



Persatuan Pengguna Pulau Pinang Consumers Association of Penang

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Press Statement

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Light Pollution Decimates Wildlife

Light pollution is defined as any artificial outdoor light that is excessive, misdirected or invasive. To reduce light pollution does not mean turning off all the lights but being sensible about using appropriate lighting for the purpose it is meant for.

Astronomers said that artificial lights at night (ALAN) obliterated the sight of heavenly bodies at night. Hence, Malaysia was supposed to be formulating a Light Pollution Act by the National Space Agency (Angkasa) two years ago. The purpose is to control light pollution of the night skies caused by the spill over of light from urban development but till now there is a deafening silence about the promulgation of the Act.

In fact, light pollution nuisance is incorporated into Australia's The Environment Protection Act (1997). The United Kingdom (UK) first introduced a law to regulate light pollution in 2006 under Section 102 of the Clean Neighbourhoods and Environment Act (2005). They focused on obtrusive artificial light that strayed into residents' properties, public lighting that spill light to the night sky and producing glare.

Reducing light pollution also lessens environmental pollution from the burning of fossil fuel for electricity generation. It was estimated that night time lighting releases more than 21 million tonnes of carbon dioxide annually in the U.S.A. alone. Cutting down carbon dioxide emission by reducing unnecessary use of artificial lighting will help ease global warming.

Moreover about 30 per cent of outdoor lightings are poorly designed thereby contributing to an excessive waste of energy with only 40 per cent of the light being productive (that is lighting up the ground as supposed to be), 10 percent of the light is glare, and 50 per cent of what remains are wasted by illuminating sideways and upwards.

Light pollution leaves a great impact on the ecosystem as well. According to an American plant biologist Winslow Brigg, "prolonged exposure to artificial light prevents many trees from adjusting to seasonal variations". Artificial light affects many forms of life – diurnal and nocturnal – in terms of migration, reproduction, feeding, and human health.

Essentially light pollution alters night time environment into 'day' thereby disrupting nocturnal amphibians such as frogs and toads breeding ritual, affecting their reproduction and inadvertently reduces their population. Frogs and toads are important in the ecological system because they are important part of the food chain, also keeping the population of insects in check.

There are about 20 places in Malaysia where fireflies can be watched but their very existence is endangered because they depended on the flashing of their taillights as a courtship communication. Malaysia is a host to seven of 20 species of fireflies. Studies have also shown that light pollution caused their population to decline as scientists theorised that it disrupted their courtship behaviour, threatening to our firefly populations.

Birds are also victims of artificial lights. They were found to build nests in the autumn instead of spring after being exposed to artificial lights for a long time. Some species are attracted to light sources at night and become easy prey for predators.

Having to migrate basing on moonlight and starlight, birds that migrate during the night strayed off course because of the artificial lights of the cities and this caused them to collide with illuminated buildings and structures, killing them. Artificial lights also give false seasonal cues causing them to migrate either too early or too late which can be disastrous.

It was also found that light pollution altered animals' behaviour, foraging areas, and breeding cycles in both urban and rural areas. Light pollution is aggravated by the advent of the much brighter Light Emission Diode (LED) bulbs.

Sea turtles' eggs hatch at night and the hatchlings headed to the sea by moving towards the bright horizon over the ocean. With the presence of artificial lights, the hatchlings instinctively move landwards to their doom. It was found that in Florida, USA, millions of hatchlings perish because of this reason every year.

It was found from satellite observations from 2012 to 2016 that the growth of light pollution is highest in developing nations. Developing countries in the tropics has a high concentration of biodiversity but not economic wealth. However, many of the species are facing enormous pressure in the already fragile ecosystem wrecked by wildlife trafficking, deforestation, pollution and urbanisation.

In view of the multitude of problems caused by light pollution, we would like to urge local researchers to conduct studies on the effects of artificial light on our ecosystem. Therefore we believe that the introduction of Light Pollution Act will be timely.

Although Angkasa is rightly concerned about the observational work at the National Planetarium in Kuala Lumpur, our law makers should take a wider view of the problems explained above because light pollution is the proverbial 'elephant in the room'. Therefore, we like to reiterate that light pollution has to be regulated soonest possible.

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President
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