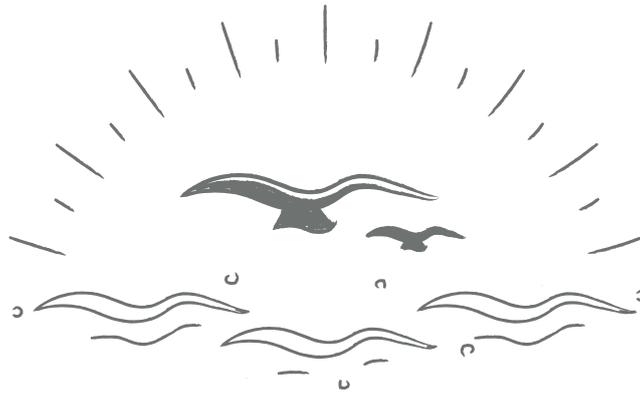




PEMIPHIS



**TIME
FOR
NATURE**



MINISTER'S MESSAGE

I wish you all a very Happy World Environment Day. The theme for this year's World Environment Day is, 'Time for Nature', with a focus on nature's role in providing the essential infrastructure that supports life on Earth and human development.

As a coral atoll nation in the Indian Ocean, our lives and livelihoods are closely interconnected with nature. For our economic development and sustenance, we heavily depend on the natural resources and services that are derived from our coral reefs and the ocean that surrounds us. Tourism and fisheries, which are the mainstay of the economy, are contingent upon the viability of marine biodiversity. We also rely on biodiversity and ocean services for our food security, clean water, reduced beach erosion, sand formation, and protection from natural disasters.

Our environment is of immense value to us; therefore, we must protect it. We must ensure all policies take into account the carrying capacity of our environment, manage our resources effectively and support sustainable economic growth.

It is also up to us, as individuals, to take ownership of our actions and collectively contribute to the conservation of our island ecosystems. The gravity of this pandemic is yet another reminder of how dependent we are on our environment. Therefore, let us take this opportunity to conserve, protect and build better in harmony with nature.

Let us be responsible towards our environment.

Dr. Hussain Rasheed Hassan

Minister of Environment

The Age-old tale of Humans and Biodiversity



Biodiversity is the web of life. This web of life that we are all a part of is woven by three features: ecosystem diversity, species diversity, and genetic diversity. In more depth, Biodiversity is the term used to encompass the variety of all living organisms on Earth, including their genetic diversity, species diversity, and the diversity of marine, terrestrial and aquatic ecosystems, together with their associated evolutionary and ecological processes. Our planet's Biodiversity provides everything we need for free, but there's an upper limit. Why we need to be conscious of the limit is simple. The more biologically diverse the planet is, the more secure all life is, including human life. Only when life is at its most, variant, resilient, most biologically diverse form, can humans thrive.



A Western black Rhinoceros in its natural environment

Since the industrial revolution, biodiversity has been declining. Humans have been treating nature as a credit card with no spending limit. This has led to the loss of nature, which has aggravated climate change. It has caused more floods and droughts than ever. Lack of diversity has made crops more vulnerable to pests and diseases. Communities have been deeply affected such as in Bangladesh where thousands of people have been rendered homeless. One way each of us can foster Biodiversity is to step up our sustainability initiatives. Fulfilling individual responsibilities and pushing limits to work towards Biodiversity conservation. Conservation of Biodiversity and expansion of protected areas with effective management is an often-opted method to keep compromised habitats intact. However, the tool which will leave an everlasting effect is education. Education can help us recognize the consequences of our actions and teach us the importance of a healthy environment. It is certainly the domino that will set off empowerment among the youth and children, who are the governors of our future.

Every day we are pushing the Earth's climate to its limits. The universal impact human beings have had on the earth has led to the development of a new epoch in geological time, the Anthropocene. If we have this much power over the world, surely, we can initiate a positive change too. This is where the Butterfly effect comes into play. It is said that the flutter of a butterfly is enough to cause a typhoon, which in this context translates to, minute efforts that may seem insignificant when taken individually, can act as a catalyst towards making a huge impact. Conservation can be accomplished by two basic approaches: protecting species and their habitat. Along with legislation at the local and global level, international treaties like CITES ensure that species close to extinction are not exploited and driven to extinction.

