

Practices in Plumbing and Attainment of Sustainable Development Goals.

Allan Dumlal, NAMPA, Inc. Philippines



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Allan S. Dumlal, NAMPA, Inc. Philippines

Are the plumbers doing well in the world? Yes! They are. I see the world in chaos without the plumbing industry, the plumbing products, education-and-professionals, training-and-plumbers.

Imagine a home without a toilet-and-bath, imagine this convention center without public toilet or restrooms.

Do you know a hero plumber? They don't belong to the Justice-League. I can name two of them, they are the **Super Mario Brothers of Nintendo**, everybody of my age: teens on the 80s know them very well. They do extra-ordinary actions, walking, running, jumping,

there and everywhere “above earth” and “below the sewers”, “subdued a dragon”, and “saved a princess”.

Well everyone in this conference are heroes, hundreds of them, in business suits, in-my-front, from the seven continents of the world. Heroes: Saver of everyone from sickness, earth’s environment, and ecology degradation!

Do we need doctors? If on first-hand the plumbers can prevent lung diseases, legionella, tuberculosis, gastro-intestinal, dysentery, diarrhea, bacterial, poliovirus, dengue and many more to name a few.

Plumbing in the Philippines

The birth of plumbing in the Philippines is traced back to the 17th century in the walled city known as Intramuros (with-in walls), that was introduced by the Spaniards as a model community.



Plumbing in the Philippines was introduced on the 17th century (1,700 A.D.) by the Spaniards. It’s a bit late, plumbing system are existing on 50 A.D. at the buildings of Roman Empire.

Leading PVC Pipe Manufacturing Companies:



Atlanta, Inc. - 1978

Moldex Products Inc. - 1972

Neltex Development Corp. - 1957

Plumbing materials become affordable upon introduction of light plastics. In the Philippines, on 1957 was the start of Plumbing boom. It was so expensive during the cast-iron era, only the rich families, commercial, and government establishments have the plumbing system.

Back then, Filipinos have an ancient hygiene way, it was an outdoor latrine and bath, no running water nevertheless - the legendary "pail and dipper" as an article I have contributed on the World Plumbing Council Newsletter Review last July do the purpose.

Plumbing Professionals:

Professional Regulation Commission



REPUBLIC OF THE PHILIPPINES

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
ISO 9001 : 2015 CERTIFIED

Nowadays the flourishing industry have this group of tradesmen and professionals who works hand-in-hand doing development for the country.

They are the Journeymen Plumbers trained and certified by the government “Technical Education and Skills Development Authority”, National Competency II is equivalent to National Vocational Qualification II in United Kingdom. There were thousands of journeyman plumber on the Philippines.

Master Plumbers, and Sanitary Engineers registered by the “Professional Regulation Commission”. Sanitary Engineers are college or university educated and regulatory board exam passer professionals, currently they are the usual designers of high rise buildings plumbing system. Master Plumbers are non-baccalaureate but also regulatory board exam passers, they could be in-charge of plumbing Installation but the plans “sign and seal” capacity is only

limited to twenty (20) plumbing units. Master Plumbers who are at the same time a professional engineer are on level with the sanitary engineers in terms of sign and seal capacity.

Master Plumbers are intended to be “licensed tradesmen” but currently in the Philippines most of them are so engrossed with contracting, office, and supervision works, that during my recent Continuing Professional Development lecture I was surprised;

Out of forty plus Master Plumber’s participants, some tried, but nobody could perfectly name the three tools in our association logo, much could name the parts of such tools, and the funniest thing is - they have never touched and operated a plumbing tool.

We have evolved for sure, like the extinct birds that forget to fly due to the adapted environment. I know our old folks are really calloused handed tradesmen, but only very few of them exist and are endangered species.

Currently there are thirteen-thousand (13,000) Master Plumbers on the Philippines and approximately six-thousand (6,000) Sanitary Engineers.

I am very thankful to be in these conference, I can tell them the plumbing world’s development when I’m back home.

