby for possible mobilization.

13. Philippine Airforce (PAF)

A total of **seven (7) sorties** were accomplished by the Philippine Air Force as of 30 March 2019, in coordination with Bureau of Soils and Water Management over Region II.

C. Regional/Local Disaster Risk Reduction and Management Councils (R/LDRRMCs)

1. RDRRMCI

OCD I

- a. Disseminated warnings and other vital information regarding El Nino to all stakeholders.
- b. Coordinated with concerned RDRMMC member agencies and monitored their AOR.
- c. Conducted PDRA meeting for Dry Season on 12 April 2019 at Ariana Hotel, Bauang, La Union.

DSWDI

- a. Monitored the effects of El Niño with the Provincial Operations Offices (POOs), and ensured the submission of reports.
- b. Coordinated with the Office of Civil Defense Region 1 as well as with the different Provincial/City/ Municipal Disaster Risk Reduction and

- Management Councils (P/C/MDRRMCs) and Provincial/City/Municipal Social Welfare and Development Offices (P/C/MSWDOs) to synchronize plans and activities that would lessen the adverse effects brought by El Niño.
- c. Mainstreamed staff at the Provincial Operations Offices (POOs) and instructed to conduct validations of affected farmers and aquafarm operators initially reported by the DA for provision of appropriate assistance.

DA I

- a. Reactivated the El Niño Task Force.
- b. Coordinated with Local Government Units and monitored the AOR relative to the effects of El Niño.
- c. Provided quality seeds (Palay, Corn, Vegetables), soil ameliorants and veterinary drugs and medicine in non-vulnerable areas.
- d. Provided production inputs (Ammonium Sulfate), supplemental irrigation equipment, biological control agents, native pig, and silage package machine to vulnerable areas.
- e. Conducted pest surveillance, monitoring, and validation of emerging pests and diseases in vulnerable areas.
- f. Rehabilitated vulnerable areas through provision of palay seeds (Hybrid, Registered, Certified), installation of solar-powered irrigation system (SPIS), and establishment of rain harvesting facility and fuel subsidy.

BFARI

- a. Activated BFAR RFO I Command Center.
- b. Disseminated advisories to the RDRRMC I.
- c. Placed response teams on standby for possible deployment.

NIA I

- a. Adjusted the cropping calendar and pattern of planting in some areas.
- b. Speed-up the program of land soaking.
- c. Implemented rotation of irrigation delivery (water rationing) by series of lateral.
- d. Maximized the use of water pumps to augment water supply.
- e. Maintained/cleaned canal for smooth flow of irrigation water.
- f. Conducted weekly coordination meeting with LGU to review and evaluate water delivery and resolve conflict.
- g. Monitored the water distribution on areas being affected particularly at the downstream areas by the field operation staff.
- h. Programmed other crops on areas that were located at the tail end portion.
- i. Constructed brush dam.

PIA I

Conducted information education campaigns through production of press releases, radio programs, text blasts (SMS), social media cards and situation gathering and reporting.

PDRRMC Pangasinan

- a. Conducted Information, Education and Communication (IEC) campaign on El Niño for Public Health.
- b. Installed shallow tube wells.
- c. Repaired and rehabilitated the Communal Irrigation System (CIS).
- d. Conducted fingerlings dispersal reforestation.
- e. Coordinated with NFA, BFAR, and NIA and monitored its respective AOR.

2. RDRRMC CAR

- a. Issued Cordillera RDRRMC Memorandum No. 8-b, s. 2019 regarding the heightening of Alert Status for the reduction of fire incidents and effects of El Niño Phenomenon in the Cordillera Administrative Region.
- b. Drafted Memorandum of Understanding re Constitution of an Inter-Agency Task Group for the Risk Reduction and Mitigation of Fire Incidents and Effects of El Niño Phenomenon in the Cordillera Administrative Region.
- c. Issued Cordillera RDRRMC Memorandum No. 13, s. 2019 regarding Reiteration on the Guidelines of Declaring and Lifting an Area Under State of Calamity.

OCD CAR

- a. Monitored the Cordillera Region on the possible threats and effects forest fires.
- b. Conducted a coordination meeting with various agencies relative to Emergency Preparedness Measures.
- c. Spearheaded the 24/7 skeletal force manning the Cordillera RDRRMC Emergency Operations Center.
- d. Coordinated with member-agencies such as PAGASA Baguio Synoptic Station and DENR-CAR and sent advisories to the public, LDRRMCs, and member-agencies of the Cordillera RDRRMC.
- e. Led the information campaign and issuance of advisories through text blast and social media.

Police Regional Office-Cordillera (PROCOR)

Coordinated with the Cordillera RDRRMC EOC and placed on standby mode for possible disaster operations, deployment, and augmentation.

BFP CAR

- a. Coordinated with the Cordillera RDRRMC EOC and placed on standby alert mode for possible disaster operations, deployment, and augmentation.
- b. Strengthened the Oplan Ligtas Pamayanan through its fire volunteers.

DOH CAR

Monitored uneventful health and health-related incidents, in close coordination with the Cordillera RDRRMC EOC.

NIA CAR

- a. Distributed water pump engines in the Province of Kalinga.
- b. Distributed brochures and other related documents to heighten stakeholder's awareness.
- c. Implemented the water management on the four national irrigation system.

PIA CAR

Disseminated safety tips, public advisories, and road alerts in close coordination with the Cordillera RDRRMC EOC.

PAGASA Baguio

Monitored weather updates and disseminated advisories to the general public and concerned LDRRMCs.

DSWD CAR

- a. Trainees from the Philippine National Police- Regional Training Center and Personnel from the Philippine Army joined forces with the personnel of DSWD CAR Regional Warehouse in repacking of 1,268 Family Food Packs (FFPs).
- b. Twenty-one (21) Bureau Fire Protection Cordillera Administrative Region (BFP CAR) personnel joined with DSWD CAR- RROS in repacking 1,223 FFPs.
- c. Transferred 100 FFPs (NROC items) to SWAD Abra.

DA CAR

- a. Reactivated the El Niño Task Force of the agency.
- b. Conducted weekly monitoring and updating of PAGASA Weather forecast and Water Level in Dams.
- c. Conducted updating Small-Scale Irrigation Projects (SSIPs) and inventory of distributed available irrigation pumps.
- d. Validated data on standing crops and inventory of animals in vulnerable areas by municipality and ecosystem.
- e. Mapped out vulnerable areas based on standing crops by province, municipality, barangay, and ecosystem.
- f. Conducted procurement of engine pumps to augment irrigation.
- g. Requested Bureau of Soils and Water Management (BSWM) to conduct cloud seeding in provinces with standing crops (Ifugao, Apayao and Kalinga).
- h. Conducted inventory of 798 units pump and engine set to determine the condition and its functionality.
- i. Distributed 92 units of water pumps under Corn Program and HVCDP.
- j. Procured 50 units of water pump for distribution and 96 rolls of HDPE/Plastic pipes.
- k. Installed 4 units of Solar Powered Irrigation System (SPIS) with 10 hectares service area per unit.
- I. Prepositioned seeds for immediate distribution to the affected farmers:
 - 9,000 kgs of hybrid yellow corn seeds
 - 279,300 kgs of certified and registered rice seeds
 - 470 kgs. of vegetable seeds
- m. Irrigation Support/Assistance distributed water pumps under Corn Program and HVCDP to Abra, Benguet, Apayao, Ifugao, Kalinga, and Mt. Province.
- n. Requested Bureau of Soils and Water Management (BSWM) to conduct cloud seeding in provinces with standing crops (Ifugao, Apayao, and Kalinga) and to facilitate immediate conduct of training/briefing on cloud seeding operation prior to actual implementation of CSO.
- o. Requested DA Central to release fund for the Cloud Seeding Operation.

Presidential Management Staff (PMS-CAR)

Attended the Emergency Meeting in formulating action plan on how to mitigate the effects of El Niño Phenomenon.

National Grid Corporation Philippines (NGCP)

Conducted clearing operations on vegetation near the transmission lines.

Benguet Electric Cooperative (BENECO)

Conducted thermal scanning of distribution lines and monitoring for loads of transformer to avoid overloading.

National Power Corporation (NPC)

- a. Conducted information, education campaign on the importance of watershed and forest not only in hydropower generation but also in sheltering lives.
- b. Placed on standby relative to the construction of fire line in case of forest fire.
- c. Organized Quick Response Teams of the Barangay Watershed Task Force
- d. Strictly enforced Watershed Protection Law and other environmental laws

Philippine Air Force Tactical Operations Group 1 (TOG1)

Placed on standby for the possible conduct of cloud seeding operations.

Local DRRM COUNCIL

Baguio CDRRMC monitored AOR.

Benguet PDRRMC

- a. Coordinated with MDRRMCs and monitored El Niño updates.
- b. Placed the Emergency Operations Center on Blue Alert status throughout the peak of the El Niño Phenomenon to provide timely, accurate, and appropriate coordination and monitoring services.

3. RDRRMC II

OCD II

- a. Coordinated with concerned agencies and LGUs regarding its situation and monitoring.
- b. Discussed El Niño updates during the Cagayan Valley RDRRMC Meeting held on 14 March 2019.

DA II

- a. Conducted cloud seeding operations in certain parts of Baggao, Cagayan and in the cities/municipalities of Ilagan, Benito Soliven, and San Mariano, Isabela.
- b. Accomplished a total of three (3) sorties with a total amount of \$\mathbb{P}4.185,216.00.
- c. Procured seed reserve.

