



## MEMORANDUM

**FOR :** **The Directors**  
Policy and Planning Service  
Legal Affairs Service  
Climate Change Service

**The Bureau Directors**  
Biodiversity Management Bureau  
Forest Management Bureau  
Environmental Management Bureau  
Ecosystems Research and Development Bureau

**The Administrator**  
National Mapping Resource and Information Authority

**The Officer-in-charge**  
Mines and Geosciences Bureau

**The Executive Directors**  
Manila Bay Coordinating Office  
National Water Resources Board  
River Basin Control Office  
Pasig River Coordinating and Management Office

**All Regional Executive Directors**

**FROM :** **The Director**  
Legislative Liaison Office

**SUBJECT :** **INVITATION TO THE 2<sup>nd</sup> PUBLIC HEARING OF THE COMMITTEE ON PUBLIC WORKS AND HIGHWAYS JOINT WITH THE COMMITTEE ON ENVIRONMENT, NATURAL RESOURCES AND CLIMATE CHANGE TO CONDUCT AND INQUIRY IN AID OF LEGISLATION ON THE COUNTRY'S EXISTING FLOOD CONTROL MASTER PLAN**

**DATE :** 29 July 2024

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In reference to the electronic mail received by our Office on Friday, July 27, 2024, 11:31 PM, the Committee on Public Works, chaired by Senator Ramon Bong Revilla Jr., joint with the Committee on Environment, Natural Resources and Climate Change, will conduct its **2<sup>nd</sup> Public Hearing on 30 July 2024, Tuesday, 10:00 AM**, at the **Sen. Ambrosio B. Padilla Room, Senate of the Philippines, Pasay City**, to discuss the following legislative measures:

1. **P.S. Res. No. 52 - RESOLUTION DIRECTING THE APPROPRIATE SENATE COMMITTEE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE STATUS AND CONTINUING VIABILITY OF THE COUNTRY'S EXISTING**

MEMO NO. 2024 - 655

FLOOD CONTROL MASTER PLAN AND PENDING FLOOD CONTROL PROJECTS UNDER THE DIRECT IMPLEMENTATION OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH) AND METRO MANILA DEVELOPMENT AUTHORITY (MMDA), WITH THE END IN VIEW OF ENSURING A COMPREHENSIVE AND COST-EFFICIENT SOLUTION TO THE FLOODING PROBLEM THAT WOULD IMMEDIATELY BRING RELIEF TO THE PUBLIC AND IDENTIFY URGENT INTERVENTIONS TO IMPROVE MITIGATION EFFORTS OF ADVERSE EFFECTS TO THE COMMUNITIES, AND PREVENT SIMILAR DISASTERS IN THE FUTURE (By. Sen. Ramon Bong Revilla Jr.)

2. **P.S. Res. No. 693** - RESOLUTION DIRECTING THE APPROPRIATE COMMITTEE/S OF THE SENATE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE PLANS AND PROGRAMS OF THE GOVERNMENT TO IMPROVE THE URBAN DRAINAGE SYSTEM AND FLOOD PROTECTION OF METRO MANILA AND OTHER VULNERABLE AREAS OF THE COUNTRY (By Sen. Joel Villanueva)
3. **P.S. Res. No. 717** - RESOLUTION DIRECTING THE APPROPRIATE SENATE COMMITTEE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE ADEQUACY AND EFFECTIVENESS OF THE NATIONAL GOVERNMENTS EXISTING FLOOD CONTROL SYSTEM AND FLOOD CONTROL INTERVENTIONS AMIDST EXTREME WEATHER CONDITIONS BROUGHT ABOUT BY CLIMATE CHANGE, GLOBAL WARMING, AND GLOBAL BOILING (Sen. Imee R. Marcos)
4. Privilege Speeches and Manifestations of Senators Joel Villanueva; and Loren Legarda on Flooding Situations in Metro Manila and Nearby Provinces.

In this regard, may we respectfully request your comments/recommendations on the abovementioned bills, if you haven't already submitted, as requested by the Committee. Kindly submit your comments on or **before 29 July 2024; 5:00 PM.** via email at [denrillo@denr.gov.ph](mailto:denrillo@denr.gov.ph). Further, kindly inform us of the name/s and emails of the representative/s from your office who will participate in the meeting so we may include him/her/them as resource person/s.

Attached herewith is the Letter Invitation, and a copy of the Senate Resolutions, accessible through this link <https://drive.google.com/SenateResolutions> for your reference.

Your attendance is highly encouraged.



**ROMIROSE B. PADIN**

cc: Undersecretary for Special Concerns and Legislative Affairs



Republic of the Philippines  
CONGRESS OF THE PHILIPPINES

**Senate**  
Pasay City

**COMMITTEE ON PUBLIC WORKS**  
joint with the  
**Committee on Environment, Natural Resources  
and Climate Change**

25 July 2024

**SEC. MARIA ANTONINA Y. LOYZAGA**

Secretary

Department of Environment and Natural Resources (DENR)

Visayas Avenue, Diliman, Quezon City 1128

Dear **Secretary Loyzaga**:

Greetings!

The Committee on Public Works, chaired by Senator Ramon Bong Revilla Jr., will conduct its **2<sup>nd</sup> Public Hearing on 30 July 2024, Tuesday, 10:00 AM**, at the **Sen. Ambrosio B. Padilla Room, Senate of the Philippines, Pasay City**, to discuss the following legislative measures:

- **P.S. Res. No. 52** - RESOLUTION DIRECTING THE APPROPRIATE SENATE COMMITTEE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE STATUS AND CONTINUING VIABILITY OF THE COUNTRY'S EXISTING FLOOD CONTROL MASTER PLAN AND PENDING FLOOD CONTROL PROJECTS UNDER THE DIRECT IMPLEMENTATION OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH) AND METRO MANILA DEVELOPMENT AUTHORITY (MMDA), WITH THE END IN VIEW OF ENSURING A COMPREHENSIVE AND COST-EFFICIENT SOLUTION TO THE FLOODING PROBLEM THAT WOULD IMMEDIATELY BRING RELIEF TO THE PUBLIC AND IDENTIFY URGENT INTERVENTIONS TO IMPROVE MITIGATION EFFORTS OF ADVERSE EFFECTS TO THE COMMUNITIES, AND PREVENT SIMILAR DISASTERS IN THE FUTURE (By. Sen. Ramon Bong Revilla Jr.)
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- **Privilege Speeches and Manifestations of Senators Joel Villanueva; and Loren Legarda on Flooding Situations in Metro Manila and Nearby Provinces.**

For confirmation of your attendance, kindly inform the undersigned Committee Secretary or Ms. Sherry Garcia at 8552-6601 locals 3317, 3318 and 3321, or 8552-6750.

