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Letter to the Editor

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Urgent attention needed in adapting to climate change impacts

Being close to the equator, the 'perpetual summer' in Malaysia is nothing new. In the past few weeks however, the heat of the tropical climate has been amplified - sending many Malaysians (who can afford it) reaching for their air conditioning remote control to cool themselves down. The El Niño cycle, the warm phase of the El Niño–Southern Oscillation (ENSO) has arrived yet again and is forecasted to remain until May. And although the Meteorological Department of Malaysia (MET) stated it would not be as intense as the ones in 2016 (highest in Alor Setar, Kedah and Chuping, Perlis at 38.5°C) and 1998 (highest in Chuping, Perlis at 40.1°C), the daily maximum temperature between 36°C and 38°C felt in previous week is close enough[1].

Beyond the daily discomfort caused by the sweltering heat, the reduced rainfall during this season is having dire implications on our water supply - whether it is for domestic use, commercial, manufacturing and for food production. The extreme heat and drought will also cause higher incidences of bushfires, which not only increases the localised temperature but also pollutes the air with smoke particles (i.e. haze); bringing about a range of health issues, from temporary conditions such as itchy or burning eyes, throat irritation or runny nose; to aggravating existing respiratory illnesses such as bronchitis and asthma.

Nevertheless, the hot and dry season of El Niño is not a new phenomenon and we are all too familiar with its effects and the measures we take to adapt, which includes staying indoors and keeping cool, drinking more water and reducing water wastage. This reality has been reiterated so many times in the past to the point where we have accepted this rising temperature trend as just a passing annual event. However, to end the narrative with that is to completely dismiss the fact that we are living in an insidiously rising temperature trend that it is intricately linked to climate change.

In September last year, Malaysia submitted its Third National Communication (NC3) and Second Biennale Update Report (BUR2) to the United Nations Framework Convention on Climate Change (UNFCCC). This document contains data which showed that Malaysia's mean temperature has been increasing (0.13°C to 0.24°C, every 10 years) between 1969 and 2014. This critical and long-term warming trend will continue in the foreseeable years to come, if the clarion call for the world to limit its temperature increase by 1.5°C above pre-industrial levels (i.e. year 1850–1900) by the Intergovernmental Panel on Climate Change (IPCC) Special Report falls on deaf ears.

The 1.5°C temperature change may deceivingly appear negligible, but scientists have repeatedly warned of global scale implications with far-reaching and long-term impacts on the climate system. There will be more incidences of intense and extreme weather patterns (i.e. drought, storms surges, typhoons, etc), water stress, food shortage, mass species extinctions, sea level rise, diseases and increased temperature in the years to come. The tangible El Niño heatwave we experience today is just a taster of what's to come – but its temporary duration may have assuaged us into thinking that we are not already living in the long-term magnitude of global climate change.

While the impacts of climate change affect everyone indiscriminately, populations are disproportionately exposed to its risks. The adverse consequences of climate change are felt the most by disadvantaged and vulnerable

1 Status Terkini ENSO, Updated on 19 March 2019, Meteorological Department of Malaysia.

populations, which includes indigenous peoples, communities dependent on agricultural or coastal livelihoods, and those who live in poverty – all who have little means to cope with climate change impacts and disasters.

Cities are particularly vulnerable in that they are immobile[2], which becomes a barrier for climate adaptation. Climate-induced changes poses threats to food distribution, energy provision, water supply, waste removal, information technology, and increases susceptibility to outbreaks in the urban setting. In the worst-case scenario, there will be social unrest from shortages and price spikes of key commodities, mass migration, high unemployment, and climatic disasters[2].

This is notwithstanding the fact that there are about 360 million urban residents already living in coastal areas less than 10 meters above sea level, all who are vulnerable to flooding due to sea level rise and storm surges. This not only causes widespread loss and damages of land, properties and assets, but also of infrastructure such as roads, rails, sewers, bridges, etc. This cumulative scenario may inadvertently illustrate a fictional Armageddon narrative, but climate change impacts have already been identified in different parts of the world; and it is just a matter of time before the scale of its tangible impact becomes too evident and too frequent to ignore.

