

ASEAN-Japan Partnership On Marine Plastic Pollution Philippines 2021

source. • Reuters, (2017). Dead whale sculpture raises awareness on plastic waste in the Philippines. https://e.vnexpress.net/news/video/dead-whale-sculpture-raises-awareness-on-plastic-waste-in-the-philippines-3584506.htm



Contents

- 1. About the Eco-School Project on Marine Plastic Pollution
- 2. Why did Japan and the ASEAN cooperate on marine plastic waste?
- 3. Plastic: What is it? How is it made?
- 4. How has plastic changed our society?
- 5. How is marine plastic waste relevant to me as a Novo Ecijano?
- 6. What is being done to reduce marine plastic waste in the Philippines?
- 7. What can I do to help reduce marine plastic waste?
- 8. Conclusion



Objectives of Lecture

1. To improve your knowledge about plastic, plastic waste, and its impact to the marine environment

2. To consider what changes in your lifestyle can be made for you to reduce plastic use, and participate in reducing the impact of plastic waste in the ocean

3. To share and communicate what you learned today with your friends and family



The ASEAN- Hiroshima Eco-School Project





2020

 Future Leaders' Declaration on ASEAN – Japan Cooperation for International Marine Plastic Waste



 22 students from Japan and ASEAN member countries





Source (trom top):
ASEAN-Japan Centre (2021). Future Leaders' Declaration on ASEAN-Japan Cooperation for International Marine Plastic With https://www.asean.or.jp/en/centre-wide-info/20210107/
ASEAN-Japan Centre (n.d). Introduction of ASEAN countries. https://www.asean.or.jp/en/centre-wide-info/20210107/



2021

- ASEAN–Hiroshima Eco-School Project
- Partnership with the Hiroshima Education Board
- Conducted lectures in 4 elementary and senior HS in Hiroshima, Japan







ource (from top):

ASEAN-Japan Centre (2021). Report: Conducted the 1st Online Lecture for the Hiroshima ASEAN Eco-School for Marine Plastic Waste Education (Pilot Programme). . https://www.asean.or.jp/en/centre-wide-info/20210914/ ASEAN-Hiroshima Eco School Project Logo. Each icon designed by Freepik as arranged by the author

ASEAN-JAPAN CENTRE

About the lecturer

- Studies Environmental Economics at Kyushu University
- Fellow, Future Leaders' Declaration on ASEAN – Japan Cooperation for International Marine Plastic Waste 2020
- From Muñoz, Nueva Ecija





Source (from top): ARES Conference (2009). https://www.ares-conference.eu/ares2009/www.ares-conference.eu/conf/index.php/venue.html Bromberg, M. (2015). Kyushu University. https://www.newsweek.com/insights/best-asia-and-south-pacifics-universittes-2015/kyushu-university



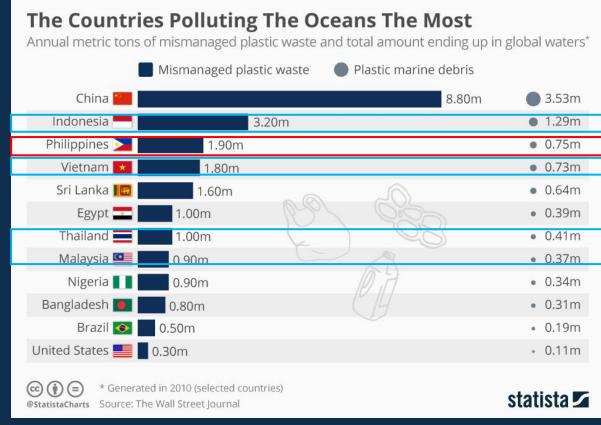
Why did Japan and the ASEAN cooperate against marine plastic pollution?





