COMMENTARY

World Ocean Day 2010

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THE concept of dedicating an entire day towards attracting attention to how the world's oceans benefit this planet and its inhabitants and the problems facing them was proposed in 1992 at the Earth Summit in Rio de Janeiro in Brazil.

Two years ago it was officially declared by the United Nations that the 8th of June every year would be designated as "World Oceans Day". The purpose of this celebration is to recognise the importance that oceans play with respect to food security, our global climate and to life and its continuity on this planet. The theme for this year's celebration is "Our oceans: opportunities and challenges". Taking the title of this theme into account in this article I will deal first with the challenges our oceans face and some of the opportunities afforded to us by our oceans.

Oceans cover over 70 per cent of this planet's surface, so it will come as no surprise that besides being home to a vast array of marine ecosystems and species. Oceans play a vital part to the existence of humans as well. Humans have relied for millennia on the ocean for food, transport, recreation and sustainable livelihoods. But oceans play a major role in regulating the conditions of our planet by providing essential ecosystem services like the recycling of vital nutrients needed to survive.

Of all the problems facing our oceans today, climate change is touted as being one of the biggest problems our environment faces today, one of the effects of climate change is global warming. This increase in global temperature by almost 1oC since 1880, has dramatically affected our planet.

The melting of the polar ice caps they caused an increase in sea level. This may mean more habitat area for aquatic species but it means less habitat area for terrestrial and coastal species. Also as these coastal estuaries become flooded with salt water it will destroy the species and the people who depend on it for their livelihood.

Increasing global temperatures will also cause the snow on mountain tops to melt rapidly and not re-form. Under normal conditions, these reservoirs of ice and snow as they gradually melt naturally, actually supply some of the world's rivers with freshwater. Therefore, if they are depleted so are some major sources of fresh water in the world.

In the future we may have to depend more and more on the ocean for our supply of drinking water through desalinisation.

Global warming also severely affects marine ecosystems, an example is coral bleaching. First of all a coral is not a single organism but is comprised of a coral polyp and a protozoan referred to as zooxanthellae. The hard complex underwater structures we see in coral reefs are not the corals themselves but the hard calcium carbonate skeletons that are excreted as the coral ages, while the colour of the coral is the responsibility of the protozoan. A rise in temperature is one of the major stressful conditions that cause the protozoa to be expelled causing the coral to turn white or look bleached.

One of the major effects of global warming would be the shutting down of the "ocean conveyor belt". This term refers to ocean circulation which transports oxygen to the depths of the ocean and moves the warmer tropical waters to the poles. The one and offs switch of this conveyor belt is the sinking of cold water in certain polar regions.

The melting of the polar ice caps which are made up of freshwater along with increased rainfall would act as a barrier on the ocean surface as it is less dense than saltwater. This could lead to the end of this circulation system, and hence death to many ecosystems and the organisms that call them home.

Like forests, oceans act as important carbon sinks absorbing carbon dioxide in the atmosphere and returning oxygen. When carbon dioxide dissolves in water it forms a dilute carbonic acid. As more vegetation is cleared to make way for our growing global population, oceans have to take up the slack, so to speak, and absorb the extra carbon dioxide being pumped into our atmosphere from factories.

This extra carbon dioxide causes what is known as ocean acidification and is a problem, especially to species which can only tolerate a narrow pH range.

Another one of the major challenges that the oceans of our planet face include, over-fishing to feed our increasing global population.

In order to fulfil this need, some persons resort to illegal fishing practices such as over fishing, fishing including unreported and unregulated fishing as well as destructive fishing practices, including the use of poisons or explosives. Also, harmful fishing such as trawling, where the nets drag along the sea bed damage many of the microhabitats contained in our oceans.

Unfortunately many people are of the opinion that environmental problems that affect our oceans will only affect the marine organisms that call it home.

But we must realise that these problems also affect humans and our way of life. We rely on oceans both directly and indirectly. An example of direct dependence is for food. Another example would be example tour guides that operate glass bottom boat tours that show tourists the different reef species of flora and fauna. Other tour guides might run a whale watching tour.

Many people also rely on the oceans indirectly for their income. For example, fish that is caught in our waters is not only sold to households, but to restaurants and fast food and hotels outlets but big and small.

Of course if these businesses did not operate then the thousands of people that work there would be unemployed.

Also those are employed in related sectors, for example the textile industry that supplies the cloth to make tablecloths, napkins, uniforms, drapes, bed linens and those employed in the factories that sew these items.

Therefore it can be seen that oceans are not static bodies of water but provide us with food and many necessary ecosystem services and regulate our planet's climate.

Also we have to realise that what happens in our oceans also affects terrestrial ecosystems and humans. So please let us keep our oceans in our thoughts when we think about the environment and act to protect them and not harm them.