It is worth noting that Malaysia is among countries with highest urban populations living in low-elevation coastal zone - therefore sea level rise and erosions will inevitably cause a huge loss of value in land and infrastructure, economic activities, as well as the need for massive population relocation. The same goes with extreme precipitation from prolonged rainstorm. In retrospect, Malaysia was overwhelmed with a massive flood in December 2014, where the continuous rain caused the water levels in the rivers to exceed the safety level in Kelantan, Pahang, Perak and Terengganu. An emergency evacuation was urgently required, which saw about 60,000 people leaving their homes behind to seek safe shelter. The damages from the flood aftermath was estimated at a staggering RM1 billion; from which, RM100 million were disposed to repair roads in Kelantan and RM132 million to repair roads in Terengganu[3].

Although Malaysia, a party to the Paris Agreement, has committed to reducing its carbon emission intensity per capita GDP by 45% by 2030 relative to its 2005 levels, its actions towards climate adaptation is sorely underwhelming. There are various guidelines, roadmaps and policies towards carbon emission reductions and in decarbonizing the economy, deliberations on adaptation strategies are still inadequate.

To date, Malaysia has yet to produce its National Adaptation Plan (NAP) which several developing countries in the UNFCCC have embarked on, and for which the UNFCCC's Green Climate Fund has resources for.

The objective of the NAP is to reduce the country's vulnerability to the impacts of climate change, by way of building adaptive capacity and resilience. The NAP also facilitates the coherent and comprehensive integration of climate change adaptation into relevant new and existing policies, programmes and activities, especially development planning processes and strategies, within all relevant sectors and at different levels as appropriate.[4]

At present, the adaptation efforts in Malaysia appears inadequate, mainly because the elements of climate adaptation are embedded sporadically across various plans, mostly silo in nature and therefore fragmented. In the NC3, various climate change vulnerabilities and its adaptation measures has been identified according to sectors and to some extent, implemented at different scales, despite not being captured holistically in the form of a NAP.

To name a few, there is the Integrated Flood Management (IFM) which aims at efficient use of flood plain to minimise loss of properties and life which includes flood mitigation projects. There is also an Integrated River Basin Management (IRBM) and Flood Hazard and Flood Risk Mapping to aid systematic planning and development to reduce the risk of flood; and the Urban Stormwater Management Manual (MSMA) which provides design criteria for urban stormwater management. The National Coastal Erosion Study (NCES) and Integrated Shoreline

2 World Bank. Cities and Climate Change: An Urgent Agenda. The Impact of Climate Change on Cities. Pg 8.

3 Estrada, M. A. R., Koutronas, E., Tahir, M., & Mansor, N. (2017). Hydrological hazard assessment: THE 2014–15 Malaysia floods. International journal of disaster risk reduction, 24, 264-270.

4 UNFCCC. *Overview - National Adaptation Plans*. https://unfccc.int/topics/resilience/workstreams/national-adaptation-plans/overview

Management Plan (ISMP) studies contain adaptation measures for critical erosion coastal areas around the country. But to articulate these plans in a larger strategy, one has to go through all these documents and find areas for resources and institutional integration to allow for a more streamlined and efficient implementation.

Perhaps the document that comes close to integrating climate adaptation plan is the Third National Physical Plan (NPP3), where three broad strategies towards sustainability and climate change resilience is presented which are: (i) Sustainable management of natural, food and heritage resources; (ii) Holistic land use planning; and (iii) Low carbon cities and sustainable infrastructure. Nevertheless, whether these strategies are faithfully reflected in the subsequent State Structure Plans and Local Plans remains arguably missing, inadequate or inconsistent, faced with major implementation barriers despite having all these plans spelt out.