We look forward to your presence and participation in the hearing.

Thank you very much.

Very truly yours,

FOR THE CHAIRPERSON:

**SEN. RAMON BONG REVILLA, JR.**



Legislative Committee Secretary

NINETEENTH CONGRESS OF THE )  
REPUBLIC OF THE PHILIPPINES )  
*First Regular Session* )



Senate  
Office of the Secretary

22 JUL 18 P1:17

**SENATE**

**P.S. Res. No. 52**

RECEIVED BY:

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**Introduced by SENATOR RAMON BONG REVILLA, JR.**

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**RESOLUTION**

**DIRECTING THE APPROPRIATE SENATE COMMITTEE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE STATUS AND CONTINUING VIABILITY OF THE COUNTRY'S EXISTING FLOOD CONTROL MASTER PLAN AND PENDING FLOOD CONTROL PROJECTS UNDER THE DIRECT IMPLEMENTATION OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH) AND METRO MANILA DEVELOPMENT AUTHORITY (MMDA), WITH THE END IN VIEW OF ENSURING A COMPREHENSIVE AND COST-EFFICIENT SOLUTION TO THE FLOODING PROBLEM THAT WOULD IMMEDIATELY BRING RELIEF TO THE PUBLIC AND IDENTIFY URGENT INTERVENTIONS TO IMPROVE MITIGATION EFFORTS OF ADVERSE EFFECTS TO THE COMMUNITIES, AND PREVENT SIMILAR DISASTERS IN THE FUTURE**

1       **WHEREAS**, Article II, Section 9 of the Constitution provides that the State shall  
2 "promote a just and dynamic social order that will ensure the prosperity and  
3 independence of the nation and free the people from poverty through policies that provide  
4 adequate social services, promote full employment, a rising standard of living, and an  
5 improved quality of life for all";

6

7       **WHEREAS**, Article II, Section 16 of the same "underscores that the State shall  
8 protect and advance the right of the people to a balanced and healthful ecology in accord  
9 with the rhythm and harmony of nature";

10

1           **WHEREAS**, in the landmark case of *Oposa v. Factoran* (G.R. No. 101083; July 30,  
2 1993), the Supreme Court elucidated that the two (2) aforementioned rights concern  
3 “nothing less than self-preservation and self-perpetuation”;

4  
5           **WHEREAS**, in the same case, the Supreme Court stressed that Executive Order  
6 No. 292 or the Administrative Code of 1987, the Department of Public Works and  
7 Highways (DPWH), as the “engineering and construction arm of the national  
8 government”, shall be responsible for the planning, design, construction and maintenance  
9 of infrastructure facilities, especially national highways, flood control and water resources  
10 development systems, and other public works in accordance with national development  
11 objectives. The Supreme Court added that in Metro Manila, the Metro Manila  
12 Development Authority (MMDA), is authorized by Sec. 3(d) of Republic Act No. 7924,  
13 which created it and defined its powers and functions, to perform metro-wide services  
14 relating to “flood control and sewerage management which include the formulation and  
15 implementation of policies, standards, programs and projects for an integrated flood  
16 control, drainage and sewerage system”;

17  
18           **WHEREAS**, the DPWH and the MMDA are tasked to implement the Flood  
19 Management Master Plan for Metro Manila and Surrounding Areas Project in close  
20 coordination with local governments and key shelter agencies;

21  
22           **WHEREAS**, DPWH has reported completion of 13,224 flood control structures  
23 nationwide in the last 6 years,<sup>1</sup> and MMDA claimed that pumping stations in the National  
24 Capital Region (NCR) are ready and at “100 percent” capacity for the coming rainy season  
25 during their last televised Laging Handa Briefing;<sup>2</sup>

26  

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<sup>1</sup> <https://www.dpwh.gov.ph/dpwh/news/25606>

<sup>2</sup> De la Cruz, R. (21 June 2022). NCR flood pumps 100% ready for rainy season: MMDA  
Retrieved 16 July 2022, from: [NCR flood pumps 100% ready for rainy season: MMDA | Philippine News Agency \(pna.gov.ph\)](https://pna.gov.ph)

1           **WHEREAS**, World Bank’s Global Subnational Atlas of Poverty and Global  
2 Monitoring Database estimates around 1.47 billion people globally are directly exposed  
3 to the risk of intense flooding with more than one third, almost 600 million, are poor;  
4

5           **WHEREAS**, the Philippines is one of the most cyclone-prone countries in the  
6 world, lying on the ‘typhoon belt’, with approximately 20 typhoons entering the Philippine  
7 Area of Responsibility annually, with 7-9 reaching landfall<sup>3</sup>;  
8

9           **WHEREAS**, the Philippines is highly exposed to flooding, as a consequence of  
10 these severe cyclones and heavy rainfall, exacerbated by unabated urbanization and  
11 logging, directly affecting an estimated 176,000 Filipinos, and incurring an average of  
12 \$625 million in damages to infrastructure and agriculture annually;  
13

14           **WHEREAS**, the country has repeatedly witnessed catastrophic flooding of  
15 communities, and tragically in a number of cases in the recent decade, the complete  
16 devastation of these areas directly affected the living conditions and livelihood and led to  
17 long-term negative impact on health and economy;  
18