1. Science-based evidence

- Researchers in 2015 (Jambeck et al.) identified the top countries that pollute the ocean
- Most of the countries listed (Philippines ranked 3rd!!) are from the ASEAN





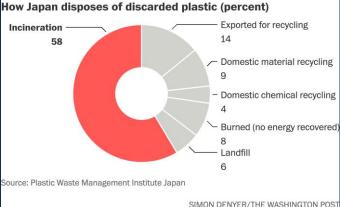
2. Marine plastic pollution: a transboundary environmental problem

- Transboundary = point of origin is different from the many countries it affect
- Plastic waste do not recognize land or ocean boundaries

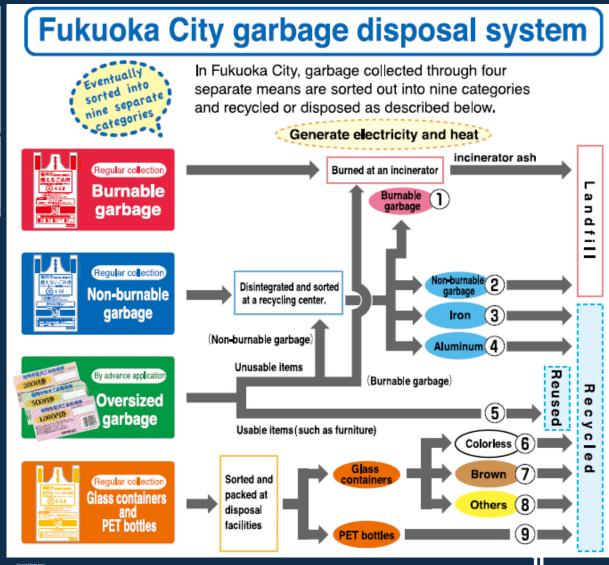




3. Good waste management in Japan







Kyushu and Tokyo (n.d). Fukuoka – History and Religion. https://www.kyushuanstokyo.org/ro



PLASTIC: What is it? How is it made?





Trivia 1: What year is plastic invented?

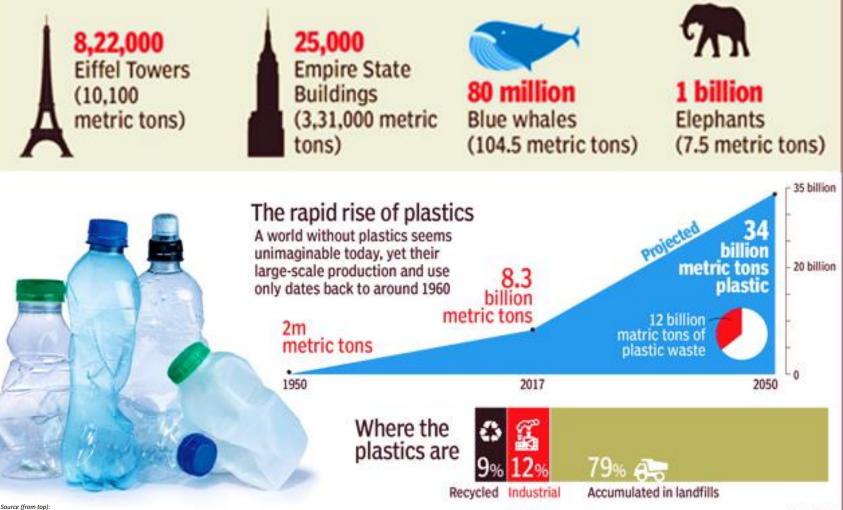
A. 1851	Sea cables are coated with rubber-like materials from trees called gutta percha which produces natural plastic
B. 1907	Synthetic plastic was invented by Leo Baekeland; he also coined the term 'plastic'
C. 1930	Polyester, also a type of plastic, was invented
D. 1941	Polyethylene terephthalate (PET) was invented

ANSWER: B



How much plastic have we produced?

8.3 billion metric tons of plastic is as heavy as...



The Time of India (2019). 8 billion tons of plastic in the world! https://timesofindia.indiatimes.com/world/8-billion-tons-of-plastic-in-the-world/articleshow/63856148.cms



Trivia 2: What is the main ingredient in making plastic?

A. Rubber (from rubber tree, etc.)

B. Mud

C. Fossil fuel (natural gas, crude oil)

D. Jellyfish

The earliest naturally occurring plastic used by humans from rubber trees (e.g. latex)

Mud have also been used to make things before plastic was invented. Today they are still used to create ceramics.