Existing Sanitary, Plumbing, and Environmental Laws:

Sanitation Code of the Philippines – P.D. 856 – 1975

Sanitary Engineering Code – R.A. 1364 - 1955 - 2019

National Plumbing Code of the Philippines – R.A. 1378 – 1955 - 1999

Water Code of the Philippines – P.D. 1067

Clean Water Act – R.A. 9275 - 2004

Detergent Law – R.A. 8970 - 2000



We have also the Laws that are being implemented for the plumbing, sanitary, and environmental concerns. The Sanitation Code by the Department of Health,

Sanitary Engineering code by the Sanitary Engineers, it was currently upgrading to the “Environmental and Sanitary engineering” to cope-up with the worldwide professional reciprocity or Mutual Recognition Agreement for ASEAN and APEC and current development.

The Plumbing Code of the Philippines as was patterned to the worldwide Uniform Plumbing Code and the International Plumbing Code.

We are making move for the upgrading of the tables and charts, it will be called “performance based” plumbing system, we are into installing a state of the art, science, and technology real-time “sewage flow monitoring system”; we project - it will help for a

sustainable development, particularly of reducing the carbon footprint brought by manufacturing and building operations.

Water code was for the concessionaires who offer water supply and sewerage to the communities.

Clean water act and detergent act was for the Department of Environment and Natural Resources, they are implementing standards of effluent water properties discharging into bodies of water,

Example: the Bio Oxygen Demand, Color, Suspended Solids, E-coli, Surfactants, Nitrogen, and phosphorous.

That nitrogen and phosphorous releases on the bodies of water have caused thriving green algae's.

Philippines: Boracay a paradise or a cesspool?:



2008



2019

Closed on April 26, 2018 over mismanagement, over tourism, pollution, and corruption.

That's the famous "Boracay Island", it was closed for rehabilitation last year. As you see on the pictures of 2008 on the left and 2019 on the right, they are exactly the same, but with a keen eye, you may observe that the wave splashes **on the left** have "green items" and **on the right** were clean sparkling clear.

Those Green things are algae's I have mentioned on the last slide, having plenty of them, are indicators or the start of "marine dead zone".



We see a place, so serene, it seems we are on a dream or a fantasy. Please **don't dream** anybody can be there on eight hours traveling starting now.

Listed are the figures what the government have afforded in order to make it back to its old glory of the eighties.

During the six months of closure, forty seven billions pesos or roughly nine hundred million US dollars said to have been lose or spent.

The public officials on that period was suspended, the Mayor and Licensing officer were dismissed for gross neglect of duty, and they were perpetually disqualified from holding government post.

Government Mitigations:



Pictures courtesy of Google and Philippine Star

Infrastructures – Building Code Set-back requirements implemented.

Storm Drainage System Re-piped/ Improved.

Wastewater Treatment Facility/ Plant are required for establishments with 40 Plumbing Units and above. Other small units are required to tap into public sewage disposal system, or share with adjacent establishment.

Maximum of island guest were limited to 19,000 as the allowed capacity of Hotels and Pension Houses existing on the Island that are conforming to Environmental law.

In the aftermath, the Philippine government have strictly implemented the appropriate codes and laws. Building set-back requirements were obeyed, as you can see violators are wrecked by a soft destruction, our President have warned blast them if they don't comply, storm drainage system were dredged, repaired, and improved.

Wastewater Treatment Plant/ facilities was required for an establishment with forty or more plumbing units, and the rest was required to tap into the public sewer.

The nineteen thousand (19,000): maximum tourist occupancy of the island as it was the full capacity of complying establishments were strictly monitored.

STRICTLY MONITORED, that was the action we haven't implemented in the past. Having good:

participation: our tradesmen/ journeyman plumbers are trained and certified, our professionals are educated and are board-exam passers, the professional bodies require sufficient "Continuing Professional Development" units on renewal of licenses,

Practice: we have all of the existing laws, and more are on the making, a professional is accountable for his design and or supervision work for fifteen (15) years after completion of the project,

Materials/ tools products: we have state of the art and sciences manufacturers, their products qualities are guaranteed as controlled by the Department of Trade and Industries,

Control/ protection: That's where we have miserably failed; we have not applied measures to minimize risk to the environment and nearly turned Boracay surrounding ecosystem into a "marine dead zone".

The penalty was very expensive.

That almost a Billion US Dollars could have been funded into sustainable projects, businesses, or foods, shelter, clothing, and health of our citizens.

But it was not the end of our story, we have seven thousand and one hundred Islands more..... No! Not all of them are Boracay-like, but the government will surely be drained-out of fund even with only tenths of that numbers.