DOST-PAGASA (Northern Luzon)

- a. Conducted and aired the Monthly Regular Climate Outlook via Radyo Panahon Program and Radyo Pilipinas Tuguegarao.
- b. Conducted Climate Outlook Forum in the following areas:

- Qurino 11 March 2019
- Isabela 12 March 2019
- Cagayan Valley RDRRMC and Gonzaga, Cagayan 28 March 2019

NIA - MARIIS

- a. Conducted massive information campaign including conservation measures to all Irrigation Administration members.
- b. Maintained canal embankment and paddy bunds to minimize conveyance and farm losses.
- c. Encouraged farmers to plant early maturing and drought resistant rice variety.
- d. Implemented rotational scheme of irrigation by canal segment.
- e. Strictly enforced irrigation delivery schedule.
- f. Advised farmers to use pump drawing water from surface water source.
- g. Conducted cloud seeding operation.

PDRRMCs Isabela and Quirino

Monitored the effects brought by El Niño in their AOR.

CDRRMC Santiago, Isabela

Provided free gasoline and oil for water pumps to the affected farmers.

4. RDRRMC III

OCD III

Coordinated with concerned RDRMMC member agencies and monitored the AOR.

DA III

- Conducted initial assessment in affected areas with DA-LGU Mayantoc, Tarlac.
- b. Monitored the actual field situation to provide appropriate action in helping the affected farmers to recover from the damages incurred.

DRRMC San Fernando City, Pampanga

- a. Provided financial assistance to the affected farmers.
- b. Distributed farm machineries such as small irrigation facilities, tractors, mechanical transplanter, cultivator, seeds, knapsack sprayer, and power sprayer.

MDRRMC Gerona, Tarlac

- a. Conducted inspection in various barangays and coordinated with concerned departments regarding the effects of El Niño.
- b. Recommended that the sources of potable water in western barangays will be given priority to be addressed.
- c. Ensured adequate supply of potable water within the AOR.

5. RDRRMC CALABARZON

OCD CALABARZON

Coordinated with the LGUs relative to the status of the affected population.

DSWD CALABARZON

- a. Attended the regional Resource Operation Section (RROS) was alerted to ensure the availability of Family Food Packs (FFPs) and Non-Food Items (NFIs) should need arises.
- b. Coordinated with the LSWDOs, LDRRMOs, and regional offices of DA and NIA for updates, response, and interventions.

DA CALABARZON

A total of \$\mathbb{P}\$107,991,801.60 for 4 identified major components/strategies as presented during the 2nd Quarter Committee on Disaster Response (CDR) Meeting held on 18 June 2019.

PDRRMC QUEZON

- a. Created Task Force El Niño and identified vulnerable and affected areas.
- b. Validated data on standing crops and made an inventory of functional irrigation facilities and machineries.
- c. Monitored pests and diseases such as Brontispa, CSI, Army worms, etc.
- d. Arranged an El Niño Awareness Campaign and Crop Insurance Coverage for farmers and fisherfolks.
- e. Distributed irrigation facilities and inputs for alternative crops.

6. RDRRMC MIMAROPA

OCD MIMAROPA

- a. Conducted ocular assessment and data gathering.
- b. Coordinated with PDRRMO and DA re the effects of El Niño.
- c. Provided fuel assistance and three (3) units of water bladder tank to the Province of Occidental Mindoro.
- d. Attended the Regional El Niño Task Force Meeting on 20 March 2019.

DA MIMAROPA

- a. Conducted inventory of delivered units of water pumps.
- b. Coordinated with insurance agencies for the crop insurance claims and loan facilitation.

DSWD MIMAROPA

a. Validated the list of affected farmers in Sta. Cruz, Marindugue.

NEDA MIMAROPA

- a. Conducted Regional El Niño Task Force Meeting on 20 March 2019 in Calapan City, Oriental Mindoro.
- b. Reactivated the Regional El Niño Task Force anticipating Quick Relief from the DSWD, DOLE, and BFAR.

BFP MIMAROPA

- a. Conducted water rationing in the Municipalities of Sablayan, Mamburao, Lubang, Rizal, and Magsaysay in the Province of Occidental Mindoro.
- b. Conducted water flushing to alleviate the dusty environment brought by the dry season to the different barangays of Rizal, Occidental Mindoro.

NIA MIMAROPA

Issued a memorandum to all Division Managers of the MIMAROPA Irrigation Management Officers on the Strategies to Mitigate the effects of El Niño Phenomenon on Systems Operations.

DTI MIMAROPA

Conducted monthly price monitoring.

PDRRMC Occidental Mindoro

- a. Created Provincial inter-agency El Niño Task Force in the Provinces of Occidental Mindoro and Oriental Mindoro.
- b. Provided fuel assistance to the farmers.
- c. Provided 700 sacks of palay seeds to the affected families in the Municipalities of Looc and Lubang.

PDRRMC Marinduque

- a. Coordinated with the Provincial Agriculture and Veterinary Office on the effects of drought on livestock, crops, and fisheries.
- b. Attended the Municipal Agriculture and Fisheries Council Meeting in the Municipality of Boac and Torrijos.
- c. Organized a Provincial El Niño Task Force with the Provincial Agriculture Office.

MDRRMCs Boac and Mogpog, Marinduque

- a. Conducted field visitations to rice fields and barangays affected by drought.
- b. Coordinated with the Municipal Agricultural Office (MAO).

MDRRMC Buenavista, Marinduque

- a. Conducted field visitations to rice fields and farms affected by drought.
- b. Coordinated with the Municipal Agricultural Office.
- c. Coordinated with BFP for water rationing.
- d. Monitored and recorded rainfall via digital rain gauges.

MDRRMC Gasan, Marinduque

- a. Coordinated with the Municipal Agricultural Office.
- b. Coordinated with waterworks department for possible water shortage.
- c. Coordinated with BFP for water rationing.

MDRRMC Sta. Cruz, Marinduque

- a. Conducted a meeting with Barangay Captains regarding the effects of drought on 07 March 2019.
- b. Conducted water rationing in affected barangays.
- c. Conducted visual assessment on the effects of drought in crops.

MDRRMC Torrijos, Marinduque

- a. Purchased four (4) sets of square white tanks with suction pump and hose for possible water rationing.
- b. Monitored and visited rivers, and conducted inspection in the newly constructed water tanks/reservoir in Brgy. Cabuyo.

7. RDRRMC V

OCD V

 a. Coordinated with the Department of Agriculture (DA) Region V for the damages incurred by El Niño and for possible interventions.

- b. Monitored the effects brought by El Niño in the AOR.
- c. Coordinated with the DA Region V re the status of the affected population.

DA V

- a. Established Disaster Task Force.
- b. Mapped areas vulnerable to drought.
- c. Produced/distributed Information, Education, and Communication (IEC) materials.
- d. Provided quality seeds and ameliorants.
- e. Provided medium size tractor (36 hp) for dry land preparation.
- f. Provided appropriate seed varieties.
- g. Conducted initial validation on the reported crop damaged and dry-spell affected LGUs.

DSWD V

- a. Distributed Family Food Packs to the affected farmers.
- b. Augmented resources to the affected municipalities.
- c. Monitored the disaster relief operations at the provincial and city/municipality level.

PDRRMC Camarines Sur

- a. Conducted PDRRM Council meeting relative to El Niño and its effects in the Province.
- b. Coordinated with Provincial Agriculture Office for the damages brought by the dry season.
- c. Monitored the effects brought by El Niño in the entire Province.

PDRRMC Sorsogon

- a. Coordinated with the Provincial Agriculture for the damages brought by the dry season.
- b. Monitored the effects brought by El Niño in the entire Province.

PDRRMC Camarines Norte

Disseminated press statement and El Niño advisory.

8. RDRRMC VI

OCD VI

Coordinated with concerned PDRRMC for updates regarding ENSO.

DILG VI

- a. Allowed water concessionaires and water utilities to conduct emergency repair of leaks prior to securing the necessary excavation permit, provided the said permit shall be secured within a reasonable period from the commencement of the repair works.
- b. Implemented and updated existing contingency plans related to El Niño Phenomenon.
- c. Conducted mass Information, Education, and Communication campaigns in communities on the following:
 - Read monthly climate advisories issued by PAGASA
 - Check and immediately fix water leaks or report problems to appropriate authorities
 - Maximize rainwater harvesting and storage and water conservation measures

- Cooperate on local measures to help manage the impacts of El Niño
- Get crop insurance and check advisories from local agricultural officials
- d. Disseminated and implemented water conservation tips to all concerned.

DA VI

- a. Conducted information campaign through regional technical group/coordination meetings.
- b. Instructed the Provincial / Municipal agriculturists and farmer representatives to undertake necessary measures within its respective LGUs.
- c. Established insurance package for DA Project.
- d. Provided mungbeans as alternative crop for rice to Aklan and Antique due to closure of irrigation facilities of NIA.
- e. Conducted cloud seeding with funds amounting to ₱ 2.5M.
- f. Ensured the availability of standby funds, ready for distribution as need arises.

DSWD VI

- a. Requested NHTS data on magnitude of poor families in Western Visayas with at least one family member aged 15 y/o and above who are farm worker, agricultural laborers, and fisherfolk to be used as basis in identifying numbers of small farmers/laborers affected in every municipality.
- b. Issued Memorandum to Regional, Provincial/Municipal QRT dated April 29 for the weekly submission of El Niño report.

PDRRMC Negros Occidental

Allocated funds for logistical support for cloud seeding operation and for procurement of water pumps to mitigate the effects of dry spell.

CDRRMC Sipalay City, Negros Occidental

Monitored and disseminated El Niño advisories.

Office of the Provincial Agriculturist, Negros Occidental

- a. Provincial Crop Protection Team conducted field validation on 27 February 2019.
- b. Disseminated information to field agriculturist regarding PAGASA advisory for weak El Niño.