Through chemical separation and processing, fossil fuels become synthetic plastic

Just because they have a rubbery structure

ANSWER: C



What is plastic? How is plastic made?



How has plastic changed our society?





1. Good Characteristics of Plastic

- Durable
- Waterproof
- Lightweight
- Comes in many shapes and sizes (and color!)
- Convenient
- Cheap





Advantages of using plastic





2. Disadvantages of using plastic









Emit toxins when burned ope









Share us your thoughts after the lecture.

Do you think plastics have BAD characteristics?





Trivia 3: What are the top 3 plastic items found in coastal clean-ups?

A. Cigarette butts, food wrapper, plastic bottle caps

B. Plastic beverage bottles, beverage cans, straws, stirrers

C. Glass beverage bottles, plastic grocery bags, metal bottle caps



ANSWER: A

3. Marine Plastic Pollution



Single-use Plastic Dependency





HOW LONG UNTIL IT'S GONE?

Estimated decomposition rates of common marine debris items



Source: • Feitlinger, S. (2015). Twenty-Year-Old Boyan Slat Takes On The Monumental Task Of Cleaning Our Oceans. Source: NOAA thational Oceanic and Atmospheric Administration; US / Woods Hole Sea Grant, US Graphics: Ofver Luide / Museum für Gestaltung Zurich, ZHoR.

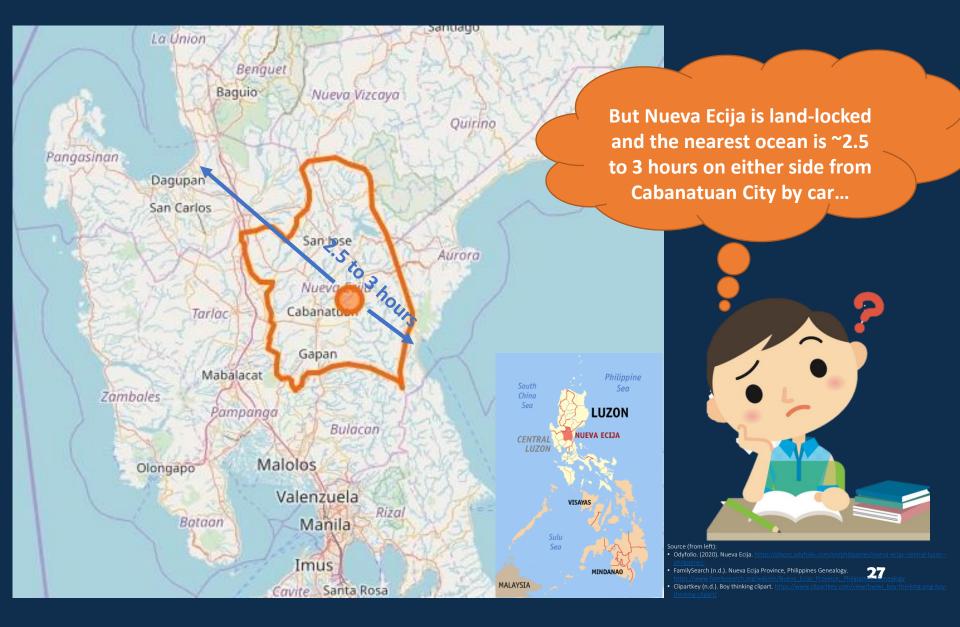
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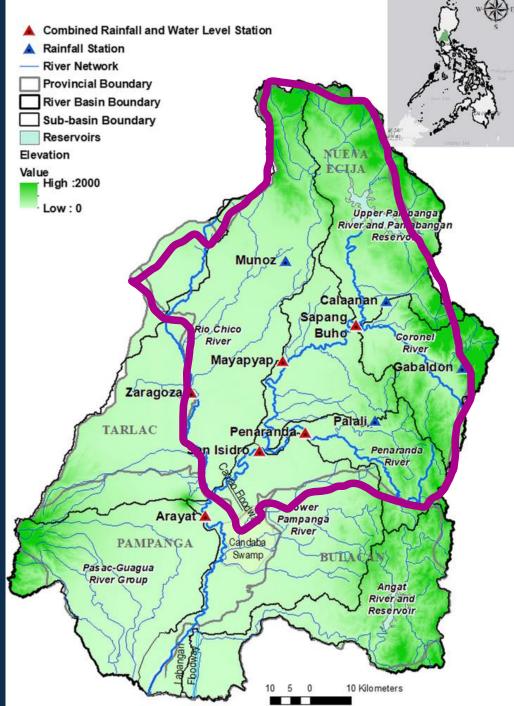
How is marine plastic waste relevant to me as a Novo Ecijano?