The Western black rhinoceros (*Diceros bicornis longipes*) fell victim to poachers, and were completely wiped off and declared extinct in 2011, as a result of inhuman overexploitation. Furthermore, the Red List of IUCN provides valuable guidelines that help us identify the types of Biodiversity that need to be protected the most. Species survival plans like captive breeding for endangered species and reintroduction of species often serve as the last strand of hope to save them. This has been proven to be working for some species of rare plants, the oryx, and whooping cranes.

Planet Earth is 4.53 billion years old while modern mankind has only been around for 200,000 years. This tells us one important thing. We need the planet more than it needs us. However, species that have been here longer than us have gone extinct because of us. We have constantly failed to realize and appreciate the services nature provides us with. Besides the Economic value, which Maldives heavily relies on the Biodiversity for, Biodiversity cleans the air and purifies the water we drink. It clothes and shelters us. The coral reefs and mangrove swamps that we are blessed with, help to protect the coastline from wave action and erosion and are nurseries for many species. The effects of the deadly Tsunami that hit the Indian Ocean in 2004, were greatly reduced thanks to the multiple different species of these tough, resilient mangrove plants found all across the islands of Maldives. While rain forests all over the world lock away carbon to keep our climate stable; millions of pollinators, soil organisms, and plankton keep the food we eat in supply; and plants deep in the jungles help us create our medicine. Rosy periwinkle (*Catharanthus roseus*) found in the most secluded areas in Madagascar produces chemicals that are now used to treat child leukemia. We wouldn't have these medicines if periwinkle had gone extinct. Biodiversity also adds cultural value, especially to the indigenous communities over the world, whose depiction of culture is deeply rooted and survival is heavily dependent on their surroundings. The Chipko movement which took place in Uttarakhand, India in the 1970's is one of the first movements which set off environmental activism in India. The villagers of the rural areas, particularly women, hugged the trees to stand in the way of woodcutters as a way to fight against government backed logging.

A drop in species count, removal of Biodiversity, extinction of species is something we cannot repair. If we do not make changes now, our children are going to inherit a depleted world. The ethical and aesthetical value of the environment they're going to experience is going to be compromised. These experiences cannot be defined with a dollar value. It is important to understand that our decisions now govern the future of the Earth, so it is up to us to either turn a blind eye towards nature's desperate cries or take control and work #ForNature before it's too late.



The Hindi word chipko means "to hug" or "cling to"



Fathimath Nashwa

Environment Analyst

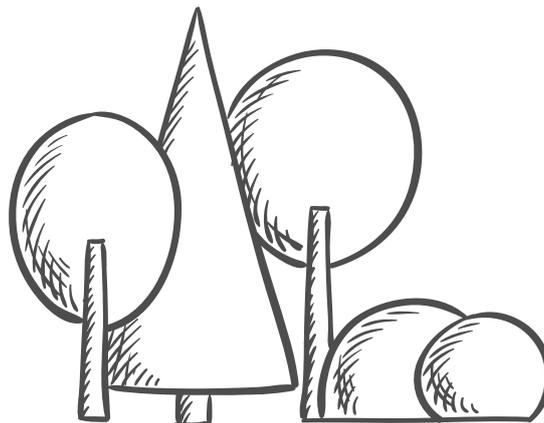
Biodiversity Unit, MoEnv

HUMAN HEALTH & ENVIRONMENT

The environment and human health are inextricably linked. The current pandemic highlights this relationship as we are forced to be hypervigilant about our immediate environment in order to stop the spread of disease. The spread of a zoonotic disease such as covid-19 has forced us to confront and recognize, more than ever, the impacts of broader environmental degradation on human health. As the destruction of ecosystems continue at an unprecedented rate, wildlife is forced into closer contact with human beings as their habitats are destroyed and this increases human exposure to a multitude of pathogens, increasing the chances of zoonotic diseases spilling over to humans. Unregulated wildlife trade also provides a potent environment for spillover of diseases. We might think that, Maldives, as an island nation with scarce terrestrial wildlife, might not have to worry about disease from animals but the interconnectedness of our world means that even island nations are not as insular as they once were and our populations are also vulnerable.