19           **WHEREAS**, the National Disaster Risk Reduction and Management Council  
20 (NDRRMC) constantly reminds the public to be more vigilant and take precautions against  
21 flash floods and landslides caused by inclement weather<sup>4</sup>;  
22

23           **WHEREAS**, despite the flood control management master plan of the government  
24 and the annual budget allotted for the same under the administration of the DPWH and  
25 MMDA, flooding and its adverse effects continue to challenge many communities  
26 nationwide especially during the rainy season;  
27

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<sup>3</sup> [Philippines - Vulnerability | Climate Change Knowledge Portal \(worldbank.org\)](https://www.worldbank.org/en/indonesia/philippines-vulnerability)

<sup>4</sup> Nepomuceno, P. (11 July 2022) *Brace for rainy season, NDRRMC warns public*

Retrieved 16 July 2022, from: [Brace for rainy season, NDRRMC warns public | Philippine News Agency \(pna.gov.ph\)](https://pna.gov.ph/2022/07/11/brace-for-rainy-season-ndrrmc-warns-public/)

1           **WHEREAS**, the DPWH and MMDA have a combined annual allocations of more  
2 than P 125 Billion pesos for flood control management program in the 2022 General  
3 Annual Appropriations;<sup>56</sup>

4  
5           **WHEREAS**, the Commission on Audit (COA) reported in their Annual Audit Report  
6 that twenty (20) flood control projects of the MMDA were unfinished and 39 others were  
7 not completed within the contract period as of end-2021, and brought about by the  
8 inadequate planning and coordination among agencies concerned, undermining the  
9 welfare of the people in the capital;<sup>7</sup>

10  
11           **WHEREAS**, MMDA has clarified that the flood control projects flagged by the COA  
12 were substantially completed as of 2022 and furthered that the agency's flood mitigation  
13 projects are operational;<sup>8</sup>

14  
15           **WHEREAS**, the Climate Change, among other factors, has led to fast changing  
16 weather patterns globally, hence, may have affected the design, construction and  
17 maintenance of the existing flood control management system and pending national and  
18 local flood control projects. Moreover, the dismal failure for timely implementation the  
19 flood management mechanism and related public works, including but not limited to  
20 dredging of silted rivers and the establishment of flood control systems, will continue to  
21 put the lives and and livelihood of the affected communities in great peril;

22  
23           **WHEREAS**, just recently, residents of Metro Manila were surprised when parts of  
24 the Metro were swamped with flash floods after only a few hours of heavy downpour.<sup>9</sup>

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<sup>5</sup> 2022 DPWH Budget [DPWH.pdf \(dbm.gov.ph\)](#)

<sup>6</sup> 2022 MMDA Budget [A.pdf \(dbm.gov.ph\)](#)

<sup>7</sup> Aurelio, J. (July 2022) *59 MMDA flood control projects delayed - COA*. Retrieved 16 July 2022, from <https://newsinfo.inquirer.net/1620514/59-mmda-flood-control-projects-delayed-coa/amp>

<sup>8</sup> Villanueva, R. (04 July 2022). *MMDA: Flood control projects completed*. Retrieved 16 July 2022, from: <https://www.msn.com/en-ph/news/national/mmda-flood-control-projects-completed/ar-AAZ9iHX>

<sup>9</sup> Cerezo, A. (16 July 2022) *Flash floods swamped parts of Metro Manila*. Retrieved 17 July 2022, <https://news.abs-cbn.com/news/07/16/22/flash-floods-swamp-parts-of-metro-manila>



1 Many roads remained unpassable for a few hours, and some streets became too unsafe  
2 for both vehicles and pedestrians to traverse. This is the unfortunate reality which this  
3 representation now seeks to urgently address. Our people have suffered far too long, the  
4 government should thus be quick in its action especially when this issue has repeatedly  
5 caused menace to the Filipinos;

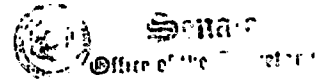
6

7 **NOW, THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED BY**  
8 **THE SENATE,** to direct the appropriate Senate Committee to conduct an inquiry, in aid  
9 of legislation, on the status and continuing viability of the country's existing flood control  
10 master plan and pending flood control projects under the direct implementation of the  
11 Department of Public Works and Highways (DPWH) and Metro Manila Development  
12 Authority (MMDA), with the end in view of ensuring a comprehensive and cost-efficient  
13 solution to the flooding problems that would immediately bring relief to the public and  
14 identify urgent interventions to improve mitigation efforts of adverse effects to the  
15 communities, and prevent similar disaster in the future.

16

17 *Adopted,*

  
**RAMON BONG REVILLA JR.**



**NINETEENTH CONGRESS OF THE  
REPUBLIC OF THE PHILIPPINES**  
Second Regular Session )  
)  
)

23 JUL 24 A9:28

**SENATE**

RECEIVED

**P. S. RES. NO. 693**

**Introduced by Senator JOEL VILLANUEVA**

**RESOLUTION**

**DIRECTING THE APPROPRIATE COMMITTEE/S OF THE SENATE TO CONDUCT AN INQUIRY, IN AID OF LEGISLATION, ON THE PLANS AND PROGRAMS OF THE GOVERNMENT TO IMPROVE THE URBAN DRAINAGE SYSTEM AND FLOOD PROTECTION OF METRO MANILA AND OTHER VULNERABLE AREAS OF THE COUNTRY**

**WHEREAS**, Section 17, Article II of the Constitution provides that “[t]he State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature”;

**WHEREAS**, Section 2(e) of Republic Act No. 10121 or the Philippine Disaster Risk Reduction and Management Act of 2010 provides the State’s policy to “[d]evelop, promote, and implement a comprehensive National Disaster Risk Reduction and Management Plan (NDRRMP) that aims to strengthen the capacity of the national government and the local government units (LGUs), together with partner stakeholders, to build the disaster resilience of communities, and to institutionalize arrangements and measures for reducing disaster risks, including projected climate risks, and enhancing disaster preparedness and response capabilities at all levels”;

**WHEREAS**, based on the data of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAG-ASA), most tropical cyclones (TCs) enter the Philippine Area of Responsibility (PAR) at an average of eight to nine TCs yearly. From July to October, the country experiences the peak of the typhoon season as almost 70% of typhoons develop during this period. This year, 11 to 14 typhoons are expected to land in the Philippines from June to November 2023;<sup>1</sup>

<sup>1</sup> Tropical Cyclone Information. Philippine Atmospheric, Geophysical and Astronomical Services Administration. Available at <https://www.pagasa.dost.gov.ph/climate/tropical-cyclone-information> (Accessed on June 21, 2023).