9. RDRRMC VII

DSWD VII

- a. Coordinated with the Provincial Government for the latest situational reports from the LGUs.
- b. DSWD Regional Warehouse managed the packing of food packs and volunteers to aid in the repacking.

10. RDRRMC VIII

OCD RO VIII

a. Monitored reported incidents related to El Niño phenomena in all provinces, cities, and municipalities in Eastern Visayas and respective

- actions taken and preparedness measures in its respective Areas of Responsibilities (AORs).
- b. Disseminated advisories on weather updates to RDRRMC Member Agencies and P/C/MDRRMOs.

DSWD VIII

- a. Prepositioned standby funds worth ₱3,000,00.00 and stockpiled food and non-food items.
- b. Prepositioned 795 workforce are ready to provide augmentation assistance.
- c. Alerted and advised SWAD Teams and DRMD-PDOs assigned at the provinces to closely coordinate with P/C/MSWDOs and/or P/C/MDRRMOs to report immediately any eventualities happening on the ground.
- d. Alerted the Quick Response Team (QRT) members and the Disaster Response Management Division (DRMD) to render 24/7 duty.
- e. Disaster Response Information Management Section (DRIMS) monitored the weather condition in close coordination with SWADTs, QRTs and PDOs and gathered updates on the ground.
- f. Ensured that the Regional Resource Operation Section (RROS) ensured the availability of Food and Non-Food commodities whenever needed in the affected areas.
- g. Provincial Action Team in Biliran distributed 3,067 Family Food Packs to the affected farmers by the drought.
- h. LGU of Hinabangan recorded a remaining 198 unclaimed Family Food Packs for the beneficiaries affected by drought.

DA VIII

Coordinated with APCOs per province relative to the effect of the El Niño.

CDRRMO Calbayog

Conducted water level monitoring at all major water sources and in the city for human consumption and irrigation.

Calbayog City Water District (CCWD)

Implemented a 12-hour (6-hour interval) water interruption to almost 11 barangays in Calbayog City and 5 barangays of Sta. Margarita, Samar covered under the service area of CCWD.

11. RDRRMC IX

DSWD IX

Provided a total of 60,225 family food packs to the affected families

12. RDRRMC X

OCD X

- a. Monitored the AOR for any further effects of dry spell/drought.
- b. Disseminated Climate Advisories to all RDRRMC X member- agencies and Local DRRMCs.

DSWD X

 Facilitated the conduct of Disaster Response Committee Meeting on 26 March 2019.

- b. Prepositioned Food Items and Non-Food Items for affected LGUs amounting to ₱112,082,243.06
- c. Augmented support to disaster-affected families and provided aid to the LGU through Family Food Packs.

NEDA X

- a. Convened the Regional Development Council (RDC) X Economic Development Committee (EDC) to formulate an action plan to prepare for and mitigate the impacts of El Niño on 04 March 2019.
- b. NEDA Project Monitoring and Evaluation Division (PMED) monitored the implementation of items that were stipulated in the action plan.
- c. Reactivated the RAIN Technical Working Group on 18 March 2019.
- d. RAIN TWG coordinated with RDRRMC X to avoid duplication of efforts and resources.

DOST-PAGASA X

- a. Disseminated Climate Advisory: El Niño Impact and Climate Outlook.
- b. Conducted Information and Education Campaign (IEC) through the trimedia and social media.

DA X

- a. Intensified monitoring and validation of reports via the activation of Provincial DA DRRM validating teams.
- b. Coordinated with LGUs to establish master listing of recipients of the Survival and Recovery (SURE) assistance under Agricultural Credit Policy Council (ACPC).
- c. Conducted meeting with the Philippine Crop Insurance Corporation (PCIC) for the collaboration of master listing for claims of indemnity on insurance coverage and FA for milled rice stocks positioning and with NIA for water allocation strategies.
- d. Conducted IEC through local tri-media to provide information and proper advisory.
- e. Developed 3 springs and constructed 6 small farm reservoirs.
- f. Distributed the following:
 - 137 units of pumps and engines to the Provincial Government.
 - 100 bags of registered rice seeds
 - 16,344 bags of registered rice seeds
 - 2,487 bags of OPV corn seeds
 - 83,192 bags of Hybrid corn seeds
 - 5.529 packets of assorted vegetable seeds
 - 1,696 vials of drugs and biologics consisting of vaccines and multivitamins to the affected Provincial LGUs.
 - 250 Liters of Insecticides
 - 200 kgs. of Fungicides
 - 250 kgs. Of Rodenticides

DA-BFAR

- Monitored water parameters to prevent the decrease of dissolved oxygen level.
- b. Provided assistance to the affected LGUs.

CDRRMC Valencia City

a. Conducted IEC through the tri-media, forums and meetings.

- b. Strengthened the forest fire prevention program.
- c. Conducted water rationing in Barangays Barobo, San Carlos, and Poblacion in Valencia City.
- d. Provided six (6) units of rain water collector in Dagat Kiddavao, Mt. Nebo, Laligan, and Banlag.

13. RDRRMC XI

OCD XI

- a. Monitored the AOR for any further effects of dry spell/drought in coordination with Local DRRMCs and DA XI.
- b. Disseminated Climate Advisories to all RDRRMC XI member- agencies and Local DRRMCs.

DA XI

- a. Monitored AOR for any further effects of dry spell/drought in coordination with Local DRRMCs and OCD XI
- b. Disseminated Climate Advisories to all and Local DRRMCs.
- c. Conducted Damage Assessment to all affected provinces in coordination with Local DRRMCs.
- d. Formulated DA XI El Nino Action Plan to provide assistance to all affected farmers in the region.
- e. Coordinated with OCD XI for the conduct of Cloud Seeding Operation as assistance to Davao del Sur Province.

DSWD XI

Distributed a total of 6,000 family food packs to affected families in Davao Oriental.

Local DRRMCs

- a. Monitored the AOR for any further effects of dry spell/drought in coordination with their P/MAGRO and DA XI.
- b. Conducted damage assessment together with P/MAGRO and DA XI.
- c. Davao del Sur PDRRMC provided food packs to affected farmers.

14. RDRRMC XII

OCD XII

- a. Coordinated with DA XII regarding the crop damage report in Cotabato Province.
- b. PDRRM Office and Office of the Provincial Agriculturist of Cotabato Province conducted assessment in the affected municipalities.

DA XII

- a. Conducted initial validation on the reported crop damage and dry-spell in the affected LGUs.
- b. Implemented the buffer stocking/prepositioning of rice and corn seeds.
- c. Provided mongo bean seeds and Shallow Tube Wells (STW) to affected farmers.
- d. Conducted cloudseeding operations with 5 sorties in the areas of Cotabato Province on 09 12 April 2019.
- e. Distributed 9,000 bags of palay seeds to severely affected areas.
- f. Conducted IEC to the farmers to prudently select drought-resilient crops such as rice varieties or plant legumes and root crops.

DSWD XII

In constant coordination with the Municipal Social Welfare and Development Offices (MSWDOs), Municipal Disaster Risk Reduction and Management Offices (MDRRMOs), and the Provincial Local Government Office (PLGU) of North Cotabato relative to the conduct of validation/ assessment.

15. RDRRMC CARAGA

DSWD CARAGA

- a. DRMD Personnel coordinated with the affected LGUs submitted by the Department of Agriculture for possible relief augmentation assistance.
- b. Provided a total of 1,299 FFPs as augmentation assistance to the affected families in Buenavista, Agusan del Norte amounting to ₱473,485.50.
- c. Advised the PDOs to follow-up updates regarding the effect of Weak El Niño to its assigned municipalities.
- d. Provided a total of 3,469 FFPs as augmentation assistance to the affected families in Las Nieves, Agusan del Norte amounting to ₱1,264,450.00.
- e. Conducted relief distribution of additional 6,938 FFPs to the affected families in Las Nieves, Agusan del Norte.
- f. Submitted the Work and Financial Plan/El Niño Action Plan for the provision of rice subsidy to the affected families.

16. RDRRMC BARMM

OCD BARMM

- a. Coordinated with Local DRRM Council concerned regarding the effects of El Niño in BARMM.
- b. Coordinated with all P/M/CDRRMC in BARMM for updates on actions taken to mitigate the effects of El Niño.
- c. Coordinated with the Ministry of Agriculture, Fisheries and Agrarian Reform (MOFAR) for gathering and consolidation of reports due to El Niño.
- d. Coordinated with the Ministry of Health (formerly known as DOH-ARMM) reactions taken to address the effects of El Niño.

Ministry of Local Government (formerly known as DILG-ARMM)

Issued a memorandum directing Local DRRM Chairpersons to conduct action planning in order to assess the possible extent of damage and conduct all necessary mitigation measures.

PDRRMC Maguindanao

PDRRMO Maguindanao conducted several assessments together with the Provincial and Municipal Agriculture Offices in the area regarding the extent of damages.

17. MMDRRMC

MMDA

- a. Presided the council meetings and gave guidance regarding the issues on the Metro Manila Water Supply Shortage.
- b. Continuous coordination with NWRB, MWSS, MWCII regarding the status of scheduled water interruptions.

OCD NCR

- a. Coordinated with the LGUs regarding the status of the affected population.
- b. Coordinated with NWRB, MWSS, MWCI regarding the status of scheduled water interruptions.
- c. Provided continues information/advisories to all concerned Agencies regarding advisories from PAGASA.
- d. Disseminated Manila Water Updates regarding the Notice of Scheduled Water Interruptions Notice.
- e. Conducted a full council meeting along with the water concessionaires.