Zoonotic diseases are just one of the many ways in which the environment impacts human health. Air pollution, for instance, is estimated to annually cause 7 million deaths and is now considered the world's largest environmental health threat. Locally, air pollution can be observed as plumes of smog that form due to the congestion of vehicles and the open burning of waste. Although no studies into the effects of air pollution on health have been conducted locally, it is not a leap to assume that exposure to such conditions can result in adverse health impacts. The excessive use of pesticides can impact health via direct exposure and through bioaccumulation in the food chain. Pesticides in run off can end up on reefs and can enter the marine food web. It can also adversely impact coral health. This can disrupt the delicate balance of the coral reef ecosystem upon which we are reliant for food and protection.

The environment not only impacts our physical health, but it can also influence our mental wellbeing. Studies have shown that contact with nature can help foster creativity and imagination in children and help their intellectual development. Green spaces have been shown to have a positive effect on psychological well-being as these spaces can serve as informal meeting places and sites for group activities that encourage social contact. Living in areas with nature nearby has been shown to improve worker productivity and reduce stress. This highlights the importance of having green areas of respite in urban cities. Indeed, we can observe the social and psychological benefits of “holhuashi” in our island communities as places where people can socialise and enjoy nature.



OUR SOLUTIONS ARE IN NATURE

CONSERVATION OF BIODIVERSITY

Biodiversity is the biological diversity in an environment as indicated by numbers of different species of plants and animals.

Biodiversity is crucial given the simple fact that all species are connected to one another. Without one, the other depending on it would cease to exist.

Loss of biodiversity leads to loss of services that nature provides which are essential to the functioning of everyday life.

The more biologically diverse an ecosystem is, the more resistant & resilient it becomes, moving towards a sustainable future.

There are things we all can do to contribute to conservation of Biodiversity. Growing your own fruits & vegetables, calculating and reducing your ecological footprint, educating yourself and others on the importance of Biodiversity and adopting a way of sustainable living are a few.



SCIENCE AND TRADITIONAL KNOWLEDGE

To tackle the problems the world is facing today with Biodiversity conservation, we must understand the primary drivers of biodiversity loss and how we can fight them.

While habitat loss, over-exploitation, pollution, climate change associated with global warming and invasive species are the primary drivers, human population growth, increasing consumption and reduced resource efficiency influence these drivers notably.

With gaining modern scientific knowledge, while practicing our traditional knowledge which embraced, appreciated and relied on the nature immensely, we are stepping closer to a sustainable future, where we do not compromise the needs of the future generation.

AGRICULTURE, FOOD AND FEED, FOOD SECURITY AND HEALTH

Agricultural activity is said to be the backbone of a country's economic system. In addition to providing food, agriculture also provides employment opportunities. Food insecurity is directly related to poverty. Hence diversification of food is essential for both sustainable agriculture and food security.

The agricultural sector of Maldives contributes to just about 1.6% of the country's GDP. However, this sector is of extreme importance in terms of the livelihoods of people, food security and the health of the community.

Since most of our food is imported, we need to think of ways to overcome and prevent food shortage, especially during these rough times of frequent storms destroying our farms, and with the ongoing Covid-19 pandemic which has disrupted global supply chains and caused widespread alarm with regards to food security in the Maldives.

Since our health and well-being are linked to food security and the delicate agricultural sector of Maldives, it is vital to protect the farmlands of Maldives, diversify the agricultural sector, strengthen the distribution networks and increase economic growth. On an individual level, you can grow your own little balcony/backyard garden and support movements which condemn illegal cutting and uprooting of trees.

BIODIVERSITY, PEOPLE & CULTURE

Our existence, our economy and our livelihood are largely dependent on the biodiversity. The biggest two industries of the Maldives are driven by the natural resources we are blessed with. Furthermore, our culture and traditions are also linked with biodiversity and natural resources. Oceans, reefs, lagoons, wetlands and mangroves are our biggest blessings which clearly completes our way of living and survival. Tuna fishing is such an integral part of Maldivian culture that our country is well known globally for our sustainable fishing methods and quality of products. Biodiversity based sectors contribute 89% of countries GDP and 71% of national employment opportunities. Therefore, it is evident that natural resources are the key contributors for our economic growth and the livelihood of the people.