**WHEREAS**, in 2022, the Philippines ranked No. 1 out of 193 countries that are prone to natural disasters, such as tsunamis and coastal and river floods, according to the World Risk Index. Due to its high risk, exposure, vulnerability, and lack of coping mechanisms, the country received an index score of 46.86 out of 100, with higher scores denoting higher risks;<sup>2</sup>

**WHEREAS**, the National Capital Region (NCR), which has a land area of 619.54 square kilometers,<sup>3</sup> is located in a semi-alluvial floodplain with Manila Bay on the west and Laguna De Bay on the south-east. As such, it now forms a sizable urbanized drainage system, frequently inundated by the overflow of river and storm waters, even with the existence of *esteros*;<sup>4</sup>

**WHEREAS**, despite studies<sup>5</sup> claiming that reclamation increases the risk of flooding, there are 52 reclamation projects in the country, 22 of which are in Manila Bay, based on the data from the Philippine Reclamation Authority;<sup>6</sup>

**WHEREAS**, despite the fact that all 71 pumping stations in the NCR are 100% operational to mitigate flooding, the Metropolitan Manila Development Authority (MMDA) and the Department of Environment and Natural Resources (DENR) - Mines and Geosciences Bureau (MGB) still identified 423 low-lying barangays in Metro Manila to be at risk of flooding;<sup>7</sup>

**WHEREAS**, flooding continues to be a perennial problem, not only in highly urbanized areas but in rural areas as well;

**WHEREAS**, in North Luzon, low-lying areas in Dagupan City, and Pampanga and Bataan provinces were submerged in flood for at least four days due to high tide and heavy rains in July 2022;<sup>8</sup>

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<sup>2</sup> October 6, 2022. PH most disaster-prone country in the world—study. Inquirer. Available at <https://newsinfo.inquirer.net/1676227/ph-most-disaster-prone-country-in-the-world-study> (Accessed on June 22, 2023); October 10, 2022. No. 1 in World Risk Index 2022. Inquirer. Available at <https://opinion.inquirer.net/158015/no-1-in-world-risk-index-2022> (Accessed on June 22, 2023).

<sup>3</sup> August 26, 2021. Highlights of the National Capital Region (NCR) Population – 2020 Census of Population and Housing (2020 CPH). Philippine Statistics Authority. Available at <https://rsoncr.psa.gov.ph/article/highlights-national-capital-region-ncr-population-2020-census-population-and-housing-2020> (Accessed on June 22, 2023).

<sup>4</sup> July 2003. Vulnerability and Flooding in Metro Manila. International Institute for Asian Studies. Available at [https://www.ilia's.Asia/sites/default/files/2020-11/IIAS\\_NL31\\_11.pdf](https://www.ilia's.Asia/sites/default/files/2020-11/IIAS_NL31_11.pdf) (Accessed on June 21, 2023).

<sup>5</sup> September 1, 2006. Coastal communities face greater threat of flooding due to land reclamation. Available at <https://www.cam.ac.uk/research/news/coastal-communities-face-greater-threat-of-flooding-due-to-land-reclamation> (Accessed on June 22, 2023); July 17, 2018. Impact of reclamation on the environment of the lower mekong river basin. Journal of Hyrdology: Regional Studies. Available at <https://www.sciencedirect.com/science/article/pii/S2214581817301891> (Accessed on June 22, 2023); August 18, 2021. Long-Term Dynamic of Land Reclamation and Its Impact on Coastal Flooding: A Case Study in Xiamen, China. Land. Available at <https://www.mdpi.com/2073-445X/10/8/866> (Accessed on June 22, 2023).

<sup>6</sup> March 13, 2023. Gov't urged to stop all reclamation, quarrying in Manila Bay. Inquirer. Available at <https://newsinfo.inquirer.net/1741850/govt-urged-to-stop-all-reclamation-quarrying-in-manila-bay#ixzz85LbcvUv5> (Accessed on June 22, 2023).

<sup>7</sup> September 25, 2022. 71 MMDA pumping stations 100% operational. Philippine News Agency. Available at <https://www.pna.gov.ph/articles/1184558> (Accessed on June 22, 2023); May 29, 2023. Zamora: Metro Manila readies for Typhoon Betty; 423 low-lying areas being monitored. Available at <https://newsinfo.inquirer.net/1776159/zamora-metro-manila-ready-for-typhoon-betty-423-low-lying-areas-being-monitored#ixzz85Lmmr6dK> (Accessed on June 22, 2023).

<sup>8</sup> July 15, 2022. High tide, floods swamp low-lying areas in Central, North Luzon. Inquirer. Available at <https://newsinfo.inquirer.net/1628309/high-tide-floods-swamp-low-lying-areas-in-central-north-luzon#ixzz872pMYfkZk> (Accessed on July 10, 2023).

