



DZUP EskweKalikasan Module 3

Biodiversity Conservation



Definition of Biodiversity

Biodiversity refers to the **variety of organisms living on Earth**. Its Filipino translation, derived from *samu't saring buhay*, is *saribuhay*. The number of species in a particular area is the main identifier of biodiversity.

Biodiversity

- Its Filipino translation, derived from *samu't saring buhay*, is *saribuhay*.
- Its main identifier is the *number of species in a particular area*.
- The three levels of biodiversity are **species biodiversity**, **genetic diversity**, and **ecosystem diversity** (Australian Museum, 2018).
- The Philippines is one of the megadiverse countries since it has many species of plants, animals, bacteria, fungi, and other types of organisms.

Different animal and plant species present in the Philippines



<https://ecostreetbywilliamae.files.wordpress.com/2015/01/phil-eagle.png>
<https://animalscene.ph/wp-content/uploads/2018/10/February3-4.jpg>
 [Online image]. n.d. <https://ecostreetbywilliamae.files.wordpress.com/2015/01/phil-eagle.png>
 [Online image]. n.d. <https://animalscene.ph/wp-content/uploads/2018/10/February3-4.jpg>
 [Online image]. n.d. <https://www.panaynews.net/wp-content/uploads/2019/07/Visayan-spotted-deer.jpg>
 [Online image]. n.d. https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcSNarYdSKwkaf4_5cbMjUK7KaBkHNvGo6NB3udHhgELP4G2fmt
 [Online image]. n.d. https://maritimereview.ph/wp-content/uploads/2016/05/Hawksbill_waterbababydive.com.jpg
 [Online image]. n.d. <https://www.ethicalshoppingforbabies.co.uk/wp-content/uploads/2018/06/Dugong-Rarest-sea-cow-in-the-world.jpg>

[Online image]. n.d. <https://philippinetrees.com/wp-content/uploads/2020/01/narra-tree.jpg>
 [Online image]. n.d. <https://www.worldatlas.com/r/w1200-h701-c1200x701/upload/bb/5e/09/shutterstock-1299591940.jpg>
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<https://themindofthegarrett.files.wordpress.com/2017/03/7534b5e39f7e3bbb7c3fe88673deab6.jpg?w=305&h=222>
 [Online image]. n.d. https://steemitimages.com/640x0/http://www.bohol.ph/pics/large/IMG_4020-B.jpg



DZUP ESKWEKALIKASAN PROJECT

DZUP EskweKalikan: Para sa kabataan, kapaligiran, at bayan is a publicly-funded initiative of the academe, with support from advocates and the government. It aims to raise awareness on emerging and evolving discussions about climate change, disaster risks, sustainable living and development and mindful consumption. Especially designed for senior high school teachers and students, the project has produced several teaching and learning resources such as modules, video guides, podcasts, and radio episodes that are available for free online at dzup.org/eskwekalikasan.

The project (whose title is a portmanteau of the Filipino words for school and nature) is spearheaded by the Department of Broadcast Communication of the University of the Philippines (UP) College of Mass Communication and DZUP 1602, in partnership with the UP National Institute for Science and Mathematics Education Development (UP NISMED) and the UP Diliman of the Office of the Chancellor. It is principally funded by the Philippine Government under the General Appropriations Act for Fiscal Year 2019 through the initiative of the Office of Senator Loren Legarda.



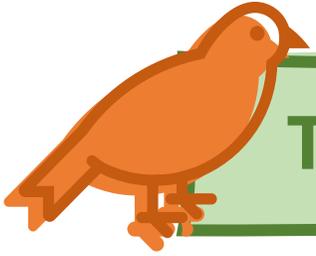
KAYANG-KAYA! PODCAST

Kayang-Kaya! is a 10-episode podcast in Filipino that follows the adventures of three senior high school students, Kali, Naya, and Alab, as they seek to understand and uncover issues confronting the environment. As an educational tool, the podcast serves to supplement classroom discussion using aural storytelling.

In ***Episode 3***, titled ***"Ano ang kahalagahan ng pagtatanim ng punò sa tao at sa kapaligiran?"***, Kali, Naya, and Alab are planning to join Brgy. Luntian's tree-planting activity. However, they are worried that invasive tree species might be planted. Kali and her friends discover the importance of trees in our lives as they learn about the different types of species: native, endemic, exotic, and invasive, and their environmental impacts.



Is it important to know the type of tree to be planted in a certain area? If yes, why? If no, why not?



Types of Species

1. Endemic species
2. Native species
3. Exotic species
4. Invasive species

Endemic Species

Endemic species are those species present only in a particular area or locality.



Jade vine

(*Strongylodon macrobotrys*)



Ground orchids

(*Paphiopedilum spp.*)

Sources:

[Online image]. (n.d.). https://live.staticflickr.com/7913/46292748664_acdefb2d70_b.jpg

[Online image]. (n.d.).

<https://us.123rf.com/450wm/nipastock/nipastock1703/nipastock170300115/73860280-soft-focus-of-paphiopedilum-charlesworthii-is-a-species-of-plant-in-the-orchidaceae-family.jpg?ver=6>

Native Species

Native species are present in particular but adjacent localities or areas.