Examples include deforestation, which is still widespread; clearing of hill-lands; destruction of important coastal ecosystems, such as mangrove forests which are nursery grounds for fishery and act as buffer zones against storm surges; promotion of intensive transportation networks which focus heavily on private vehicles instead of public transportation; large scale land reclamation which destroy fishing grounds; and no real commitment to include green infrastructure in urban planning. These are just some of the problems impeding Malaysia from being truly prepared in undertaking adaptation and in building resilience to climate impacts.

While this is not to dismiss the existing good work that are being carried out in states like Kedah in protecting the central forest spine project, we must confront the truth that Malaysia is just not doing enough domestically on its climate actions.

The Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) has been given the huge task of coordinating our climate actions. It is encouraging that the new Minister Yeo Bee Yin, has acknowledged at the climate talks in Poland last year that Malaysia is “ready to do more”, indicating the nation’s ability to take aggressive climate change action.

We must therefore quicken our pace in coming up with the proposed National Climate Change Act, speed up the setting up of the long overdue Climate Change Centre and put in place our NAP. These are just some measures that are essential to get our act together. Malaysia must do better in ensuring that our planning and economic decisions are viewed through a climate-change lens, as business-as-usual measures will not protect us from the new climate change trends. The future will be harsh if we are not compelled to place the climate change reality and its impacts at the core in shaping our future. We have to act now, before it is too late.

S.M. MOHAMED IDRIS
President
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Annex

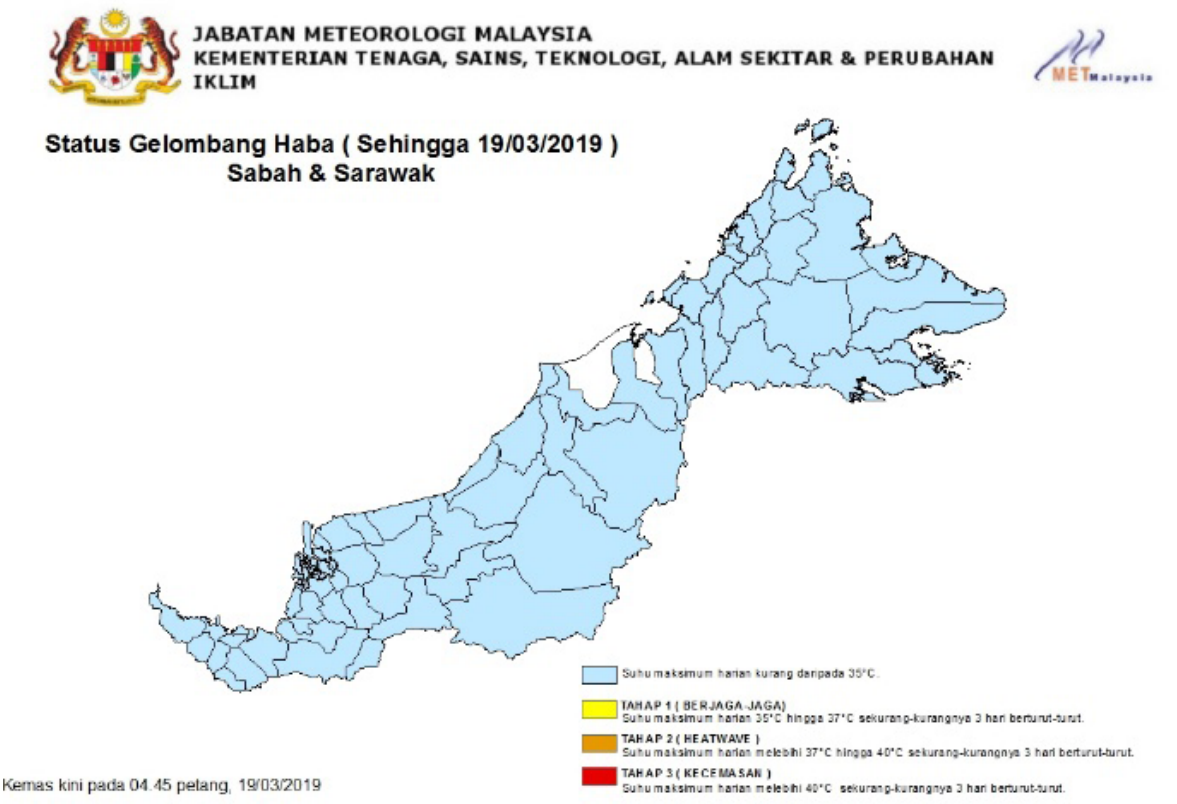
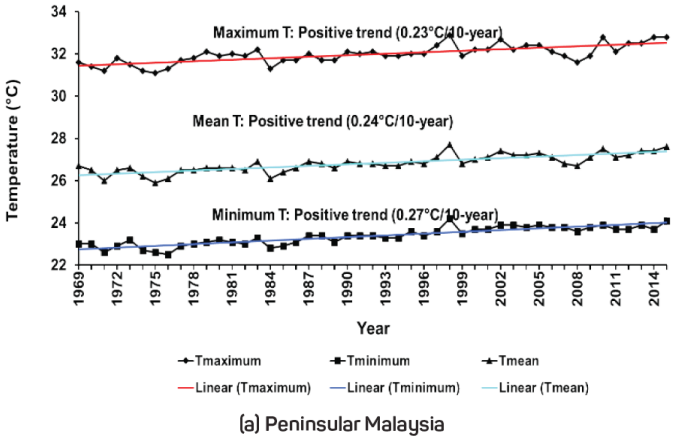
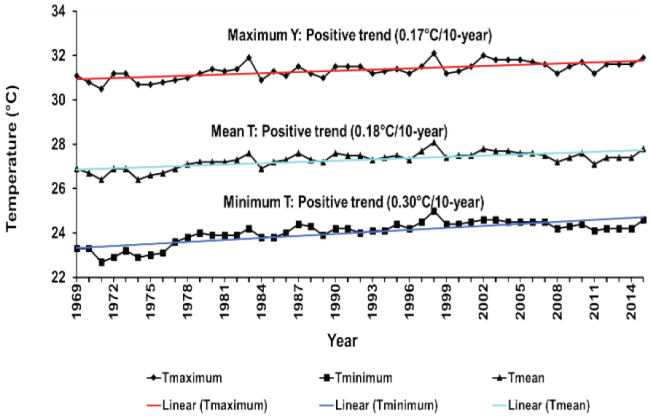