- Nueva Ecija is surrounded by mountain ranges (east) where water originates
- Rivers are transport vessels of plastics from land to sea
- Pampanga River and its tributaries runs through Nueva Ecija and other Region 3 provinces



 Macalalad, R. et al. (2021). Hydrological Response of the Pampanga River Basin in the Philippines to Intense Tropical Cyclone Rainfall. https://journals.ametsoc.org/view/journals/hydr/aop/IHM-D-20-0184.1/IHM-D-20-0184.1.xml

Source



Trivia 4: What do you call the point where a river meets the ocean?

B. Watershed

A. River delta

An area of land that drains rainfall into streams and rivers

C. Swamp

A type of wetland permanently saturated with water and dominated by trees (e.g. mangrove)



ANSWER: A

This point

Rivera & Navarra (2015). Applying the Urban Resilience Theory to Flooding on Flood-prone settlements along the Pampanga River. https://www.semanticscholar.org/paper/Applying-the-Urban-Resilience-Theory-to-Flooding-on-Rivera-Navarra/Abaac1a3dde4550272352c2f2a39a9f790647612



Rivers and oceans meet at the river delta





Ridge to reef approach

• Many ecosystems = environment

12 km

ricultural Land

24 km

Coastal

- Ecosystems are interconnected
- Everything leads to the ocean
- We cannot solve marine plastic waste problem if we do not stop it at its source

2 km

Brushland

2.5 km

Doer

mas

900

800

700

600

500

400

300

200

100

75 kr

Closer

Canop



Where do plastic from Cabanatuan City go?



Insert Web Page

This app allows you to insert secure web pages starting with https:// into the slide deck. Non-secure web pages are not supported for security reasons.

Please enter the URL below.

nttps://	theoceancleanup.com/plastic-tracker/
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Note: Many popular websites allow secure access. Please click on the preview button to ensure the web page is accessible.



What is being done to reduce plastic waste in the Philippines?



1. Government Policy

- Republic Act 8679: Clean Air Act of 1999 (bans open burning)
- Republic Act 9003: Ecological Solid Waste Management Act of 2001
- House Bill 9147 of 2021: Single-use Plastic Products Regulation Act (seek to ban single use plastics)





SAY NO

SINGLE USE PLASTIC

Source (from to

- Wikimedia commons (n.d.). Burning garbage Philippines. <u>https://commons.wikimedia.org/wiki/File:Burning_garbage_philippines</u>
- Macababbad, E. (2020). Salute the garbage collectors. https://edjview.wordpress.com/2020/04/18/salute-the-garbage-collectors/
- Say no to single use plastic. https://www.flipkart.com/say-not-single-use-plastic-save-environment-no-plastic-save-earth-multicolor-paper-print/p/itm675f1367447a

2. School and Local Government Partnership



 Marikina Eco-savers since 2004-Marikina City Waste Management Office partnership with the Marikina City Dept. of Education

ATENEO DE DAVAO UNIVERSITY UNIVERSITY POLICY ON SINGLE-USE PLASTICS these items are prohibited inside the campus Plastic Staws **PET Bottles** Plastic Cup & Lid **Plastic Stirrers** Plastic Utensils Sachets Balloons (all types) Sando bags and Other Doypacks plastic bags Plastic / Disposable Tetra Pak Cartons Polystyrene Gloves

Ban of Single Use Plastics in University 37

- Marikina Eco-savers. Speaker's own photo
- Sunstar Davao (2018). Ateneo's single-use plastics policy implemented October 19.
 - https://www.sunstar.com.ph/article/1770185/Davao/Local-News/Ateneos-single-use-plastics-policy-implemented-October-1