Attenborough's Pitcher Plant

(*Nepenthes attenboroughii*)

- It is a carnivorous pitcher plant native to the Victoria massif of Palawan.
- The World Conservation Union (IUCN) classifies the plant as Critically Endangered for its restricted distribution and plant poaching.

Sources:

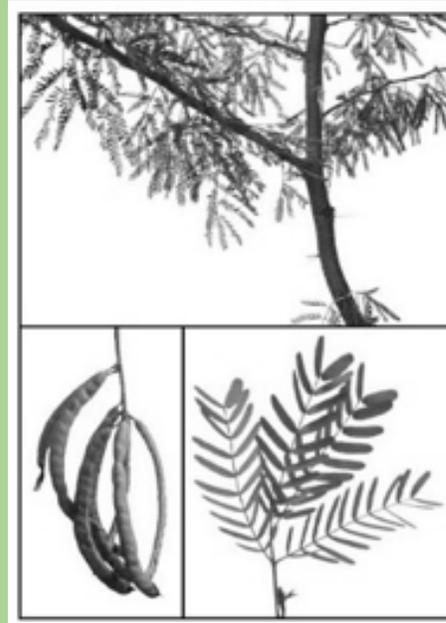
Sawe, B. E. (2017, April 25). Native Plants Of The Philippines. World Atlas.

<https://www.worldatlas.com/articles/native-plants-of-the-philippines.html>

[Online image]. (n.d.). <https://img.yumpu.com/37143729/1/500x640/nepenthes-attenboroughii-new-england-carnivorous-plant-society.jpg>

Exotic species

Exotic species are those species that are introduced or non-native in area.



Acacia trees



***Kaimito* or Star Apple**

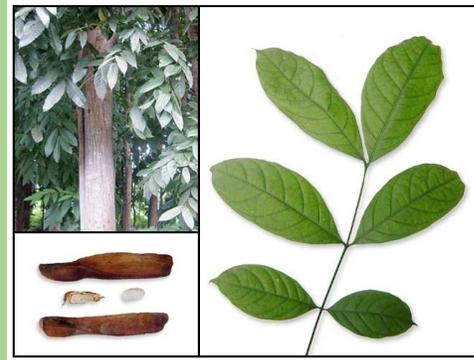
Sources:

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[Online image]. (n.d.). https://images-na.ssl-images-amazon.com/images/I/71u3AD7iXTL_AC_SX450_.jpg

Invasive species

Invasive species are exotic species proven to pose negative impacts on the local ecosystem.



Mahogany



Water Hyacinth

Sources:

https://lh3.googleusercontent.com/proxy/sy1PVjFtQ4a5i0JhAGcb_wuLxd09VdkYDId2qgXmVRX9ZE9kPQRXBQf8NsYp8KhkN0HA_TwtjXcGyLbADm4

[Online image]. (n.d.). https://images-na.ssl-images-amazon.com/images/I/71u3AD7iXTL_AC_SX450_.jpg

Importance of trees

To humans, trees provide

- the raw material for many products such as rattan, pulp, paper, plywood, and lumber,
- shade, recreational purposes, cultural value, and historical value,
- oxygen, and
- an energy source, fruits, oil, and rubber.

To other species, trees

- serve as habitat for many species,
- provide for other species, and
- provide oxygen to other species.

To the ecosystem, trees

- prevent erosion, siltation, and flooding,
- are the main organisms of forests, and
- serve as carbon storage preventing climate change.

Summary of Arbor Day Act

Ang Republic Act No. 10176 o "**Arbor Day Act of 2012**" o "**Tree Planting Day**" ay isang batas na **naglalayong protektahan at isulong ang karapatan ng bawat mamayan para sa isang malinis at mayamang kalikasan**, kaya kinikilala ang kahalagahan ng mga puno sa kapaligiran.

Kinakailangang magtulungan ang gobyerno at ang mamamayan upang alagaan ang ating likas na yaman, sa pamamagitan ng nationwide tree-planting activities at pagbibigay ng mabisang hakbang sa pag-aalaga at pagpapanatili ng mga ito.

Isinusulong ng batas na lahat ng mga pinuno ng mga lalawigan, lungsod, at barangay ay kailangang magproklama ng Arbor Day. Hinggil dito, lahat ng mamamayang hindi bababa sa 12 taong gulang at may karampatang lakas ay kinakailangang magtanim ng isang puno bawat taon. Ang pagpili ng araw ay dapat naayon sa tamang panahon o season ng mga uri ng puno sa kani-kanilang lugar.

Bagama't isinabatas ito noong 2012, hindi lahat ay sumusunod dahil sa kakulangan ng mahigpit na pagpapatupad.

Summary of the tree-planting problems based on the news and feature articles

Problems based on the articles

For the National Greening Program (NGP)

- There was lack in planning and mishandling of funds.
- They did not conduct mapping and planning or surveying of the planting areas.
- The delay in the delivery of seedlings resulted in untimely planting.
- There was no partner organization to help monitor the plantations in some planting sites.
- The majority of trees being planted are exotic, like mahogany, gmelina, and rubber—trees that are fast-growing but less adaptive to the Philippine environment.
- The project focused more on the economic development and livelihood of farmers rather than reforestation.

The other articles showed how invasive species, like mahogany, affect the biodiversity in an ecosystem.



How do we address these problems?





**Is it important to know the type of tree
to be planted in a certain area?
If yes, why? If no, why not?**