DSWD NCR

- a. Prepositioned stockpile and provided status of commodities and Standby funds amounting to ₱3,292,543.50.
- b. Provided Disaster Assistance Family Access Card to requesting LGUs.
- c. Placed the Quick Response Teams of FO-NCR composed of organic staff from the Field Office and Centers and Residential Care Facilities (C/RCFs) on standby alert and were activated and mobilized in response to eventualities.

DILG NCR

- Sent information issued to all concerned DILG ROs and FOs regarding advisories issued by PAGASA.
- b. Issued Memorandum Circular for all LCEs to undertake preparedness measures for the El Niño Phenomenon.

DOST PAGASA NCR

- a. Issued the Climate Outlook for Metro Manila.
- b. Disseminated forecasts and advisories through press briefing/quadmedia.

PIA NCR

- a. Released IECs on the effects of El Niño.
- b. Disseminated information through website, text blasts, social media platform and forums about water conservation.

Metro Manila Center for Health Development (MMCHD)

Provided Jerry Cans to the affected communities.

National Water Resources Board

Approved the use of water wells of concessionaires concerned and requested LGUs to send a letter for the use of its existing local government units-controlled water wells.

Civil Service Commission

a. Provided 20,000 gallons/day and 2 tankers in service to augment the water requirement of heavily affected cities.

Manila Water Company

- a. Completed Cardona Water Treatment Plant on 31 March 2019-50 MLD.
- b. Conducted water Supply augmentation from Maynilad Water in March-April 2019 -50 MLD.
- c. Approved the temporary operations of Deep wells 100 MLD.

d. In constant coordination with LGUs for the utilization of LGU Mobile Tankers.

Maynilad Water Services Incorporated

Augmented water supply from Laguna Lake.

IV. DISASTER RESPONSE:

A. Cost of Assistance (TAB E)

- DA provided crop insurance to **92,192 farmers and fisherfolk** affected by El Niño in Regions I, II, III, CALABARZON, MIMAROPA, V, VI, VII, VIII, IX, X, XI, and XII. A total of **₱725,705,549.94** worth of claims were paid through the Philippine Crop Insurance Corporation (PCIC).
- Assistance from DSWD (₱25,414,408.46), LGU (₱79,582,250.00), and OCD (₱299,995.10) were provided to the affected families.

FINAL REPORT TAB A

Preparedness Measures and Effects of El Niño AFFECTED POPULATION

November 2018 to August 2019

Region/Province/ Mun/City		AFFECTED	
Mun/City	Brgys	Families	Persons
GRAND TOTAL	4,265	503,012	2,444,959
REGION I (ILOCOS REGION)	210	3,353	16,765
ILOCOS NORTE	32	677	3,385
LAOAG CITY	16	58	290
DINGRAS	7	199	995
PAGUDPUD	9	420	2,100
ILOCOS SUR	16	115	575
BURGOS	2	5	25
CABUGAO	6	64	320
GALIMUYOD	1	2	10
SALCEDO (BAUGEN)	2	32	160
SANTA CRUZ	5	12	60
LA UNION	94	1,320	6,600
SAN FERNANDO	1	3	15
AGOO	10	117	585
BACNOTAN	2	35	175
BALAOAN	13	130	650
BANGAR	12	339	1,695
LUNA	24	357	1,785
NAGUILIAN	-	3	15
SAN GABRIEL	9	43	215
SAN JUAN	12	91	455
SANTO TOMAS	7	23	115
SANTOL	1	30	150
SUDIPEN	3	149	745
PANGASINAN	68	1,241	6,205
BAYAMBANG	-	1	5
MANGALDAN	-	19	95
MANGATAREM	26	430	2,150
MAPANDAN	11	287	1,435
POZZORUBIO	11	154	770
SANTA BARBARA	20	350	1,750
REGION V (BICOL REGION)	662	22,687	113,435
ALBAY	243	6,938	34,690
BACACAY	6	79	395
CAMALIG	14	646	3,230
DARAGA	27	1,282	6,410
GUINOBATAN	15	363	1,815
JOVELLAR	16	225	1,125
LEGAZPI CITY	26	748	3,740
LIBON	47	1,450	7,250
<u>LIGAO CITY</u>	18	350	1,750
MALILIPOT	6	27	135

Region/Province/	AFFECTED			
Mun/City	Brgys	Families	Persons	
MALINAO	7	80	400	
MANITO	5	68	340	
OAS	26	464	2,320	
PIO DURAN	14	426	2,130	
SANTO DOMINGO (LIBOG)	4	75	375	
TABACO CITY	4	373	1,865	
TIWI	8	282	1,410	
CAMARINES SUR	419	15,749	78,745	
BAAO	2	52	260	
BALATAN	11	38	190	
ВАТО	12	215	1,075	
BOMBON	7	127	635	
BUHI	7	201	1,005	
BULA	13	240	1,200	
CABUSAO	4	142	710	
CALABANGA	15	990	4,950	
CAMALIGAN	7	187	935	
CANAMAN	14	263	1,315	
CARAMOAN	10	356	1,780	
DEL GALLEGO	3	31	155	
GAINZA	8	564	2,820	
GARCHITORENA	6	411	2,055	
GOA	3	165	825	
IRIGA CITY	20	134	670	
LAGONOY	16	489	2,445	
LIBMANAN	32	137	685	
MAGARAO	8	451	2,255	
MILAOR	18	468	2,340	
MINALABAC	7	645	3,225	
NABUA	9	144	720	
NAGA CITY	9	378	1,890	
OCAMPO	19	1,545	7,725	
PAMPLONA	15	2,993	14,965	
PASACAO	15	235	1,175	
PILI	11	437	2,185	
PRESENTACION (PARUBCAN)	2	19	95	
RAGAY	37	1,456	7,280	
SAGÑAY	7	148	740	
SAN FERNANDO	12	424	2,120	
SAN JOSE	15	200	1,000	
SIPOCOT	22	1,233	6,165	
SIRUMA	10	1,233	560	
TIGAON	5	90	450	
TINAMBAC	8	29	145	
REGION VI (WESTERN VISAYAS)	1,039	126,139	610,644	
ANTIQUE	10	897	4,967	
			•	
SIBALOM	10	897	4,967	
	243	31,449	155,995	
CUARTERO	22	2,252	11,260	
DAO	20	662	2,060	
DUMARAO	16	1,985	9,925	
JAMINDAN	16	618	3,090	

Region/Province/		AFFECTED			
Mun/City	Brgys	Families	Persons		
MA-AYON	32	1,981	9,905		
MAMBUSAO	26	921	4,605		
PANAY	8	376	1,880		
PANITAN	26	586	2,930		
PILAR	24	10,120	50,600		
PRESIDENT ROXAS	22	2,975	14,875		
SAPI-AN	10	1,530	7,650		
SIGMA	21	7,443	37,215		
ILOILO	786	93,793	449,682		
AJUY	23	835	4,175		
BADIANGAN	26	1,404	7,020		
BAROTAC VIEJO	19	1,534	7,670		
CABATUAN	56	5,353	26,765		
CALINOG	55	1,356	6,780		
CARLES	22	1,425	5,525		
DINGLE	21	1,717	7,726		
DUEÑAS	47	1,034	5,203		
IGBARAS	22	1,940	8,644		
JANIUAY	60	4,829	24,239		
LAMBUNAO	73	18,557	92,785		
LEMERY	31	8,553	42,765		
LEON	61	438	2,190		
MAASIN	42		,		
MIAGAO	26	3,930 1,990	15,826 8,574		
NEW LUCENA	21	678	3,390		
PASSI	48	12,175	60,865		
POTOTAN	11	82	410		
SAN DIONISIO	29	9,759	38,110		
SAN RAFAEL	9	615	3,075		
SARA	42	14,735	73,675		
TUBUNGAN	42	854	4,270		
REGION VIII (EASTERN VISAYAS)	882	54,202	270,510		
BILIRAN	52	4,268	21,340		
ALMERIA	8	78	390		
BILIRAN	10	2,650	13,250		
CABUCGAYAN	6	68	340		
CAIBIRAN	8	477	2,385		
CULABA	4	285	1,425		
MARIPIPI	1	300	1,500		
NAVAL	15	410	2,050		
EASTERN SAMAR	16	437	2,685		
ARTECHE	4	17	85		
DOLORES	11	120	1,100		
SALCEDO	1	300	1,500		
LEYTE	259	33,471	167,355		
BARUGO	19	231	1,155		
CALUBIAN	27	416	2,080		
CARIGARA	29	864	4,320		
HILONGOS	18	288	1,440		
HINDANG	1	3	15		