The way our ancestors lived shows an exemplary way of coexisting with nature. They sustained themselves from the natural resources that were readily available for them. These include the medicine they prepared for the sick ones, the food they ate, their homes as well as everything they used in their day to day life.

Back in the days and also during the famine times, we relied on the staple foods that were grown and available in the islands. Therefore, the food was more secure and sustainable.

A CAUTIONARY TALE OF ECOLOGICAL COLLAPSE FROM THE PAST

By Enas Mohamed Riyaz (Tonti)

Environment Analyst, Environmental Research and Conservation Section, EPA



The greatest risk to humanity in the near future may be the continued destruction of Earth's natural environment to a degree where the current standard of living or even our existence becomes impossible. Though often thought of as a modern-day problem, it is now being realized that many past societies did collapse through self-inflicted ecocide and loss in biodiversity.

Historian and anthropologist Dr. Jared Diamond defines societal collapse as “a local drastic decrease in human population numbers and/or in political, economic, or social complexity.” Societal collapse is multicausal and often not abrupt. It is a culmination of different stresses such as economic failure, pestilence, political instability and ecological loss played out over different stages. Societies that declined primarily due to poor natural resource management are more apparent in island communities isolated from neighbors and external forces.

Some of the most well-known collapses of island communities involve Polynesian societies on remote Pacific islands. The first Polynesians arrived at the islands around 1600 BC and became completely cut off from other human societies for thousands of years due to geographic isolation. Though some of these communities have persisted until today, others such as the inhabitants of the Easter island were not as lucky.

Easter Island is famous for its hundreds of giant stone statues carved and dragged miles overland, and erected on platforms without any known power sources. According to archaeological and paleontological findings, Easter island was once covered in tropical rainforest which was heavily cleared by the early settlers for agricultural use. The felled trees were used to build canoes for hunting porpoises and deep-water fish.

The islanders also consumed landbirds and seabirds, and used the palm trees as rollers and levers to transport and erect their giant statues.

With the initial surplus of natural resources, Easter's population exploded surpassing a density of 150 people per square mile. However, the uncontrolled deforestation eventually wiped out the native tree species, land birds and many of the seabirds. Without tree cover, the island topsoil eroded and agricultural yields fell dramatically, and there were no more trees left to build canoes for fishing. During Polynesians settlement, an invasive species of rat from South East Asia were also introduced, which may have played a role in the complete deforestation of Easter Island by eating the nuts of the local palm tree, thus preventing regrowth of the forest. The extinctions eliminated much of Easter's resource base and left no possibility of rebuilding Easter society.

When Europeans arrived at Easter in 1722, the carving of statues had already ceased, and the island was already descending into chaos and starvation. European diseases, Peruvian slave raiding expeditions, and emigration to other islands have now further depleted a once remarkable civilization.

Easter island does not stand alone in the long history of ecological collapses, from the Maori of South Island (New Zealand) who hunted their primary food sources to depletion to Hawaiian island of Kahoolawe where the farmlands completely destroyed the island vegetation making it inhabitable. These lessons from history highlight a special need for sustainability in fragile environments such as ours, especially in a time of climate crisis.

