Eighteenth Congress of the)
Republic of the Philippines)
First Regular Session)

Senate
Office of the Secretary

20 JAN 29 P4 :09

SENATE
S. No. 1302

RECEIVED BY:

Introduced by Senator Grace Poe

AN ACT
MANDATING THE INSTALLATION OF GRAY WATER TREATMENT SYSTEMS/FACILITIES IN BUILDINGS AND IMPOSING PENALTIES FOR VIOLATION THEREOF

Explanatory Note

Metro Manila is the main economic engine of the country. It accounts for 36.0% of the largest share of Gross Regional Domestic Product (GRDP), which caters to nearly 12.88 million residents. The water demand of this capital is primarily sourced from the Umiray-Angat-Ipo or the Angat system, which is conveyed through several tunnels to the various households, businesses and industries in Manila.[1]

However, recent events have demonstrated that Metro Manila is on the brink of a water crisis. This was demonstrated when Manila Water suddenly stopped delivering water in the first quarter of the 2019, causing shortages in Marikina, Pasig, Quezon City, Taguig, Mandaluyong, and San Juan.[2] Intermittent shortages have occurred since that point.

The initial water interruptions were blamed on the drying up of the La Mesa watershed due to the El Niño phenomenon. However, a wider view would indicate that there was a failure to build new sources of water to catch up with Metro Manila's growing population. For example, Manila Water has been noted to receive around 1,600 million liters per day (MLD) from the Angat system, but demand among customers has reached as high as 1,750 MLD.[3]

Thus, there is a need to identify new sources of water through conventional and non-conventional means. On the non-conventional side, we should seriously consider the installation of gray water treatment systems.

---

[1] Asian Development Bank (ADB). "Economic Analysis of the Angat Water Transmission Improvement Project". Retrieved from https://www.adb.org/sites/default/files/linked-documents/46362-002-ea.pdf
[2] Elemia, C. "Manila Water's 'surprise' service interruption affects parts of Metro Manila, Rizal" *Rappler* (08 March 2019). Retrieved from https://www.rappler.com//nation/225239-manila-water-surprise-service-interruption-affects-ncr-cities-rizal-towns-march-2019
[3] Punongbayan, JC. "The economics of Metro Manila's burgeoning water crisis" *Rappler* (13 March, 2019). Retrieved from https://www.rappler.com/thought-leaders/225590-economics-metro-manila-water-shortage

Gray water is wastewater that came from bathroom sinks, showers, bath tubs, washing machines and floor drains. While it may contain traces of dirt, food, greases, hair and chemicals, it is devoid of fecal content. This makes it a safe and beneficial source of irrigational water with the use of a treatment system and appropriate measures.

For its treatment system, a dual-plumbing system is required to segregate the reusable gray water from what we call the blackwater, which is water contaminated with hazardous fecal content. Only wastewater from cleaner sources would be used for treatment and irrigational purposes. This process imitates the biological purification and sanitation processes which has less negative impact on the environment compared to commercially engineered water purification treatment systems. Proper treatment, operations, and maintenance are needed when handling gray water outputs.

According to the Guide to Sanitation Safety Planning in the Philippines by the Asian Development Bank, sanitation safety planning (SSP) will help an operator of a sanitation system maximize the health benefits and minimize the health risks of the treatment system. The SSP Manual published by the World Health Organization (WHO) in 2015 provides practical step-by-step guidance in the implementation of the 2006 WHO guidelines for the Safe Use of Wastewater, Excreta and Gray water.

The practice and use of gray water is increasing in other countries. In Japan for example, they have adapted hand basin urinals in residential properties which flushes the bowl using the water from hand washing as a form of water recycling. In Tokyo, gray water recycling is mandatory for buildings with an area of 30,000 square meters or buildings with a potential reuse of a 100 cubic meters per day.

Graywater treatment is also utilized in Jordan. Due to the water scarcity in the country of Jordan, there has been a great gap and shortfall in their supply and demand chain when it comes to water supply, and therefore. Gray water treatment system not only minimizes freshwater usage but also reduces the amount of wastewater entering sewers or treatment systems.

In view of the foregoing, immediate approval of this measure is eagerly sought.