Region/Province/ Mun/City		AFFECTED			
Mun/City	Brgys	Families	Persons		
INOPACAN	19	440	2,200		
ISABEL	7	203	1,015		
KANANGA	1	202	1,010		
LEYTE	30	10,112	50,560		
<u>ORMOC</u>	10	450	2,250		
SAN ISIDRO	19	7,717	38,585		
SAN MIGUEL	20	1,653	8,265		
TABANGO	1	1,238	6,190		
<u>TACLOBAN</u>	12	144	720		
TANAUAN	1	13	65		
TOLOSA	10	125	625		
VILLABA	35	9,372	46,860		
NORTHERN SAMAR	183	4,442	21,210		
ALLEN	1	254	1,270		
BIRI	4	24	120		
BOBON	1	260	1,300		
CAPUL	1	200	100		
CATARMAN	17	501	2,505		
CATUBIG	26	537	2,685		
GAMAY	1	30	150		
LAOANG	33	403	2,015		
LAPINIG	5	34	170		
LAS NAVAS	34	616	3,080		
LAVEZARES	11	119	595		
LOPE DE VEGA	5	22	110		
MAPANAS	1	68	340		
MONDRAGON	20	157	785		
PALAPAG	1	227	1,135		
PAMBUJAN	14	576	2,880		
ROSARIO	1	40	100		
SAN ANTONIO	1	25	125		
SAN ISIDRO	3	20	100		
SAN JOSE	1	150	750		
SAN ROQUE	1	97	485		
VICTORIA	1	82	410		
SAMAR (WESTERN SAMAR)	314	10,418	52,090		
CALBAYOG	51	400	2,000		
CATBALOGAN	11	288	1,440		
GANDARA	65	2,973	14,865		
HINABANGAN	20	761	3,805		
MATUGUINAO	20	342	1,710		
MOTIONG	26	1,179	5,895		
PAGSANGHAN	11	323	1,615		
PINABACDAO	1	325	1,625		
SAN JORGE	40	1,534	7,670		
SAN SEBASTIAN	14	798	3,990		
SANTA MARGARITA	12	212	1,060		
TAGAPUL-AN	14	652	3,260		
TARANGNAN	19	377	1,885		
VILLAREAL	9	107	535		
ZUMARRAGA	1	147	735		

Region/Province/	AFFECTED			
Mun/City	Brgys	Families	Persons	
SOUTHERN LEYTE	58	1,166	5,830	
BONTOC	7	125	625	
LIBAGON	7	349	1,745	
MAASIN	22	425	2,125	
MACROHON	16	224	1,120	
PADRE BURGOS	3	26	130	
PINTUYAN	1	1	5	
SAN JUAN (CABALIAN)	1	12	60	
TOMAS OPPUS	1	4	20	
REGION IX (ZAMBOANGA PENINSULA)	599	40,580	202,015	
CITY OF ISABELA	49	1,755	8,775	
ZAMBOANGA DEL NORTE	218	12,508	62,540	
GUTALAC	23	63	315	
KATIPUNAN	26	1,560	7,800	
LABASON	15	959	4,795	
LILOY	20	165	825	
PIÑAN (NEW PIÑAN)	22	402	2,010	
PRES. MANUEL A. ROXAS	12	541	2,705	
SERGIO OSMEÑA SR	39	2,939	14,695	
SIAYAN	22	4,400	22,000	
SINDANGAN	23	692	3,460	
SIOCON	16	787	3,935	
ZAMBOANGA DEL SUR	184	16,743	82,830	
DIMATALING	22	1,050	4,365	
DUMINGAG	44	5,664	28,320	
PAGADIAN CITY	40	2,802	14,010	
ZAMBOANGA CITY	78	7,227	36,135	
ZAMBOANGA SIBUGAY	148	9,574	47,870	
ALICIA	19	2,992	14,960	
DIPLAHAN	18	1,154	5,770	
IMELDA	18	669	3,345	
NAGA	23	865	4,325	
OLUTANGA	11	1,037	5,185	
ROSELLER LIM	12	219	1,095	
SIAY	18	903	4,515	
TITAY	17	1,460	7,300	
TUNGAWAN	12	275	1,375	
REGION X (NORTHERN MINDANAO)	338	91,361	456,805	
BUKIDNON	291	86,447	432,235	
BAUNGON			,	
CABANGLASAN	-	2,208	11,040	
DAMULOG	27	399	1,995	
DANGCAGAN	14	625	3,125	
KADINGILAN	17	2,090	10,450	
KALILANGAN	12	1,684	8,420	
KIBAWE	23	1,588	7,940	
KITAOTAO	35	3,518	17,590	
LANTAPAN	14	361	1,805	
LIBONA	14	751	3,755	
MALAYBALAY CITY	35	4,190	20,950	

Region/Province/	AFFECTED			
Mun/City	Brgys	Families	Persons	
MALITBOG	-	572	2,860	
PANGANTUCAN	16	3,146	15,730	
QUEZON	23	6,150	30,750	
SUMILAO	10	443	2,215	
TALAKAG	20	3,522	17,610	
<u>VALENCIA</u>	31	55,200	276,000	
MISAMIS OCCIDENTAL	15	1,000	5,000	
BALIANGAO	15	1,000	5,000	
MISAMIS ORIENTAL	32	3,914	19,570	
CAGAYAN DE ORO CITY	23	2,833	14,165	
VILLANUEVA	9	1,081	5,405	
REGION XI (DAVAO REGION)	95	70,696	306,618	
DAVAO DEL SUR	74	61,972	262,998	
BANSALAN	12	15,118	75,590	
KIBLAWAN	4	827	1,556	
MAGSAYSAY	11	13,667	68,335	
MALALAG	-	2,494	8,264	
MATANAO	33	13,230	38,411	
PADADA	14	2,815	14,075	
SANTA CRUZ	-	4,523	10,277	
SULOP	-	9,298	46,490	
DAVAO ORIENTAL	10	6,782	33,910	
TARRAGONA	10	6,782	33,910	
DAVAO OCCIDENTAL	11	1,942	9,710	
SARANGANI	11	1,942	9,710	
REGION XII (SOCCSKSARGEN)	110	71,909	359,545	
COTABATO (NORTH COTABATO)	110	71,909	359,545	
ALAMADA	17	15,655	78,275	
ALEOSAN	19	10,447	52,235	
KABACAN	10	883	4,415	
PIGKAWAYAN	22	797	3,985	
PIKIT	42	44,127	220,635	
REGION XIII (CARAGA)	94	5,667	28,335	
AGUSAN DEL NORTE	68	4,931	24,655	
BUENAVISTA	7	433	2,165	
BUTUAN CITY	30	744	3,720	
KITCHARAO	10	188	940	
LAS NIEVES	19	3,469	17,345	
MAGALLANES	2	97	485	
AGUSAN DEL SUR	26	736	3,680	
ESPERANZA	15	369	1,845	
TALACOGON	11	367	1,835	
CAR	236	16,418	80,287	
ABRA	40	1,051	4,853	
BANGUED	13	157	542	
LAGANGILANG	11	95	312	
LANGIDEN	6	507	2,535	
PEÑARRUBIA	1	219	1,099	
IFENARRUDIA		219	1.033	

Region/Province/ Mun/City		AFFECTED		
widil/City	Brgys	Families	Persons	
APAYAO	39	2,916	13,174	
FLORA	10	1,374	5,576	
KABUGAO	18	954	4,658	
SANTA MARCELA	11	588	2,940	
BENGUET	1	89	445	
BOKOD	1	89	445	
IFUGAO	129	9,669	48,350	
AGUINALDO	13	1,062	5,310	
ALFONSO LISTA (POTIA)	20	2,897	14,485	
ASIPULO	6	96	480	
BANAUE	14	681	3,405	
HINGYON	11	433	2,165	
HUNGDUAN	9	2,763	13,815	
KIANGAN	11	283	1,415	
LAGAWE	17	713	3,565	
LAMUT	15	607	3,035	
MAYOYAO	13	134	675	
KALINGA	18	837	4,185	
BALBALAN	9	370	1,850	
LUBUAGAN	9	467	2,335	
MOUNTAIN PROVINCE	9	1,856	9,280	
PARACELIS	9	1,856	9,280	

Source: DSWD DROMIC Report No. 16 as of 09 October 2019, 6:00 PM

AFFECTED AREAS			
REGIONS	10		
PROVINCES	33		
CITIES	18		
MUNICIPALITIES	257		

Preparedness Measures and Effects of El Niño COST OF DAMAGES November 2018 to August 2019

REGION/PROVINCE	RICE	CORN	HVC	FISHERIES	TOTAL DAMAGES TO AGRICULTURE
GRAND TOTAL	4,036,678,750.51	3,885,563,721.69	27,871,912.28	12,407,479.00	7,962,521,863.48
CAR	408,246,044.93	1,137,118,946.25	10,542,914.30	-	1,555,907,905.48
Abra	6,702,153.00	-	36,000.00	-	6,738,153.00
Apayao	251,465,112.93	366,447,894.50	10,506,914.30	-	628,419,921.73
Ifugao	43,373,100.00	333,650,206.75	-	-	377,023,306.75
Kalinga	105,983,179.00	277,621,845.00	-	-	383,605,024.00
Mt. Province	722,500.00	159,399,000.00	_	_	160,121,500.00
1	33,699,565.50	544,597.50	1,761,000.00	1,427,600.00	37,432,763.00
Ilocos Norte	11,393,460.00	165,262.50	-	261,000.00	11,819,722.50
La Union	12,174,445.50	379,335.00	1,761,000.00	1,166,600.00	15,481,380.50
Pangasinan	10,131,660.00	-	-	-	10,131,660.00
II I	915,282,981.11	1,760,402,052.18	_	_	2,675,685,033.29
Cagayan	651,238,697.38	630,729,319.04	_	_	1,281,968,016.42
			-	_	
Isabela	178,936,693.33	867,473,616.14	-	-	1,046,410,309.47
Nueva Vizcaya	23,748,110.40	18,698,750.50	-	-	42,446,860.90
Quirino	61,359,480.00	243,500,366.50	-	-	304,859,846.50
III	5,544,624.02	-	-	-	5,544,624.02
Bulacan	5,544,624.02	-	-	-	5,544,624.02
CALABARZON	168,584,572.44	7,204,100.00	777,675.00	-	176,566,347.44
Batangas	275,200.00	-	-	-	275,200.00
Laguna	32,724,456.00	671,200.00	-	-	33,395,656.00
Rizal	7,710,300.00	-	777,675.00		8,487,975.00
Quezon	127,874,616.44	6,532,900.00	111,010.00		134,407,516.44
MIMAROPA	621,612,714.39	6,893,350.00	7,606,600.00	-	636,112,664.39
Romblon	4,508,400.00	-	-	-	4,508,400.00
Occidental Mindoro	261,767,425.00	5,966,350.00	7,606,600.00	-	275,340,375.00
Oriental Mindoro	30,292,870.72	-	-	-	30,292,870.72
Palawan	316,079,710.12	927,000.00	-	-	317,006,710.12
Marinduque	8,964,308.55	-	-	-	8,964,308.55
V	580,975,286.62	277,416,887.90	285,291.38	-	858,677,465.90
Albay	42,397,702.64	16,402,736.50	-	-	58,800,439.14
Camarines Norte	8,308,081.29	-	-	-	8,308,081.29
Camarines Sur	501,587,102.69	260,850,079.15	285,291.38	-	762,722,473.22
Masbate	28,682,400.00	164,072.25	-	-	28,846,472.25
VI	100,973,007.43	-	-	-	100,973,007.43
Antique	10,527,708.77	-	-	-	10,527,708.77
Capiz Iloilo	6,616,470.00 68,069,924.20	-+	-	-	6,616,470.00
Negros Occidental	15,758,904.46		-		68,069,924.20 15,758,904.46
VII	15,756,904.40	-	_	10,085,479.00	10,085,479.00
Cebu	_	_	-	10,085,479.00	10,085,479.00
VIII	337,443,679.41	843,050.00	-	10,000,475.00	338,286,729.41
Biliran	11,175,207.00	-			11,175,207.00
Leyte	68,525,614.81	843,050.00	-	-	69,368,664.81
Eastern Samar	113,184,191.00	-	-	-	113,184,191.00
Northern Samar	10,720,495.00	-	-	-	10,720,495.00
Samar	132,531,089.60	-	-		132,531,089.60
Southern Leyte	1,307,082.00	-		_	1,307,082.00
IX	292,813,246.15	17,100,474.72	-	894,400.00	310,808,120.87
Zambo. City	3,573,481.00	2,158,560.00	-	894,400.00	6,626,441.00
Zambo. del Norte	110,195,412.75	4,002,732.50	-	-	114,198,145.25
Zambo. del Sur	46,421,699.24	9,834,927.22 Page 1	-	-	56,256,626.46