**WHEREAS**, several studies also noted that Bulacan is one of the top flood-prone provinces in the country and that majority of its barangays are susceptible to flooding.<sup>9</sup> For example, in January 2023, the release of water from the Angat, Busto, and Ipo Dams amid persistent rain caused severe flooding, forcing more than 2,000 people from Barangays Matictic, San Mateo, and Poblacion of Norzagaray, Bulacan to be evacuated;<sup>10</sup>

**WHEREAS**, 17 people lost their lives in the first two weeks of January 2023 due to rains, floods, and landslides in the different regions in the south, including Lanao del Norte and Zamboanga City, which adversely affected 121,950 families or 523,991 persons. Damage to the agriculture sector reached more than P252.6 Million, while infrastructure damage was at P165.7 Million;<sup>11</sup>

**WHEREAS**, in Cebu City, about 20 barangays were inundated in July 2022 during days of intense rain. The following month, a series of landslides and the overflowing of many of its major rivers caused damage to property and infrastructure worth roughly P600 million in Metro Cebu. The accumulation of trash in the city's major rivers, and clogged and poorly maintained drainage systems also contributed to the flooding;<sup>12</sup>

**WHEREAS**, in Davao City, 2,600 families in 14 villages along the banks of Davao River were evacuated due to the floodwater from overflowing rivers and creeks, caused by heavy rainfall in the city's upland areas in March 2022;<sup>13</sup>

**WHEREAS**, the Philippine government agencies and international organizations have conducted several joint studies to mitigate flooding and to strengthen the flood control programs of the state;

**WHEREAS**, in 2004, Japan International Cooperation Agency's (JICA), in coordination with the Department of Public Works and Highways (DPWH), conducted a study on enhancing capabilities in flood control. It recommended the preparation of a comprehensive flood control project implementation plan, the establishment of data or information management system, the implementation of information and education campaign, and the creation of a Principal River Flood Control Project Committee, among others;<sup>14</sup>

<sup>9</sup> Result of the MGB Geohazard Assessment Covering Twenty Four (24) Municipalities/Cities in the Province of Bulacan. Mines and Geosciences Bureau-Regional Office III (MGB-R3). Available at [https://region3.mgb.gov.ph/mgb\\_rolil\\_files/pdf/Geohazard\\_Assessment\\_Map/bulacan\\_exec-summar.pdf](https://region3.mgb.gov.ph/mgb_rolil_files/pdf/Geohazard_Assessment_Map/bulacan_exec-summar.pdf) (Accessed on July 10, 2023); Floodplans: landscape plan for a flood resilient municipality of Marilao, Bulacan, Philippines. Available at <https://iopscience.iop.org/article/10.1088/1755-1315/879/1/012015/pdf> (Accessed on July 10, 2023).

<sup>10</sup> May 15, 2023. Bulacan folk see no end to flooding. Inquirer. Available at <https://newsinfo.inquirer.net/1769108/bulacan-folk-see-no-end-to-flooding> (Accessed on June 29, 2023); January 8, 2023. Floods displace thousands as Bulacan dams spill. PhilStar. Available at <https://www.philstar.com/nation/2023/01/08/2236117/floods-displace-thousands-bulacan-dams-spill> (Accesses on June 29, 2023).

<sup>11</sup> January 14, 2023. Rains, floods claim 17 lives in first 2 weeks of 2023. PhilStar. Available at <https://www.philstar.com/headlines/2023/01/14/2237562/rains-floods-claim-17-lives-first-2-weeks-2023> (Accessed on June 22, 2023).

<sup>12</sup> February 16, 2023. Flooding: Threat to life, Cebu City's progress. SunStar. Available at <https://www.sunstar.com.ph/article/1953554/cebu/local-news/special-report-flooding-threat-to-lifecebu-citys-progress#> (Accessed on June 29, 2023).

<sup>13</sup> March 09, 2022. Floods hit riverside villages in Davao City. Inquirer. Available at <https://newsinfo.inquirer.net/1565413/floods-hit-riversidevillages-in-davao#ixzz86OyC5LK8> (Accessed on July 3, 2023).

<sup>14</sup> September 25, 2022. 71 MMDA pumping stations 100% operational. Philippine News Agency. Available at <https://www.pna.gov.ph/articles/1184558> (Accessed on June 22, 2023); May 29, 2023. Zamora: Metro Manila readies for Typhoon Betty; 423 low-lying areas being monitored. Available at <https://newsinfo.inquirer.net/1776159/zamora-metro-manila-ready-for-typhoon-betty-423-low-lying-areas-being-monitored#ixzz85Lmmr6dK> (Accessed on June 22, 2023).

**WHEREAS**, in 2015, JICA and the Metro Cebu Development and Coordination Board (MCDCB) issued a final report on the Roadmap Study for Sustainable Urban Development in Metro Cebu, which identified the conduct of a Comprehensive Study for a Metro Cebu Integrated Flood and Drainage System Master Plan as one of the next steps to address flooding in the area;<sup>15</sup>

**WHEREAS**, in 2017, the World Bank and Asian Infrastructure Investment Bank partnered with the DPWH and MMDA to modernize drainage areas, minimize solid waste in waterways, resettlement of affected communities, and project management and coordination in Metro Manila;<sup>16</sup>

**WHEREAS**, in 2022, the Integrated Research Program for Advancing Climate Models of Japan's Ministry of Education, Culture, Sports, Science, and Technology funded a study on enhancing Davao City's flood resiliency through an Online Synthesis System for Sustainability and Resilience;<sup>17</sup>

**WHEREAS**, last year, JICA, DPWH, the National Economic and Development Authority (NEDA), and the Department of Finance (DOF) held discussions for the proposed Parañaque Spillway Project, wherein an underground drainage channel will be constructed to catch overflowing flood water from Laguna Lake before pumping out to Manila Bay;<sup>18</sup>

**WHEREAS**, there is a need to review the policies and revisit the programs and plans of DPWH, MMDA, DENR, and other relevant agencies on flood mitigation to ensure comprehensive solutions that will safeguard lives, minimize damages, and preserve the environment;

**NOW, THEREFORE, BE IT RESOLVED BY THE SENATE OF THE PHILIPPINES**, that the appropriate Committee/s of the Senate conduct an inquiry, in aid of legislation, on the plans and programs of the government to improve the urban drainage system and flood protection of Metro Manila and other vulnerable areas of the country.

Adopted,

  
JOEL VILLANUEVA *P*


<sup>15</sup> July 2015. The Roadmap Study for Sustainable Urban Development in Metro Cebu. Available at <https://openjicareport.jica.go.jp/pdf/12235529.pdf> (Accessed on July 11, 2023).

