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Sea levels rising? Plant mangroves
Experts say they are a cheap and effective way to protect low areas
By Shobana Kesava
MANGROVES could be the natural protection against rising sea levels here, if climate change wreaks havoc in coming years.

Oceans are expected to rise up to 59cm by 2100, based on conservative expert reports, causing widespread flooding in low-lying areas, including Singapore. Growing mangroves could be a cheap and effective way of minimising the damage, said coastal geomorphologist Wong Poh Poh of the National University of Singapore's geography department.

'Sea level rise can be stopped naturally, at a much lower cost than building sea walls by growing mangroves,' he said at an international workshop on climate change recently.

Dr Wong said mangroves effectively add and stabilise sediments such as sand or broken coral to the shoreline. This raises the level of land gradually, in tandem with sea level.

Hardy mangroves also provide an effective barrier that can cut the power of storms, while being fertile grounds for biodiversity to flourish.

Currently, Singapore employs sea walls, drainage systems as well as elevated roads and buildings to protect the land from being inundated by water.

'Flooding is a long-term threat we have to consider,' said Dr Wong, who worked with the Nobel Peace Prize- winning Inter-governmental Panel on Climate Change (IPCC) on the coastal chapter of its climate change report released in 2006.

Dr Wong was the only local among six experts to speak at an international forum on climate change and security organised by the S. Rajaratnam School of International Studies.

The panelists noted that the IPCC's estimate of a 1.5 deg C rise in temperature by the turn of the century is conservative.

But even this change would cause health-care costs to escalate due to changing patterns of infectious diseases such as malaria and dengue. Lost tourism revenue was another area where Singapore could be hit hard, they added.

Dr Jurgen Kropp, of the Potsdam Institute for Climate Impact Research in Germany, said Singapore could face a whopping bill if it does not address climate change along its coast because it has a large amount of real estate, including the airport, close to the coast.

'Beyond 2050, Singapore could have to consider more coastal protection with dykes or higher flood

walls,' Dr Kropp said.

Professor Arnulf Grubler, an energy and technology expert from Yale University, said that Singapore was not too small to make a difference.

'The dense urban setting makes Singapore ideal to create a zero-emissions transport centre, and businesses will be interested in developing the model and exporting it to the rest of the world,' he said.

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