REGION/PROVINCE	RICE	CORN	нус	FISHERIES	TOTAL DAMAGES TO AGRICULTURE
Zambo. Sibugay	132,622,653.16	1,104,255.00	-	-	133,726,908.16
X	11,489,943.43	327,549,317.90	6,898,431.60	-	345,937,692.93
Bukidnon	10,102,535.75	318,053,231.50	6,169,881.60	-	334,325,648.85
Misamis Oriental	1,387,407.68	9,496,086.40	728,550.00	-	11,612,044.08
XI	49,949,347.19	142,800.00	-	-	50,092,147.19
Davao del Sur	49,949,347.19	142,800.00			50,092,147.19
XII	43,542,878.49	88,036,908.50	-	-	131,579,786.99
North Cotabato	36,481,264.26	88,036,908.50			124,518,172.76
South Cotabato	1,597,250.40	-			1,597,250.40
Sultan Kudarat	5,464,363.83	-			5,464,363.83
XIII	92,402,603.92	175,801.00	-	-	92,578,404.92
Agusan del Norte	66,130,626.92	-			66,130,626.92
Agusan del Sur	26,271,977.00	175,801.00			26,447,778.00
BARMM	374,118,255.48	262,135,435.74	-	-	636,253,691.22
Lanao del Sur	161,545,680.00	71,366,996.00	-		232,912,676.00
Maguindanao	212,572,575.48	190,768,439.74	-		403,341,015.22

Source: DA update report on damages caused by El Niño as of 25 April 2019

Preparedness Measures and Effects of El Niño <u>Declaration of State of Calamity</u> (November 2018 to August 2019)

Paracelis, Mountain Province 18-Mar-19 SB Res. No. 2019-021	REGION / AREA	DATE	RESOLUTION NUMBER
REGION I Dupax Del Norte, Nueva Vizcays 15-Mar-19 Res. No. 2019-03			
Dupax Del Norte, Nueva Vizcaya 15-Mar-19		18-Mar-19	SB Res. No. 2019-021
REGION CALABARZON			
Province of Quezon		15-Mar-19	Res. No. 2019-03
REGION MIMAROPA		20.14	D N 0040 400
Province of Occidental Mindoro			
Province of Occidental Mindoro		03-Jun-19	Res. No. 2019-049
San Jose, Occidental Mindoro O5-Mar-19 SB Res. No. 5068 Rizal, Occidental Mindoro O7-Mar-19 SB Res. No. 2019-14 Siza, Cruz, Marinduque 19-Mar-19 SB Res. No. 109 s. of 2019 Aborfan, Palawan 20-Jun-19 SB Res. No. 109 s. of 2019 REGION V		10 Mor 10	SP Pos No. 70
Rizal, Occidental Mindoro O7-Mar-19 SB Res. No. 2019-14 Sta. Cruz, Marinduque 19-Mar-19 SB Res. No. 109 s. of 2019 Aborlan, Palawan 20-Jun-19 SB Res. No. 109 s. of 2019 REGION V 20-Mar-19 Res. No. 920 S. of 2019 Province of Camarines Sur 20-Mar-19 Res. No. 920 S. of 2019 Province of Camarines Sur 20-Mar-19 Res. No. 920 S. of 2019 REGION VI Province of Iloito 31-May-19 Res. No. 2019-101 Lambunao, Iloito 08-Apr-19 Res. No. 19-033 Bingawan, Iloito 25-Mar-19 SB Res. No. 11-2019 Sta. Barbara, Iloito 17-Apr-19 Res. No. 2019-031 Massin, Iloito 17-Apr-19 Res. No. 2019-0115 Massin, Iloito 18-Apr-19 Res. No. 2019-039 Murcia, Negros Occidental 20-Mar-19 Res. No. 2019-039 REGION VII 25-Mar-19 Res. No. 2019-037 REGION VII San Isidro, Leyte 22-Apr-19 Res. No. 946-2019 REGION XI San Isidro, Leyte 22-Apr-19 Res. No. 2019-059 REGION XI San Isidro, Leyte 22-Apr-19 Res. No. 2019-059 REGION XI Bansalan, Davao Del Sur 28-Jan-19 Res. No. 31 s 2019 REGION XI Bansalan, Davao Del Sur 28-Jan-19 Res. No. 18-741, s. of 2019 REGION XI Bansalan, Davao Del Sur 28-Jan-19 Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 178 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 178 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 178 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-741, s. of 2019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res. No. 18-82019 REGION XI San Isidro, Leyte 12-Mar-19 SP Res.			
Sta. Cruz, Marinduque	·		
REGION V	,		
Resion V Province of Camarines Sur 20-Mar-19 Res. No. 920 S. of 2019			
Province of Iloilo			02 1100 1 1101 20 10 00
Province of Iloilo	Province of Camarines Sur	20-Mar-19	Res. No. 920 S. of 2019
Lambunao, Iloilo 08-Apr-19 Res. No. 19-033			
Lambunao, Iloilo	Province of Iloilo	31-May-19	Res No. 2019-101
Sta. Barbara, Iloito	Lambunao, Iloilo		
Janiuay, Iloilo	Bingawan, Iloilo	25-Mar-19	SB Res. No. 11-2019
Massin, Iloito 19-Apr-19 Res. No. 2019-039 Murcia, Negros Occidental 20-Mar-19 Res. No. 2019-017 REGION VII Cebu City 25-Mar-19 Res. No. 2019-017 REGION VII Pres. Carlos P. Garcia, Bohol 09-Sep-19 Mun. Res. No. 15-124 REGION VIII San Isidro, Leyte 22-Apr-19 Res. No. 2019-059 REGION IX Zamboanga City 05-Mar-19 SP Res. No. 2019-059 REGION IX Bansalan, Davao Del Sur 28-Jan-19 Res. No. 31 s 2019 REGION XI Bansalan, Davao Del Sur 05-Mar-19 Res. No. 18-741, s. of 2019 REGION XI SP Res. No. 18-741, s. of 2019 REGION XI SP Res. No. 18-741, s. of 2019 SP Res. No. 18-741, s. of 2019 REGION XI SP Res. No. 18-741, s. of 2019 SP Res. No. 18-741, s. of 2019 REGION XI SP Res. No. 18-741, s. of 2019 SP Res. No. 19-577 Malanda, Cotabato 11-Feb-19 SP Res. No. 19-577 SP Res. No. 18-741, s. of 2019 SP Res. No. 2019-577 SP Res. No. 2019-2019 Resolution No. 2019	Sta. Barbara, Iloilo	17-Apr-19	Res. No. 48-S-2019
Murcia, Negros Occidental 20-Mar-19 Res. No. 2019-017		17-Apr-19	Res. No. 2019-0115
Cebu City 25-Mar-19	Maasin, Iloilo	18-Apr-19	Res. No. 2019-039
Cebu City		20-Mar-19	Res. No. 2019-017
Pres. Carlos P. Garcia, Bohol 09-Sep-19 Mun. Res. No. 15-124			
REGION VIII San Isidro, Leyte 22-Apr-19 Res. No. 2019-059			
San Isidro, Leyte 22-Apr-19 Res. No. 2019-059		09-Sep-19	Mun. Res. No. 15-124
REGION IX SP Res. No. 209 SP Res. No. 209 REGION XI		00.4.40	D N 0040 050
Bansalan, Davao Del Sur 28-Jan-19 Res No. 31 s 2019 Region XI		22-Apr-19	Res. No. 2019-059
Bansalan, Davao Del Sur 28-Jan-19 Res No. 31 s 2019 Matanao, Davao Del Sur 05-Mar-19 Res. No. 18-741, s. of 2019 REGION XII		OF Mar 10	CD Dog No 200
Bansalan, Davao Del Sur 28-Jan-19 Res No. 31 s 2019		05-Wai-19	SP Res. No. 209
REGION XII O5-Mar-19 Res. No. 18-741, s. of 2019 REGION XII SP Res. No. 178 Cotabato Province 12-Mar-19 SP Res. No. 2019-577 M'lang, Cotabato 11-Feb-19 SB Res. No. 2019-577 M'lang, Cotabato 13-Feb-19 SB Res. No. 633-2019 Pikit, Cotabato 18-Feb-19 SB Res. No. 19-010 Aleosan, Cotabato 19-Feb-19 SB Res. No. 096 – 2019 Magpet, Cotabato 06-Mar-19 SB Res. No. 096 – 2019 Tulunan, Cotabato 07-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 10-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 SB Res. No. 19-09-882 Kidapawan City, Cotabato 19-Mar-19 Res No. 89 S, 2019 Kidapawan City, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Sultan Kudarat Province 25-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 19-Mar-19 Resolution No. 316 S. 2019	_	28- Jan-10	Res No. 31 s 2019
REGION XII SP Res. No. 178 Cotabato Province 12-Mar-19 SP Res. No. 178 Alamada, Cotabato 11-Feb-19 SB Res. No. 2019-577 M'lang, Cotabato 13-Feb-19 SB Res. No. 2019-577 M'lang, Cotabato 18-Feb-19 SB Res. No. 19-010 Aleosan, Cotabato 19-Feb-19 SB Res. No. 096-2019 Magpet, Cotabato 06-Mar-19 SB Res. No. 096-2019 Tulunan, Cotabato 07-Mar-19 SB Res. No. 096-2019 Arakan, Cotabato 10-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 Res No. 19-09-882 Midapawan City, Cotabato 19-Mar-19 Res No. 19-00-882 Matalam, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Sultan Kudarat Province 25-Mar-19 Resolution No. 21 s. 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 19-Mar-19 Resolution No. 316 S. 2019 Provi	, ,		
Alamada, Cotabato	,	OO IVIAI 10	100.10.10.741, 0. 01 2010
Alamada, Cotabato		12-Mar-19	SP Res. No. 178
M'lang, Cotabato 13-Feb-19 SB Res. No. 633-2019 Pikit, Cotabato 18-Feb-19 SB Res. No. 19-010 Aleosan, Cotabato 19-Feb-19 SB Res. No. 096 – 2019 Magpet, Cotabato 06-Mar-19 SB Res. No. 096 – 2019 Tulunan, Cotabato 07-Mar-19 SB Res. No. 19-09-882 Arakan, Cotabato 10-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 SB Res. No. 19-09-82 Kidapawan City, Cotabato 19-Mar-19 Res No. 89 S, 2019 Kidapawan City, Cotabato 19-Mar-19 Resolution No. 12-2019-982 Sultan Kudarat Province 26-Mar-19 Municipal Res. No. 12 s. 2019 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 BARMM Paglat, Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Municipality of Datu Abdullah Sangki, Maguindanao 25-Mar-19 Resolution No. 003-147 DASSB S.	-		
Pikit, Cotabato			
Aleosan, Cotabato 19-Feb-19 SB Res. No. C-421			
Tulunan, Cotabato 07-Mar-19 SB Res. No. 966 Arakan, Cotabato 10-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 SB Res No. 89 S, 2019 Kidapawan City, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Resolution No. 003-147 DASSB S. 2019 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019		19-Feb-19	SB Res. No. C-421
Arakan, Cotabato 10-Mar-19 SB Res. No. 19-09-882 Matalam, Cotabato 13-Mar-19 SB Res No. 89 S, 2019 Kidapawan City, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019	Magpet, Cotabato	06-Mar-19	SB Res. No. 096 – 2019
Matalam, Cotabato 13-Mar-19 SB Res No. 89 S, 2019 Kidapawan City, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019	Tulunan, Cotabato	07-Mar-19	SB Res. No. 966
Kidapawan City, Cotabato 19-Mar-19 Res No. 19-106 T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 BARMM 19-Mar-19 Resolution No. 316 S. 2019 Province of Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Resolution No. 003-147 DASSB S. 2019 Resolution No. 003-147 DASSB S. 2019	Arakan, Cotabato	10-Mar-19	SB Res. No. 19-09-882
T'Boli, South Cotobato 26-Mar-19 Municipal Res. No. 12 s. 2019 Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Res No. 05, S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
Alabel, Sarangani 20-Mar-19 Resolution No. 12-2019-929 Sultan Kudarat Province 25-Mar-19 Resolution No. 76 s. of 2019 Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Res No. 05, S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
Sultan Kudarat Province Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 76 s. of 2019 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Paglat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Resolution No. 003-147 DASSB S. 2019 Resolution No. 003-147 DASSB S. 2019			
Bagumbayan, Sultan Kudarat 19-Mar-19 Resolution No. 2019-22 Lutayan, Sultan Kudarat 13-Mar-19 Res No. 05, S. 2019 BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
BARMM 13-Mar-19 Res No. 05, S. 2019 Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
BARMM Province of Maguindanao 19-Mar-19 Resolution No. 316 S. 2019 Paglat, Maguindanao 19-Mar-19 Resolution No. 81 s. 2019 Sultan Kudarat, Maguindanao 14-Mar-19 Res. No. 19-08 s. 2019 Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
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Matanog, Maguindanao 25-Mar-19 Res. No. 109-'19 Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
Municipality of Datu Abdullah Sangki, Maguindanao 13-Mar-19 Resolution No. 003-147 DASSB S. 2019			
			Resolution No. 003-147 DASSB S.
	Pagalungan, Maguindanao	04-Mar-19	Resolution No. 01 s. 2019