Figure 1 - Heat wave maps to update the public, with indication of the level of heat wave based on temperature range for three days at a time. (Source: MET)

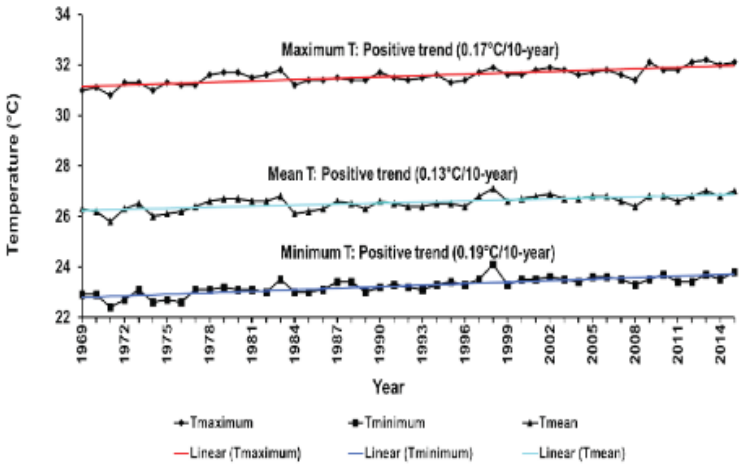
Figure 1.1: Annual Temperature Trends for Peninsular Malaysia, Sabah and Sarawak



(a) Peninsular Malaysia



(b) Sabah



(c) Sarawak

Figure 2 - Annual temperature trends for Peninsular Malaysia, Sabah and Sarawak (NC3-BUR2)