Please feel free to recall the July 2018 World Plumbing Council Review Newsletter, an article entitled: Philippines: Boracay a paradise or a cesspool? For further reference of this presentation today.

Philippine Non-government Organizations Action: Featuring Environmental Concerns:



Picture Courtesy of Rotary Club of Melbourne

Rotary Club of Melbourne, Australia and Rotary Club of Tabuk, Mevcauayan Uptown, and Pharan, Philippines a Rotary Foundation Global Grant Project "Water and Sanitation" with 6,800+ Tabuk, Kalinga community recipients (8,200 ft. ASL) .

ROTARY'S Areas of Focus



Thanks! There were Rotarians and the Rotary Foundation, They do good to the world.

The pictures show a post on completed "water and sanitation" project - one of the six, Rotary's area of focus as presented on the

right; the Global Grant project was participated by Rotary Club of Melbourne and three Rotary Clubs from the Philippines.

It have benefited, six thousands and more of residents in far flung and elevated “eight thousands” feet above the sea level community on the Northern Philippines.

In my opinion **rocket science** is really easier than the **plumbing**. Why? United States National Aeronautics and Space Administration - NASA,s “New Horizon” spacecraft have reached the planet Pluto on 2015, that’s more than two years earlier than the 2018 IAPMO-IWSH Foundation: CPC - Community Plumbing Challenge starting the plumbing installation on the Navajo, New Mexico. Am I correct with my opinion? I think you will agree.

Philippine Non-government Organizations Action: Featuring Environmental Concerns:



questforlove@gworld.ph



LAKE SEBU INDIGENOUS WOMEN
WEAVERS ASSOCIATION
Lake Sebu, South Cotabato

YELLOW BOAT OF HOPE FOUNDATION
Zamboanga City

The ilove foundation, i.l.o.v.e was the acrostic for “**I**nvestment in **L**oving **O**rganizations for **V**illage **E**conomies”. Shown were the two of the eight projects introduced by the Philippines philanthropist and environmental leader Madam Gina Lopez.

In 2017 she was cited for the “Seacology Prize” in Berkeley, California – she was the first Filipino to have won the trophy, in the award’s 27-year-history of recognizing world champions of islands ecosystems.

Sadly she had passed-away last month: we the plumbing professional whom she named as her eco-warrior-associates, have sworn an allegiance to keep our ecology safe and healthy until our last stand, even knock-downed; we are trained along with our beloved Senator and pound-for-pound Fighter Manny Pacquiao, to rise before the count of ten for the purpose.



They are the seventeen (17) United Nations SDG or Sustainable Development Goals. SDG number six (6) pertains to “clean water and sanitation” the plumber’s forte or specialty.

Let us hear more of that on the next speaker.

However if we scrutinize all of those goals, a plumbing is part of all of them. I will mention SDG 5 “gender equality”, are you wondering where’s the plumbing in the “gender equality”?

In the Philippines, other gender group called LGBT (Lesbian, gay, bisexual, transgender) demanded for their rights for a public toilet, currently it was being debated on the congress and senate.

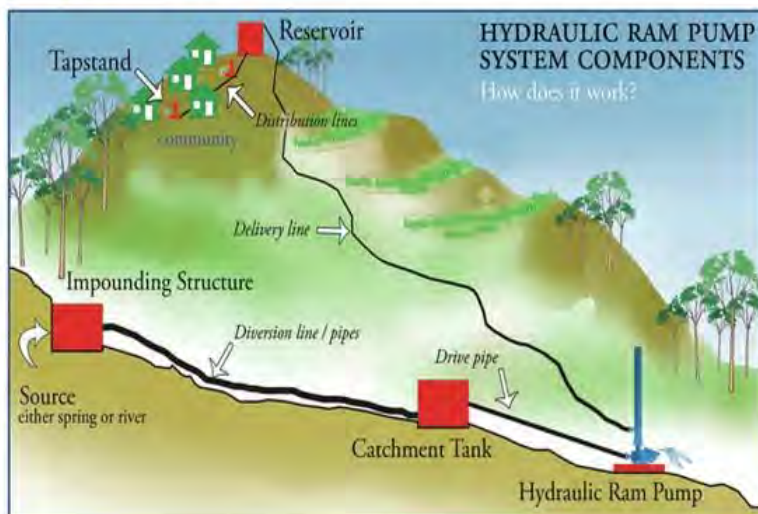
We in the plumbing industries will be glad for its approval, imagine a world with public toilet for all biological and prescriptive gender.