REGION / AREA	DATE	RESOLUTION NUMBER
Upi, Maguindanao	06-Mar-19	SB Resolution No. 16 s. 2019
Municipality of Ampatuan, Maguindanao	25-Mar-19	Municipal Resolution No. 2019-31
Municipality of Wao, Lanao del Sur	11-Mar-19	Resolution No. 19 S. 2019
Province of Basilan	28-Mar-19	Resolution No. 2019-13 s. 2019

Sources: OCDROs CAR, II, CALABARZON, MIMAROPA, V, VI, VII, VIII, IX, XI, XII, and BARMM.

Preparedness Measures and Effects of El Niño

CLOUD SEEDING OPERATIONS (CSOps) November 2018 until August 2019

REGION / TARGET AREA	INCLUSIVE DATES OF OPERATION	AIRCRAFT USED	NO. OF SORTIES CONDUCTED and TOTAL TIME CONSUMED for the OPERATIONS	SUCCESS RATE	REMARKS	FUND SOURCE
Magat Watershed and Agricultural Areas in Region II	24 March - 4 June 2019	Piper Aztec of Pegasus Air Services, Inc.	67 sorties (75 hours)	62 out of 67 sorties (92.53%) produced light (Trace - 2.5mm) and moderate to heavy (>7.5mm) rainfall in the covered areas	For the period of 24 March to 4 June 2019 - Reservoir water level of Magat Dam increased by 24.44 meters. CSOps in Region II concluded on 4 June 2019	BSWM EI Niño Fund downloaded to DA RFO II thru MOA
La Mesa Watershed (NCR) and Angat Watershed (Region III)	10 April - 30 July 2019	BN21 Islander of Flitelien Airways	60 sorties (75 hours and 38 minutes) •29 sorties- La Mesa Watershed •31 sorties- Angat Watershed	56 out of 60 sorties (93.33%) produced light (trace - 2.5mm) and moderate to heavy (>7.5mm) rainfall in the La Mesa and Angat Watershed	La Mesa Treatment Plant rain gauge* recorded 506mm (*no rain gauge in watershed area) and 367.75mm in Angat watershed from the start of operation to 25 June 2019	Manila Water Company, Inc.
Irawan Watershed, Puerto Princesa City, Palawan (MIMAROPA)	8 May - 6 June 2019	CESSNA 2016 of Fliteline Airways	37 sorties (40 hours)	28 out of 37 sorties (75.67%) produced moderate to heavy (>7.5mm) rainfall in Irawan Watershed	A total of 151mm rainfall was recorded in Campo Uno, 167.10mm in Urko, 51.30mm in IG, and 57.2mm in Tagaod Irawan Watershed from the start of operations. CSOps in Puerto Princesa City concluded on 6 June 2019	Puerto Princesa City Water District
Agricultural and watershed areas in Davao del Sur and North Cotabato (Regions XI and XII)	9 April - 21 May 2019	NOMAD Aircarft of the Philippine Air Force	8 sorties (10 hours 14 minutes)	7 out of 8 sorties (87.5%) prodiced light (Trace - 2.5mm) and moderate to heavy (>7.5mm) rainfall in the target areas	The CSOps were terminated on 15 May 2019 since there were natural rainfall occurrences in the target areas.	BSWM EI Niño Fund and DA Corn Program Funds downloaded to PAF thru MOA

REGION / TARGET AREA	INCLUSIVE DATES OF OPERATION	AIRCRAFT USED	NO. OF SORTIES CONDUCTED and TOTAL TIME CONSUMED for the OPERATIONS	SUCCESS RATE	REMARKS	FUND SOURCE
Major dams, watershed, and agricultural areas in Bohol (Region VII)	19 June - 10 July 2019	Piper Cherokee RP- C2872 of Pegasus Air Services, Inc.	12 sorties (18 hours 17 minutes)	11 out of 12 sorties (91.67%) produced light (Trace - 2.5mm) and moderate to heavy (>7.5mm) rainfall in the watershed and agricultural areas in Bohol		

Source: BSWM Memorandum on the Status of Cloud Seeding Operations

Note: Total time consumed for the operations is inclusive of sorties, ferry flight from company hangar to base of operations, and guaranteed hours.