<sup>16</sup> Metro Manila Flood Management Project. The World Bank. Available at <https://projects.worldbank.org/pi/projects-operations/project-detail/P153814> (Accessed on June 22, 2023).

<sup>17</sup> 2022. Co-Design for Enhancing Flood Resilience in Davao City, Philippines. Water 2022. Available at <https://www.mdpi.com/2073-4441/14/6/978> (Accessed on July 10, 2023).


<sup>18</sup> August 9, 2022. PH Govt. – JICA Held Discussions on Parañaque Spillway Project. Department of Public Works and Highways. Available at <https://www.dpwh.gov.ph/DPWH/news/27440>. (Accessed on June 22, 2023).

NINETEENTH CONGRESS OF THE)  
REPUBLIC OF THE PHILIPPINES )  
Second Regular Session )

 Senate  
Office of the Secretary

23 AUG -1 P1:50

SENATE  
P.S. Resolution No. 717

RECEIVED BY: 

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Introduced by **SENATOR IMEE R. MARCOS**

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**RESOLUTION**  
**DIRECTING THE APPROPRIATE SENATE COMMITTEE TO CONDUCT AN**  
**INQUIRY, IN AID OF LEGISLATION, ON THE ADEQUACY AND**  
**EFFECTIVENESS OF THE NATIONAL GOVERNMENT'S EXISTING FLOOD**  
**CONTROL SYSTEM AND FLOOD CONTROL INTERVENTIONS AMIDST**  
**EXTREME WEATHER CONDITIONS BROUGHT ABOUT BY CLIMATE CHANGE,**  
**GLOBAL WARMING, AND GLOBAL BOILING**

***WHEREAS***, Article II, Section 16 of the 1987 Constitution provides that, "The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature";

***WHEREAS***, according to the World Bank, the Philippines is one of the most disaster-prone countries in the world. Located along the Pacific ring of fire, the Philippines is highly susceptible to seismic and volcanic risks and is also subject to the world record of typhoons every year. Furthermore, climate change and pandemics are exacerbating these risks;

***WHEREAS***, in 2022, the World Risk Index (WRI) of the United Nations Office for Disaster Risk Reduction placed the Philippines in the number one spot for the most-disaster-prone country in the world. The WRI report gave the Philippines an index score of 46.86, the highest among the top ten most-disaster-prone countries worldwide because of high risk, exposure, and vulnerability;

***WHEREAS***, an average of twenty (20) typhoons enter the Philippines annually, with the most intense coming between July and October, each one could bring damaging floods and landslides;

***WHEREAS***, on 27 July 2023, Super Typhoon Egay, the Philippines' fifth tropical cyclone for 2023, left the Philippine Area of Responsibility (PAR) battering Northern Luzon with intense rains and destructive winds and causing floods across several regions, provinces, cities and municipalities and more than a dozen rain-induced landslides;

**WHEREAS**, the National Disaster Risk Reduction and Management Council (NDRRMC) stated that among the regions hit hard by Super Typhoon Egay are Bicol, Calabarzon, Central Luzon, Ilocos, Mimaropa, Northern Mindanao and Soccsksargen;

**WHEREAS**, provinces such as Abra, Ilocos Sur, Ilocos Norte, and Cavite, among others have declared a State of Calamity due to the damages and adverse effects of the Typhoon;

**WHEREAS**, as of 29 July 2023, in Guiguinto, Bulacan alone, more than 17,000 families have been affected from various barangays. And that, almost 75% of the total agricultural areas are submerged with floodwater;

**WHEREAS**, in Pampanga, several municipalities are suffering from massive floods. Further in the municipality of Minalin, more or less 70% of the roads are not passable, with 3.5 ft. being the highest level of flood;

**WHEREAS**, according to the Department of Agriculture (DA), damage to agriculture due to Super Typhoon Egay has reached Php 53.1 million. DA Assistant Secretary for Operations Arnel de Mesa said the cost of damage is expected to further increase as reports are still ongoing;

**WHEREAS**, the Department of Public Works and Highways (DPWH) stated that the Typhoon caused an estimated Php 2.66 billion worth of damage to road infrastructure which comprised of: (a) Php 887.1 million damage to roads, (b) Php 48.20 million damage to bridges, and (c) Php 1.73 billion in flood-control structures;

**WHEREAS**, according to the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), at least eight (8) more tropical cyclones are likely to hit the country before the end of the year;

**WHEREAS**, according to Antonio Guterres (UN Secretary-General), the era of global warming has ended, and the era of global boiling has arrived. Scientists has set the record that July 2023 has been the hottest month, they further warn that extreme weather events such as floods and heatwaves will become more frequent and intense with every degree of warming;

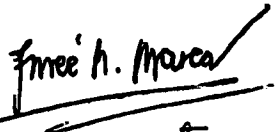
**WHEREAS**, the Philippine Development Plan (2023-2028) provides that the national government shall prioritize highly vulnerable, low-income local government units to access national programs and funds for disaster risk reduction, climate change adaptation, and disaster preparedness. These include flood control, coastal protection,

early warning systems, operations center, permanent evacuation centers, critical infrastructure and facilities, and climate-resilient livelihood, among others;

**WHEREAS**, given the abovementioned circumstances, there is a need for the national government to immediately study and review the Flood Control System and Flood Control Interventions, as well as engineering solutions of the country specifically in the areas which are prone to flooding due to rising sea levels amid climate change, global warming, and global boiling including the study on the impact of the ongoing and existing reclamation projects, silted rivers, and subsidence to protect and safeguard lives, property, and the environment;

**NOW, THEREFORE, BE IT RESOLVED AS IT IS HEREBY RESOLVED**, directing the appropriate Senate committee to conduct an inquiry, in aid of legislation, on the adequacy and effectiveness of the National Government's existing Flood Control System and Flood Control Interventions amidst extreme weather conditions brought about by climate change, global warming, and global boiling.

