

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

23 JUL 24 A9 :28

SENATE

RECEIVED BY



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;¹

¹ 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;²

WHEREAS, the National Capital Region (NCR), which has a land area of 619.54 square kilometers,³ 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*;⁴

WHEREAS, despite studies⁵ 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;⁶

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;⁷

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;⁸

² 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).

³ 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://rssoncr.psa.gov.ph/article/highlights-national-capital-region-ncr-population-2020-census-population-and-housing-2020> (Accessed on June 22, 2023).

⁴ 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 (Accessed on June 21, 2023).

⁵ 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).

⁶ 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).

⁷ 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).

⁸ 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.⁹ 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;¹⁰

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;¹¹

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;¹²

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;¹³

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;¹⁴

⁹ 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_rolIII_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).

¹⁰ 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).

¹¹ 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).

¹² 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).

¹³ 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).

¹⁴ 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 (MCDCCB) 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;¹⁵

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;¹⁶

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;¹⁷

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;¹⁸

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

¹⁵ 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).

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

¹⁷ 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).

¹⁸ 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).