Preparedness Measures and Effects of El Niño

COST OF ASSISTANCE

November 2018 to 09 August 2019

	TOTAL COST OF ASSISTANCE (Php)					
REGION / PROVINCE / MUNICIPALITY	DSWD	LGU	OCD	DA through PCIC	GRAND TOTAL	
GRAND TOTAL	25,414,408.46	79,582,250.00	299,995.10	725,705,549.95	831,002,203.51	
REGION I	0.00	0.00	0.00	19,235,414.00	19,235,414.00	
Abra	0.00	0.00	0.00	1,282,480.00	1,282,480.00	
Benguet	0.00	0.00	0.00	806,850.00	806,850.00	
Ilocos Norte	0.00	0.00	0.00	508,190.00	508,190.00	
Ilocos Sur	0.00	0.00	0.00	9,990.00	9,990.00	
La Union	0.00	0.00	0.00	3,133,980.00	3,133,980.00	
Mt. Province	0.00	0.00	0.00	6,010,074.00	6,010,074.00	
Pangasinan	0.00	0.00	0.00	7,483,850.00	7,483,850.00	
REGION II				17,506,075.55	17,506,075.55	
Apayao	0.00	0.00	0.00	1,459,235.00	1,459,235.00	
Ifugao	0.00	0.00	0.00	1,190,371.50	1,190,371.50	
Kalinga	0.00	0.00	0.00	623,874.60	623,874.60	
Cagayan	0.00	0.00	0.00	7,329,036.10	7,329,036.10	
Isabela	0.00	0.00	0.00	6,758,621.15	6,758,621.15	
Nueva Vizcaya	0.00	0.00	0.00	144,937.20	144,937.20	
REGION III				24,180,972.75	24,180,972.75	
Bataan	0.00	0.00	0.00	105,711.00	105,711.00	
Bulacan	0.00	0.00	0.00	4,211,526.00	4,211,526.00	
Pampanga	0.00	0.00	0.00	5,548,053.00	5,548,053.00	
Tarlac	0.00	0.00	0.00	4,732,718.00	4,732,718.00	
Zambales	0.00	0.00	0.00	180,201.90	180,201.90	
Aurora	0.00	0.00	0.00	1,791,036.00	1,791,036.00	
Nueva Ecija	0.00	0.00	0.00	7,611,726.85	7,611,726.85	
REGION CALABARZON				1,405,103.20	1,405,103.20	
Cavite	0.00	0.00	0.00	54,937.60	54,937.60	
Laguna	0.00	0.00	0.00	195,677.60	195,677.60	
Batangas	0.00	0.00	0.00	173,121.60	173,121.60	
Rizal	0.00	0.00	0.00	66,715.20	66,715.20	
Quezon	0.00	0.00	0.00	914,651.20	914,651.20	
REGION MIMAROPA			299,995.10	37,947,312.20	38,247,307.30	
Occidental Mindoro	0.00	0.00	299,995.10	33,987,552.20	34,287,547.30	
Oriental Mindoro	0.00	0.00	0.00	897,859.20	897,859.20	
Marinduque	0.00	0.00	0.00	372,248.00	372,248.00	
Romblon	0.00	0.00	0.00	201,220.80	201,220.80	
Palawan	0.00	0.00	0.00	2,488,432.00	2,488,432.00	
REGION V	4,882,574.30	0.00	0.00	60,489,589.09	65,372,163.39	
Camarines Norte	0.00	0.00	0.00	4,590,407.70	4,590,407.70	
Camarines Sur	0.00	0.00	0.00	44,853,804.24	44,853,804.24	
Catanduanes	0.00	0.00	0.00	393,372.90	393,372.90	
Masbate Sorsogon	0.00	0.00	0.00	2,326,061.50	2,326,061.50	
Albay	0.00 4,882,574.30	0.00	0.00	2,838,465.00 5,487,477.75	2,838,465.00	
REGION VI	4,002,374.30	-	-	198,412,923.14	10,370,052.05 198,412,923.14	
Aklan	0.00	0.00	0.00		7,645,031.52	
Antique	0.00	0.00	0.00	7,645,031.52	7,958,119.50	
Capiz	0.00	0.00	0.00	7,958,119.50 37,117,191.00	37,117,191.00	
Guimaras	0.00	0.00	0.00	13,197,660.15	13,197,660.15	
Iloilo	0.00	0.00	0.00	88,517,278.22	88,517,278.22	
Negros Occidental	0.00	0.00	0.00	43,977,642.75	43,977,642.75	
REGION VII	0.00	0.00	0.00	85,169,481.29	85,169,481.29	
Bohol	0.00	0.00	0.00	58,460,497.26	58,460,497.26	
Cebu	0.00	0.00	0.00	20,756,372.33	20,756,372.33	
Negros Oriental	0.00	0.00	0.00	5,481,519.30	5,481,519.30	
Siquijor	0.00	0.00	0.00	471,092.40	471,092.40	
REGION VIII	7,249,362.36	0.00	0.00	42,207,742.61	49,457,104.97	
Biliran	2,705,228.70	0.00	0.00	353,811.60	3,059,040.30	
Eastern Samar	0.00	0.00	0.00	2,484,588.50	2,484,588.50	
Leyte	867,408.00	0.00	0.00	30,225,018.06	31,092,426.06	
Northen Samar	867,408.00 0.00	0.00	0.00	30,225,018.06	31,092,426.06	
Southern leyte	0.00	0.00	0.00	102,791.00	102,791.00	

DECION / DDOWNOE /	TOTAL COST OF ASSISTANCE (Php)					
REGION / PROVINCE / MUNICIPALITY	DSWD	LGU	OCD	DA through PCIC	GRAND TOTAL	
Western Samar	3,676,725.66	0.00	0.00	5,371,757.95	9,048,483.61	
REGION IX	4,641,840.00	-	-	42,253,296.30	46,895,136.30	
Zamboanga del Norte	258,120.00	0.00	0.00	5,202,948.60	5,461,068.60	
Zamboanga City	0.00	0.00	0.00	506,773.80	506,773.80	
Misamis Occidental	0.00	0.00	0.00	1,137,026.70	1,137,026.70	
Zamboanga del Sur	2,979,720.00	-	-	19,221,138.00	22,200,858.00	
Zamboanga Sibugay	1,404,000.00	-	-	16,185,409.20	17,589,409.20	
REGION X	2,560,181.00	78,616,000.00	0.00	116,589,946.48	197,766,127.48	
Agusan del Norte	0.00	0.00	0.00	8,258,899.80	8,258,899.80	
Agusan del Sur	0.00	0.00	0.00	32,013,046.80	32,013,046.80	
Dinagat Islands	0.00	0.00	0.00	217,887.12	217,887.12	
Surigao del Norte	0.00	0.00	0.00	416,201.15	416,201.15	
Surigao del Sur	0.00	0.00	0.00	2,151,429.20	2,151,429.20	
Bukidnon	0.00	78,616,000.00	0.00	70,284,399.41	148,900,399.41	
Camiguin	0.00	0.00	0.00	-	0.00	
Misamis Occidental	1,370,000.00				1,370,000.00	
Misamis Oriental	1,190,181.00	-	-	3,248,083.00	4,438,264.00	
REGION XI	4,259,014.80	-	-	71,160,703.34	75,419,718.14	
South Cotabato	0.00	0.00	0.00	19,553,421.52	19,553,421.52	
Compostella Valley	0.00	0.00	0.00	2,992,336.60	2,992,336.60	
Davao del Norte	0.00	0.00	0.00	33,666,535.06	33,666,535.06	
Davao Occidental	0.00	0.00	0.00	476,168.00	476,168.00	
Sarangani	0.00	0.00	0.00	6,965,610.00	6,965,610.00	
Davao del Sur	1,807,000.00	_	-	5,895,755.16	7,702,755.16	
Matanao	1,807,000.00	-	-	-	1,807,000.00	
Davao Oriental	2,452,014.80	_	-	1,610,877.00	4,062,891.80	
Tarragona	2,452,014.80	-	_	-	2,452,014.80	
REGION XII	83,500.00	-	_	9,146,990.00	9,230,490.00	
Sultan Kudarat	0.00	0.00	0.00	1,850,850.00	1,850,850.00	
Lanao del Norte	0.00	0.00	0.00	557,370.00	557,370.00	
Lanao del Sur	0.00	0.00	0.00	43,120.00	43,120.00	
Maguidanao	0.00	0.00	0.00	7,930.00	7,930.00	
Cotabato	83,500.00	-	-	6,687,720.00	6,771,220.00	
Alamada	83,500.00	-	_	-	83,500.00	
CARAGA	1,737,936.00	0.00	0.00	0.00	1,737,936.00	
Agusan del Norte	1,737,936.00	-	-	-	1,737,936.00	
CAR	.,. 37,000.00	966,250.00	_		966,250.00	
Abra	_	966,250.00		_	966,250.00	
Bangued (capital)	_	471,000.00	_		471,000.00	
Lagangilang		14,250.00			14,250.00	
Langiden	-	330,000.00			330,000.00	
Pidigan	-	151,000.00	-	_	151,000.00	
Pluigari	1	151,000.00	- POIC Chaire - Paris	-	151,000.00	

Sources: DSWD DROMIC Report No. 16 as of 09 October 2019, 6:00 PM, and PCIC Claims Paid Caused by Drought per Province as of 21 June 2019