*Adopted,*

  
**IMEE R. MARCOS**



neighbors, who would disregard the decisions of other international forums. He believed that a consensus should be reached with all parties, including China, due to the UNCLOS's emphasis on negotiation and cooperation.

4. The government should take action to safeguard the fishermen's right to fish in the WPS to ensure the fishermen's enjoyment of the country's fisheries and aquatic resources. He emphasized that each nation in the WPS should savor and protect its natural resources, rather than exploiting and abusing them.
5. The Senate has shown that it is capable of exercising discretion while reaching a unanimous decision. He stated that while the Body would like to urge China to respect the decision of the arbitral ruling and to respect the sovereignty and territorial rights of the Philippines, it should also reach out to China and express its condolences, as their country had endured calamity after calamity, including the most severe lockdown during the pandemic. He stated that the Philippine government should continue cultivating trust and relationships with them.

As the country was experiencing typhoons, Senator Cayetano (A) believed that the government's primary focus should be on relief and rehabilitation efforts. However, he requested that the discussion on the West Philippine Sea issue be continued at some future time, particularly if and when the harassment of Filipino fishermen and the incursions into the West Philippine Sea by the Chinese Coast Guard and militia vessels continue. He opined that the issue's divergent viewpoints should serve as an opportunity to enlighten the public and, as a result, enable them to make an informed decision on the issue.

As stated by Senate President Zubiri that "nine out of 10 Filipinos want the Chinese out of Philippine territory" based on a Pulse Asia survey, Senator Cayetano (A) emphasized the need for the Senate to reach and educate the remaining 10% on the territorial issue, so that it would be "10 out of 10."

Furthermore, he expressed optimism that the spread of disinformation would be stopped, as he belied the notion that "not protesting" China's claim over the West Philippine Sea would be tantamount to surrendering the Philippines' rightful claim on the disputed territories. He noted that since the administrations of former Presidents Fidel V. Ramos, Joseph Estrada, Gloria Macapagal-Arroyo, Benigno Aquino III, and Rodrigo Duterte, as well as the current administration of President Ferdinand Marcos Jr., the DFA has done its utmost to protect the Philippines and the rights of its people.

#### **MANIFESTATION OF SENATOR VILLANUEVA**

Senator Villanueva informed the Body that he visited the towns of Calumpit, Paombong, and Hagonoy that morning and witnessed the recurring situation there in regards to the extensive flooding that affected nearly the entirety of the province of Bulacan. He recalled that since his first year as a senator in 2016, he has raised the same concerns to the Body in every national budget deliberation, even when Senator Legarda chaired the Senate Committee on Finance.

He stated that he, along with Senators Angara and Cayetano (A) and the other members, had raised the problem of flooding in Bulacan Province during the deliberations on the DPWH and DENR budgets. He stated that under the 2023 national budget, the DPWH's funding for flood control was P183 billion, P1.7 billion of which was for Bulacan. He lamented that most, if not all, of the towns in Bulacan were still submerged in floodwaters by the recent typhoon, as was evident on social media, particularly in posts about a wedding that proceeded despite floodwaters in the Barasoain Church, or the Our Lady of Mt. Carmel Parish Church, in Malolos, Bulacan. He remarked that he would turn 40 the following day, but he would continue to lament the ineffectiveness of the flood control system and the lack of better programs to address flooding in their province and in the country.

He recalled that the DPWH had stated in 2016 that it was unable to address the flooding in Bulacan without a feasibility study. He said that he commissioned and funded the feasibility study for two years, but the study's recommendations were never implemented.

In this regard, he informed the Body that Governors Daniel R. Fernando of Bulacan, Jose Enrique S. Garcia III of Bataan, and Dennis G. Pineda of Pampanga have complained about the lack of flood mitigation and management master plan in their respective provinces and in the country, such that attempts to fix flooding problems in one town or province could sometimes lead to flooding in a neighboring town or province.

He also faulted the Provincial Disaster Risk Reduction and Management Office (PDRRMO) for incorrectly reporting that only approximately 100,000 families were affected by flooding in the entire province, when in fact 47,000 families were affected in the Municipality of Hagonoy alone.

Senator Villanueva then proposed the following:

1. A concrete and integrated flood management program in the country.
2. A clear policy and protocols on releasing water from the dams, as Senator Legarda shared the same observation that dam owners and operators do not know how to implement the guidelines and protocols on releasing water from the dams during typhoons.
3. The passage of Senate Bill No. 2013, or the proposed National Water Act, which he filed in response to the call of President Marcos to create the Department of Water Resources
4. The conduct of an inquiry, in aid of legislation, into the government's plans and programs to improve the urban drainage system and flood protection of Metro Manila and other vulnerable areas of the country as sought in Proposed Senate Resolution No. 693, which he filed and referred to the Committee on Public Works chaired by Senator Revilla.

He stated that he and the chairperson have agreed to conduct the hearings as soon as possible to look into the management of the country's water and flood control programs, as well as how the P183 billion flood control budget of the DPWH and other funds were utilized. He added that Bulacan Province alone incurred damages amounting to between P700 to 800 million in the recent typhoon.

He then urged the other Members, who have already pledged aid to the affected municipalities in Bulacan, to provide a long-term solution and support to permanently resolve the flooding issues in Bulacan, its neighboring provinces in Central Luzon, and the entire country.

#### **MOTION OF SENATOR CAYETANO (A)**

Senator Cayetano (A) moved that Senator Villanueva's manifestation be referred to the Committee on Public Works, noting that Proposed Senate Resolution No. 693 had already been referred to the same committee.

He recalled that in a committee hearing chaired by Senator Legarda more than 10 years ago, it was revealed that dams constructed for the purposes of power generation, irrigation, and domestic water supply of Metro Manila also have a flood mitigation function to prevent massive amounts of rainfall from flowing directly to rivers and downstream communities, which the government has not yet implemented. He then proposed including the flood control function of dams in a future committee hearing on Proposed Senate Resolution No. 693, in light of the fact that the provinces of Tarlac, Pampanga, and Bulacan have suffered from a catastrophic flooding in the past.