It may be a joke for some, but for the plumber - it’s more work and of course more income and livelihood.

Plumbing Systems and Future of Plumbing Industry:



pasaliphilippines@yahoo.com.ph



Advantages

1. Zero pollution.
2. Operates 24 hours a day, 7 days a week without supervision.
3. Pumps 20+ more its own fall, with the record of 200 meters up without a motor.
4. No fuel or electricity cost.
5. Low maintenance and repair cost.
6. Repairs are done locally.
7. Installation is up to 80% cheaper than other water system models.
8. Local manufacturing and training generates employment.

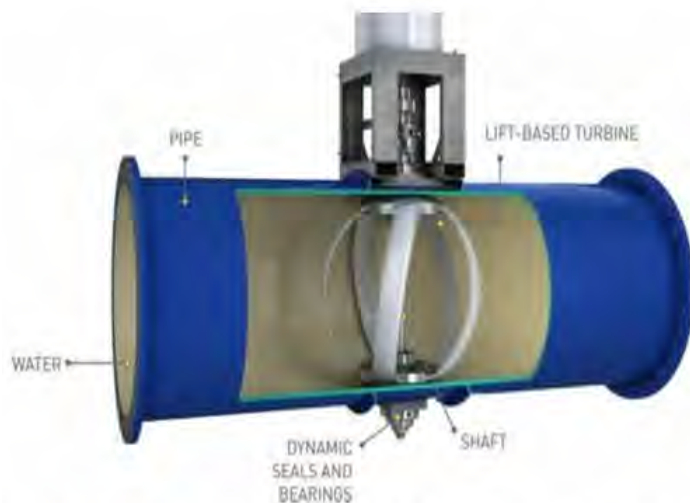
The Future of Plumbing Industry was repeatedly mentioned in this conference. That's a Ram Pump, Hydraulic Ram, or HydRam, first called a "Pulsation engine" it utilizes the "water hammer effect" as introduced on the 17th century.

Does it fit into the sustainable development goals? It requires no electricity, no carbon emission, no global warming. Why it is not on the wide-market?

It was being advertised, eventually it will sell. Though they are not substitute for the modern induction motor pumps.

I hope it shall be further developed - surpassing motor running on electricity efficiency. They have been utilized in some of the ILOVE foundation projects.

Plumbing Systems and Future of Plumbing Industry:



Lucid Pipe/ Lucid Energy

Minimum size – 24" (0.60m)

Min. Flow - 1 cu.m/s (15,852 gpm)

Power Capacity – 18 Kilowatt

Hydroelectric devices were installed in the main aquatic lines in Portland, Oregon, making use of water pressure to make *electricity*.

Next, a hydroelectric “water turbine”, another renewable energy source. We should have this in our homes and buildings, in the future?

As described, the 24” diameter model can get “eighteen kilowatt” power on a one cubic meter per second flow volume.

I calculated the flow velocity should be approximately three and one half (3.50) meters per second. In high-rise buildings we use PRV or pressure reducing valves to limit the domestic pressure to a maximum of 80 psi, this water turbines in series may do such purpose, and also harnessing the natural forces of nature.



I have more technologies in mind, we can tackle it in the future. I am encouraging the plumbing industry to make it available to everyone for attainment of sustainable development.

In the first day Hydrogen was discussed, and is very feasible for the future, it will significantly reduce the carbon dioxide emission to a very minimum if not zero,

DEUTERIUM was not mentioned, it's a heavier isotopes of hydrogen, it was reserved on the deeps of oceans in a liquid form, and in the future we plumbers would work on that.

Some scholar said, that one of the Philippines - seven thousand one hundred islands was the ancient land of "Ophir" biblically, it's the place where King Solomon was importing golds and hard wood timbers to build his temple.

I don't buy that. The Philippines just happened to be the "pearl of the orient" as it was called by Spanish colonist.

We the Filipino Master Plumbers are really on distress, our natural resources, and ecology are all "what we got" and "what we have"!

Our organization NAMPAP, Inc. although existed for eighty-four (84) long years, we are just on our second year, being a World Plumbing Council "Full Member".

We believe the World Plumbing Council and coordination with each organization members can guide us to the future.

Thank you!