3. Volunteerism: Beach/Community clean-up







Sports Manila (n.d.). By the Bay Coastal Cleanup draws lk. http://sportsmanila.net/etonline/index.php/lgu/2485-by-the-bay-coastal-cleanup-draws
Subic News Link (2013).2,000 volunteers join Subic Bay Freeport coastal clean-up. http://subicnewslink.blogspot.com/2013/09/2000-volunteers-join-subic-bay-freeport.html

WWF (2017). Cleanup Under the Sun. https://wwf.org.ph/resource-center/story-archives-2017/sun-life-foundation-coastal-cleanup-lppchea



4. Activism/Advocacy

- Carmela Ellaga, Danjugan Island Environmental Education Program (DEEP) of the Philippine Reef and Rainforest Conservation Foundation (PRRCFI)
- Community Facilitator for Sea Waste Education to Eradicate Plastic (SWEEP) campaign for #MoreFishNotPlastic
- Prototyped eight (8) "Wala Usik" or zero-waste sari-sari stores in Negros to reduce ocean plastic pollution





5. Limitations of current efforts to reduce plastic waste pollution

- Policy support to enable ALL local governments to adopt a waste management strategy
- Infrastructure to manage waste (garbage collection, recycling facilities, waste disposal plants)
- Corporations in the country promoting single use plastic
- People's lifestyle and perceptions in using plastic heedless use of plastic, 'tingi' culture

Take away message: <u>Limitations drive creativity; let's look</u> inward on how to support efforts in marine plastic waste pollution



What can I do to help reduce marine plastic waste?





Based on plastic categories below, write the number of plastic garbage you throw within one day!

Plastic Gatesory	Day 1	Day Z	Day 3	Day 4	Day 5	Total	Plastic
Plastic Bag							Plant
Plastic Package	5					5	Plast
Plastic Bottle							
Food Tray	8					8	Boxed B
Massic Cutlery							T.
Plastic Straw							0

Plastic Galegory	Day 1	Day 2	Day 3	Day 4	Day 5	Total
Plastic Hrap	4					4
Plastic Cap						
			1			1
Boxed Beverage *	1			1		2
Hask						
? Others						

ECO SCHOOL

Project

*Note: Can and Boxed Beverage are usually coated with plastic polymer (i.e. PET or Epoxy resin)





What can I do to help reduce plastic waste?

- 1. Bring your own bag (BYOB)/ Reuse plastic bags
- 2. Pack lunch in reusable containers
- Invest in reusable water bottles/flask
- 4. Avoid buying small sachet items
- 5. Dispose of your garbage properly (trash bins, waste segregation, garbage collection schedule, composting)





Speaker's own photo



Marine Conservation Advocate Philippines



- Ana Oposa, founder Save Philippine Seas (SPS) <u>https://www.savephilippineseas.org/</u>
- To mobilize the 'seatizens' in us



Marine Conservation Advocate Philippines



- Froilan Grate, <u>https://www.breakfreefromplastic.org/about/#what-we-do</u>
- Anti-plastic activist (#breakfreefromplastic movement), Eco-waste management
- Brand audits to make manufacturers take responsibility



Conclusion

Plastic is part of our daily lives:

 As a technology/resource, it makes our lives better, but we should also acknowledge that using it has negative impacts.

• Recognize that marine plastic waste concerns YOU:

 As a global problem, marine plastic waste need the understanding of members of our society in order to participate in solving it.

<u>Consider your plastic use</u>:

• Your lifestyle can show you how you can contribute to reducing marine plastic waste.

Create a ripple:

 Share what you learned today about marine plastic was with your friends and family. The Philippines have some of the best beaches in the world. Let's keep it clean for our generation and the next.



Source (from top): • Jackson, S. (n.d.). Coron Island, Ph

Project Lupad (n.d.) Aerial view White Island, Camiguin. https://www.projectlupad.com/captivating-aerial-view-o

 Joe's Scuba Shack (2021). Best Scuba Diving Puerto Galera Philippines. <a href="https://myscubadivinggearguide.com/best-scuba-divingpuerto-colore.com/best-scuba-divingpuerto-colore.com/best-scuba-diving-



Thank you for listening!