## **MANIFESTATION OF SENATOR LEGARDA**

Senator Legarda stated that in addition to frequent and persistent rainfall, the flooding in Bulacan was caused by the discharge of water from the province's three dams, namely, Angat, Bustos, and Ipo.

She recalled that her committee had conducted hearings in 2007 and 2009 regarding the need for a Doppler radar because the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAG-ASA) did not have one at the time. She stated that the Doppler radar was eventually provided to the agency, followed by an operations manual of dam protocols for power generation and water storage.

While she acknowledged that dams are necessary, she pointed out the need to consider their effects on the affected communities as well as the overall environmental impact on the areas where the dams were constructed or will be built.

Further, she stated that while dam owners and operators are not solely responsible for the discharge of excess water from the dams, it is their responsibility to update their respective protocols to prevent flooding in residential areas, schools, and commercial areas in downstream communities. She added that a comprehensive land use policy would be necessary in order to prevent the construction of houses and other structures along spillways.

She disclosed that she was currently drafting a resolution based on her research on Typhoon Ondoy in 2009 and Typhoon Sendong in 2012.

In weighing between the necessity of dams against the safety of the affected communities, she urged the Body to come up with a scientifically sound and risk-informed solution to prevent flooding and the negative impacts of dam spill. She also raised the problem of soil subsidence, or the gradual sinking of the ground's surface due to excessive water extraction. She stated that soil subsidence and sea level rise may have also contributed to the submergence of portions of Bulacan, including Hagonoy. She added that open spaces and fishponds that used to serve as spillways may have been reclaimed and converted into residential areas.

Based on the investigation she conducted for the purpose of drafting a resolution, she recommended that the government consult the Marine Science Institute of the University of the Philippines and other experts in addition to the DPWH. She added that she would be asking all the LGUs of Bulacan if they have already submitted their respective local climate change adaptation plans (LCCAP) and if these plans have already accounted for the hazards, vulnerabilities, and risks in their respective areas.

## **REFERRAL TO THE COMMITTEE ON PUBLIC WORKS**

Upon motion of Senator Villanueva, there being no objection, his manifestation and the manifestations of Senators Cayetano (A) and Legarda were referred to the Committee on Public Works.

Senate President Zubiri empathized with Senator Villanueva and the residents of Bulacan for the widespread flooding in the province. He opined that if other governments, such as in the City of Amsterdam, were able to resolve their flooding issues, so could the Philippines. He concurred with Senator Legarda that the country has a problem with water collection and utilization. He then suggested that the country follow the United States and Europe's lead when it comes to using its dams and lakes as agriculturally-useful water storages.

In this regard, he stated that there was a justifiable need to create the Department of Water Resources Management under the bills filed by Senator Poe and other senators due to the lack of infrastructure to store water in the Philippines, where it floods on rainy days and a water crisis occurs during dry season.

#### MANIFESTATION OF SENATOR VILLANUEVA

Senator Villanueva thanked Senate President Zubiri for appealing to the DPWH to prioritize the country's flooding problem. He also expressed his gratitude to Senators Cayetano (A), Legarda, and the other Members present for supporting his call. While deferring to the wisdom of flood control experts, he concurred with Senator Legarda that dam protocols should be revisited.

He also asked why the flood situation was worsening despite the P183 billion budget allocation for the DPWH's flood control program. He then hoped that the DPWH would be able to solve the country's flooding problems.

#### MANIFESTATION OF SENATOR REVILLA

Senator Revilla stated that the Committee on Public Works would schedule a hearing with concerned agencies to address the flooding incidents as soon as possible. Saying that floods are everyone's concern regardless of where a typhoon strikes, he agreed that effective flood control programs must be in place to mitigate flooding, in fact, even Bacoor was not spared from flooding because it is the catch-basin for the province of Cavite.

Senator Villanueva acknowledged Senator Revilla's prompt action on the matter and thereafter thanked him for his efforts and desire to find solutions to the problem.

#### PRIVILEGE SPEECH OF SENATOR POE

On a matter of personal and collective privilege, Senator Poe, chairperson of the Committees on Public Services and Economic Affairs, delivered the following speech regarding India's export ban on rice exportation which could lead to a reduction in supply, trigger global rice prices, and exacerbate global rice shortage:

*Ngayong hapon ay inihahain ko sa hapag ng Senado ang pandaigdigang isyu ng seguridad ng pagkain sa bansa, partikular na ang paborito ng lahat—ang kanin. This issue affects our nation's gut and imperils the food on our plates. If left unaddressed, it will raise the cost of our meals, the anger in our bellies, and the hunger in our streets.*

Our GDP may have grown to 6.4% in the first quarter of 2023, but it looks like our GNP (*Gutom na Pilipino*) also continues to grow. *Ngayon pa lamang ay marami na sila. Ayon sa latest SWS survey, tatlo sa bawat sampung Pilipino ay "food poor," o hindi kayang bumili ng sapat na pagkain. An additional three out of 10 are "near food poor," or have barely enough. Samakatuwid, mas marami ang gutom kaysa busog.*

*Ano ang mangyayari sa kanila kapag nagpatuloy ang pagbaba ng suplay ng bigas sa pandaigdigang merkado, lalong-lalo na ngayon na binabaha ang maraming lugar hindi lamang sa Pilipinas kung hindi sa ibang bansa?*

The issue I am referring to is India's recent decision just last July 20 to halt all exports of non-basmati rice to the global market. The ban happened after heavy monsoon rains in India led to a decline in supply and a spike in local prices.

*Hindi man tayo bumibili sa India ng bigas, maraming bumibili doon sa kanila, kaya tataas ang presyo kahit doon sa mga suppliers natin gaya ng Vietnam at Thailand.*

*Hindi naman po natin masisisi ang India sa kanilang desisyon. May obligasyon silang unahin ang kapakanan ng kanilang 1.4 billion na mamamayan. Ngunit may obligasyon din tayo*

