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# Malaysia at risk from climate change

## Rising sea levels a major threat to livelihoods

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**PETALING JAYA:** Sea levels will rise by as much as over half a metre in some places in the country, inundating ports, rice fields and even public healthcare facilities if nothing is done to curb climate change.

This was among the findings contained in a recent report prepared by the Energy, Science, Technology, Environment and Climate Change Ministry for the United Nations Framework Convention on Climate Change (UNFCCC).

The report – the *Third National Communication and Second Biennial Update Report to the UNFCCC* – also provides updates on the actions taken by a country to implement the convention, including the status and inventory of its greenhouse gas emissions as well as actions to reduce this.

The latest report was released in February and uploaded onto the ministry's website.

Under the report, six sectors were assessed for their vulnerability in face of climate change – water and coastal resources, food security and agriculture, forestry and biodiversity, infrastructure, energy and public health.

The assessment is carried out for the year 2030 and 2050 based on the impact of temperature increase, projected floods and dry spells and sea level rise (see accompanying chart).

The report warned that the heavy rainfall from climate change can result in more frequent critical dam

Scan the QR code for a link to The Star Online on how to avoid flood-prone areas when driving in the Klang Valley.



levels and subsequent downstream flooding.

In view of this, it said that guidelines and legislation were being developed to ensure the safety of these dams.

For groundwater, the major threat is saltwater intrusion with several tube wells in Sabah and Sarawak being vulnerable to sea level rise in 2030 and 2050.

The major rice granary areas in Kedah, Kelantan and northwest Selangor may face significant reductions in average yield of between 6% and 31% in 2030 and 2050.

Sea level rise, said the report, was expected to affect some of the ports and jetties by 2050.

Of the 21 thermal power plants in Peninsular Malaysia, only one may face a flood risk but sea level rise could impact 12 power plants, 30 transmission towers and 44 substations along the coastal areas.

Four hydropower plants in the peninsula and one in Sabah could be impacted by future dry spells.

A desktop flood assessment indicates that currently, 45 oil and gas assets in Peninsular Malaysia may see flood risk, increasing to 59 assets by the year 2050.

Twenty-seven other assets see risks from dry spells. The report said continual updat-

ing of the climate change projections for Malaysia would be undertaken, with the development of comprehensive flood maps covering at least 25 flood prone basins as well as high resolution coastal inundation maps.

"More comprehensive assessments for each of the sectors would be conducted to enable clearer options for adaptation," said the report.

Crude palm oil production decreased by about 3.3% during El Niño and La Niña events while future dry spells may affect yield by up to 18% to 20% for rubber trees.

The projected increase of 2°C is not expected to cause significant reduction in cocoa production.

However, temperatures up to 36°C for more than 40 days can cause the wilting of cocoa flowers and the reduction of fruiting seasons.

The report was prepared by, among others, the National Hydraulic Research Institute of Malaysia, the Malaysian Meteorological Department, the Institute of Ocean and Earth Sciences of Universiti Malaya and the School of Environmental and Natural Resource Sciences of Universiti Kebangsaan Malaysia.

The changing weather is a headache to farmers like Yusof Awang Kechik, 74, who owns several padi fields in Pendang, Kedah.

Yusof, who has been cultivating padi for more than 40 years, said he was baffled by the weather pattern over the past few years.

"When it is supposed to be a dry season, there is a wet spell

### Effects of climate change on Malaysia

Peninsula Malaysia to see a 0.6°C to 0.9°C in temperature hike by 2030 and a 1.2°C to 1.6°C hike by 2050.

Sabah to see temperature rise of between 0.8°C to 1.0°C in 2030 to 1.3°C to 1.4°C in 2050.

Sarawak to see temperature rise of between 0.6°C to 0.8°C in 2030 and 1.3°C to 1.6°C in 2050.

Average annual rainfall to go up by between 1% to 6% in 2030 and by 7% to 11% by 2050.

Sea level will rise by between 30mm to 210mm in 2030 and between 110mm to 620mm by 2050.

Dry spells due to El Niño may see water storage levels fall below 50% and 106 water deficit months in rice planting areas.

Public health facilities near coastal areas in Langkawi, Klang, Lumut, Batu Pahat, Kuantan and Pekan may be impacted by sea level rise.

81% increase in the number of oil palm areas - currently planted in 15 flood-prone river basins - to be affected by floods by 2030. By 2050, there will be 460% increase.

Rice fields in Kedah, Kelantan and Selangor to see yield reduced by 6% in 2030 and 31% by 2050. 20% of fields in Kelantan and 10% of fields in Kedah to face flood risk. Fields along the coastal low lying plains in Kedah may be affected by sea level rise.

Instead," he said. Currently, the prolonged rainy season could impact the crops, he noted.

"If the area is flooded, our income will be affected. We cannot afford to find other sources of income as this is the only thing that we know how to do," the farmer said.