GRACE POE

Eighteenth Congress of the)
Republic of the Philippines)
First Regular Session)

SENATE
S. No. 1302

Introduced by Senator Grace Poe

AN ACT
MANDATING THE INSTALLATION OF GRAY WATER TREATMENT SYSTEMS/FACILITIES IN BUILDINGS AND IMPOSING PENALTIES FOR VIOLATION THEREOF

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

Section 1. *Short Title.* – This Act shall be known as "*Gray Water Treatment and Reuse Act.*"

Sec. 2. *Declaration of Policy.* – It is hereby declared the policy of the State to conserve, to the fullest extent possible, its water resources, by proactively promoting the utilization of alternative sources of water. In line with this, the State shall ensure that all buildings within its territory are properly equipped with treatment facilities/systems that will enable them to efficiently maximize the use of the water sources at their disposal.

Sec. 3. *Definition of Terms.* – As used in this Act, the following terms shall mean:

(a) *"Gray water"* – refers to wastewater which, though not potable, is understood as not pathologically infectious and is not contaminated with fecal matter, which may be used for watering plants, laundry, flushing toilets, cleaning, and other uses not related to human consumption;

(b) *"Gray water treatment system"* – refers to any appliance, equipment, or combination thereof designed to remove pathogens from gray water and render the same suitable for reuse on-site in toilets, urinals, or subterranean irrigation systems;

(c) *"Blackwater"* – wastewater that has been contaminated with fecal matter; *and*

(d) *"Building"*- Any structure built for the support, shelter, or enclosure of persons, animals, chattels, or property of any kind.

Sec. 4. *Installation of Gray Water Treatment Systems in All Buildings.* – Within one (1) year from the effectivity of this Act, every owner of a building with a floor area of at least one thousand (1,000) square meters shall install therein a gray water treatment system with sufficient capacity to treat all gray water produced in the said building.

Upon request by an owner of a building with a floor area of less than one thousand (1,000) square meters, the water utility servicing such building shall install therein a gray water treatment system with a capacity sufficient to treat all of the gray water produced in the said building. The costs of the system and its installation shall be borne by the owner of the building and, at the option of the building owner, may be repaid in installments to be included in the monthly bill; *Provided* that each installment shall not exceed more than ten percent (10%) of the monthly bill.

Sec. 5. *Inclusion of a Gray Water System in Building Plans and Specifications.* – Upon effectivity of this Act, no building with a floor area of at least one thousand (1,000.00) square meters shall be permitted for construction unless the plans and specifications therefor provide for a gray water system with a capacity sufficient to treat all gray water produced in the contemplated building. Should the completed building fail to comply with such plans and specifications, the same shall not be permitted for occupancy and/or operation.

Sec. 6. *Reuse of Gray Water.* – Treated gray water shall not be reused for human consumption or for any purpose other than on-site in toilets, urinals, and subterranean irrigation.

Sec. 7. *Storage and Commingling with Other Water Sources.* – Gray water, whether treated or untreated shall not be commingled with potable sources of water fit for human consumption. For entities who collect rainwater, only treated gray water may be commingled with such rainwater subject to rules and regulations of appropriate government agencies.

Sec. 8. *Penal Provisions.* – The penalty of six (6) months and one (1) day to one (1) year imprisonment; a fine of not less than fifty thousand pesos (Php 50,000.00), but not more than one hundred thousand pesos (Php 100,000.00); or both, at the discretion of the court, shall be imposed upon:

(a) Any owner of a building who fails to install a gray water system, as provided for under the first paragraph of Section 4 of this Act. In case the owner is a partnership or a corporation, the penalty shall be imposed upon the responsible partners or members of the board;

(b) The proprietor, responsible partners, or responsible members of the board of water utilities which shall refuse to install a gray water system, as provided for under the second paragraph of Section 4 of this Act;

(c) Any government officer or employee who shall permit the building or occupancy of any building in violation of Section 5 of this Act; *and*

(d) Any person who stores and reuses gray water in violation of Sections 6 and 7 of this Act.

Sec. 9. *Separability Clause.* – If any provision of this Act is declared invalid or unconstitutional, the other provisions hereof which are not affected thereby shall continue to be in full force and effect.

Sec. 10. *Repealing Clause.* – Any law, rule, and regulation or portion thereof contrary to or inconsistent with any provision of this Act is hereby repealed or modified accordingly.

Sec. 11. *Effectivity.* – This Act shall take effect upon completion of its publication in the *Official Gazette* or in at least two (2) *newspapers of general circulation.*

Approved,