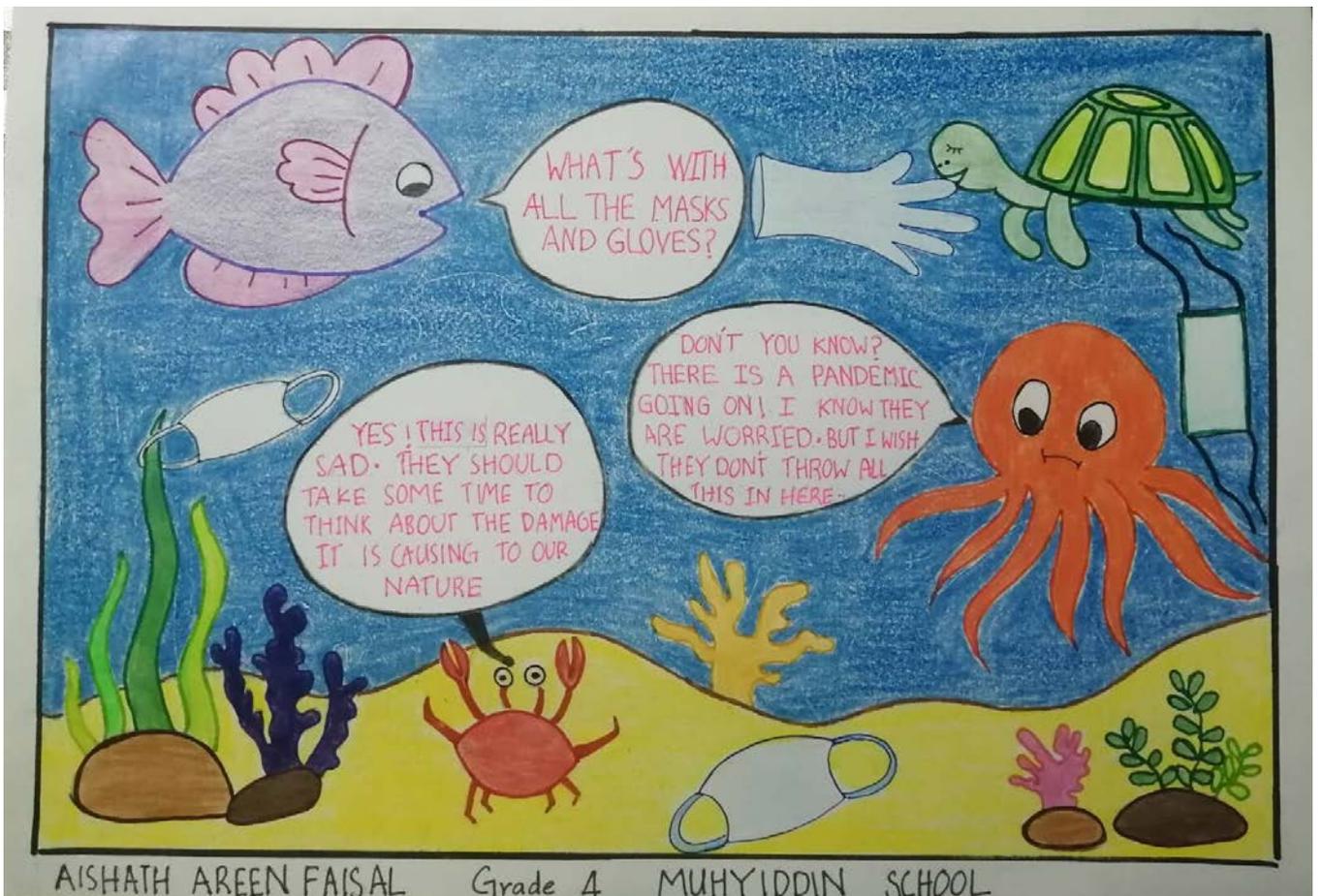
WORLD ENVIRONMENT DAY 2020

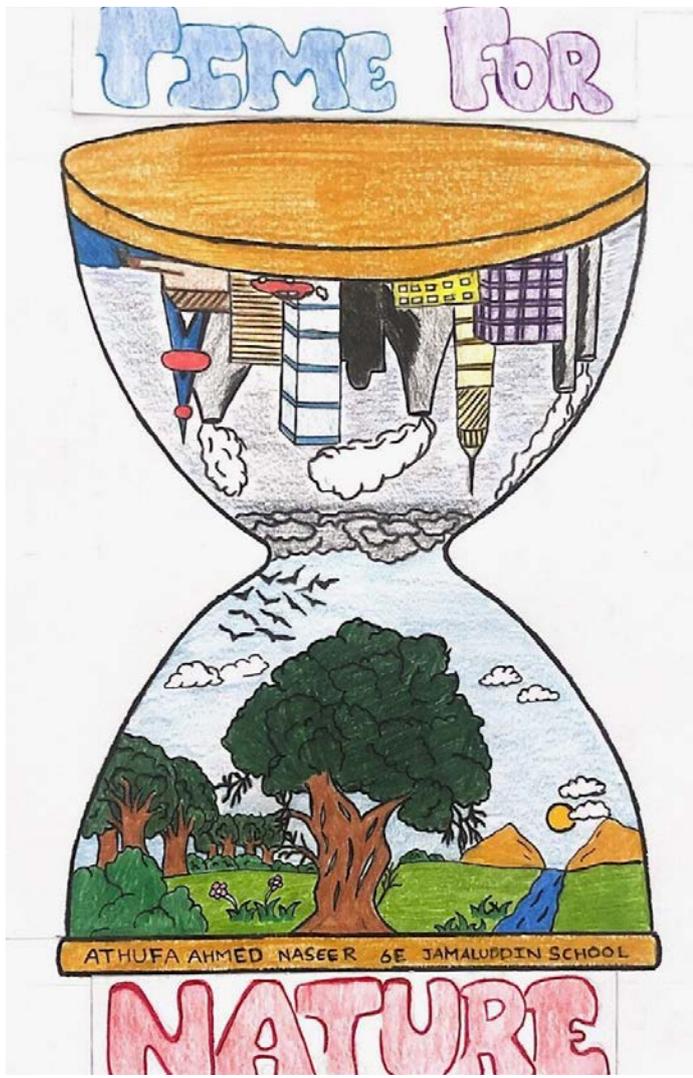
DRAW
FOR
NATURE

ON THE THEME
"TIME FOR NATURE"

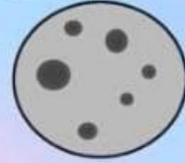
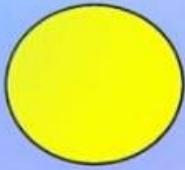
#WORLDENVIRONMENTDAYMV

editor's choice

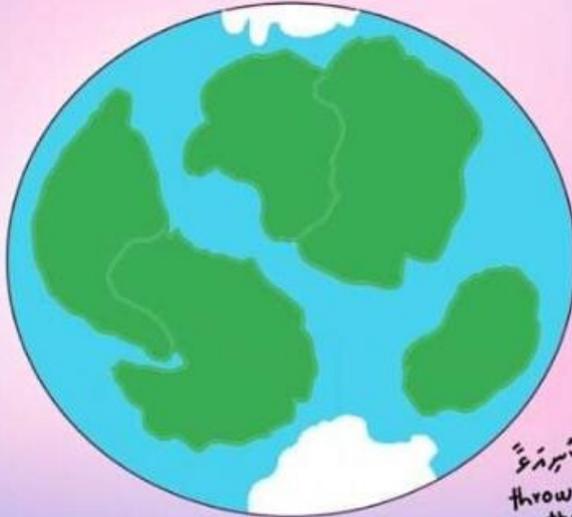




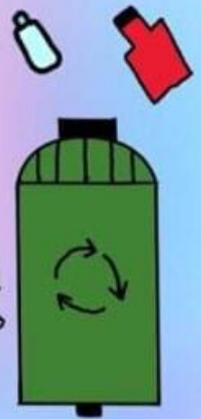
WORLDENVIRONMENDAY
FOR NATURE



Grow more tree
كسب دسبر برسر



كسب برسر برسر
throw trash in to
the bin



Mariyam Malak Mohamed Muslih 3C Ghazee school

Nishaan
moosa



Adhaan
moosa



TIME FOR NATURE SAVE THE EARTH



dont waste water

Please Keep the Beach clean

yes then we can play

Please Dont cut trees.

yes we love trees



Reduce
Reuse
Recycle



Plant more trees

Do not litter on the beach and sea. say no to PLASTIC

AMINATH ROOYA HUSSAIN
1D

WORLD ENVIRONMENT DAY

"LET'S Nurture the Nature so that we can have a better future."

"The Greatest Threat to our planet is the Belief that Someone Else will save it"



"The Earth does not belong to us, we belong to the Earth"

Go Green

"Be the change you want to see in the world" each one can make a difference.

Aminath Zaaya Shareef
1B L.A.E.C



Ministry of Environment

Layout:

Fathimath Shamra

Contributors:

Afa Hussain
Fathimath Nashwa
Umaira Ahmed
Enas Mohamed Riyaz
Suma Mohamed

Proof-read by:

Thibyan Ibrahim
Fathimath Nashwa

Contributions and feedback:
environment@environment.gov.mv