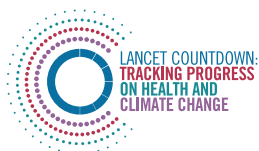


The Lancet Countdown on Health and Climate Change

Policy brief for Malaysia

2022



Introduction

As with all countries around the world, Malaysia is not immune to the impacts of climate change. In December 2021, eight states of peninsular Malaysia, including the capital city of Kuala Lumpur, were badly hit by unprecedented extreme flooding, described by government officials as a "once in a century" disaster.¹ Extreme weather events such as flooding, heat wave, and drought are anticipated to increase in frequency and intensity, as summarized in the Climate Risk Country Profile published by the World Bank and the Asian Development Bank in 2021.² Slow-onset rises in precipitation, temperature, and sea level along the coastlines are also projected in the coming years so long as warming continues. These dramatic environmental changes induced by the climate emergency threaten to exacerbate poverty and inequality, impact agriculture and fishing, and ultimately affect the health and well-being of Malaysians.

Recognizing these emerging threats, Malaysia has implemented policy measures to tackle the climate crisis. In 2009, the Malaysian government created the National Policy on Climate Change to mainstream climate change into different policies and institutions.³ In September 2021, the government published the 12th Malaysia Plan, which

declared the country's ambition to achieve net-zero emissions by 2050 and announced a plan to craft a Climate Change Act to increase coordination and enhance the effectiveness of climate change actions.⁴ The Malaysia Climate Change Action Council (MyCAC) also formulated a National Adaptation Plan (MyNAP) to improve the country's response to climate change impacts in various sectors such as public health, infrastructure, water resources and security, agriculture, forestry, and biodiversity. The country's Ministry of Environment and Water (KASA) is also developing the Long-Term National Low Carbon Development Strategy, in line with the government's net-zero aspiration.

Moving forward, Malaysia must also prioritize action to reduce the impacts of climate change on the health of Malaysians. The COVID-19 pandemic reinforced the importance of investing in people's health and strong public health systems. This policy brief utilizes the best available evidence from the *Lancet* Countdown, and highlights three priority issues that already affect the health of Malaysians – food security, mosquito-borne diseases, and fossil fuel subsidies. This policy brief continues with some recommendations for action for the Malaysian government and other key stakeholders.

Recommendations

1

Strengthen food security through innovative agricultural initiatives

Innovative agricultural initiatives such as urban agriculture and vertical farming should be promoted through financial aids and incentives to ensure timely provision of resources and knowledge generation as a source of adaptation and to tackle the adverse impacts of climate change on strategic crops.

2

Strengthen and regularly update preventive and control measures against mosquito-borne disease

Country-level data indicate the importance of prioritizing action plans, including surveillance and warning systems, to prevent and control mosquito-borne diseases, especially dengue.

3

Accelerate shifting fossil fuel subsidies in favor of renewable energies

Despite being on the right track to decreasing fossil fuel subsidies, efforts should be put into accelerating this transition to increase net carbon price, leading to the realization of the country's capacity to implement renewable energies.

Strengthen food security through innovative agricultural initiatives

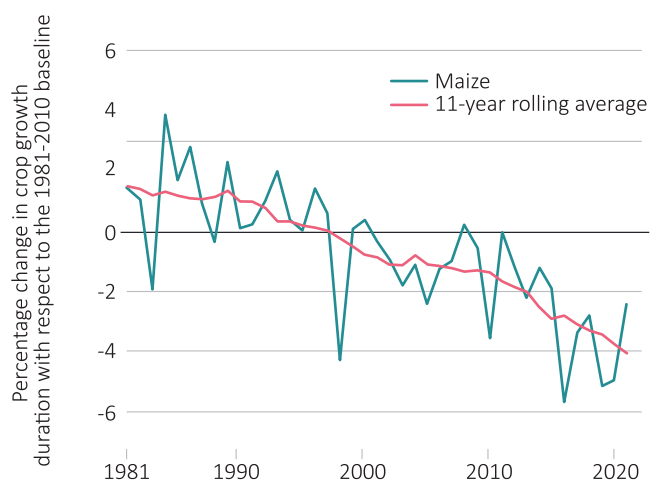


Fig 1: Percentage change in the crop growth duration for maize in Malaysia with respect to the 1981-2010 baseline.

Higher temperatures during growing seasons lead to faster crop maturation, reducing the duration of the crop-growing season. This, in turn, reduces the maximum potential yield that could be achieved with no limitations of water or nutrients. **Indicator 1.4** (Food security and undernutrition) reveals that in 2021, the duration of the growing seasons for maize and rice in Malaysia had decreased by 2.5% (Fig. 1) and 0.6% (Fig. 2), respectively, compared to a 1981-2010 baseline, with a continuous downward trend since the beginning of that period.⁵

Currently, the country is dependent on food produced in rural areas, which are highly vulnerable to higher temperatures and rapid crop maturation. Hence, expanding food production capacity in urban areas is also necessary. In light of these findings, the general recommendation is for Malaysia to **strengthen food security through innovative agricultural initiatives, especially in urban areas**. Below are the specific recommendations:

1. Strengthen existing policies that promote the quantity, quality, accessibility, and geographical distribution of urban farming through financial incentives. Urban farming is already supported by the Urban Community Farming Policy, officially launched on August 3, 2021, by the Ministry of Housing and Local Government, to regulate and boost urban farming in the country.⁶ The policy aims to connect local authorities with communities to ensure effective urban landscape use for urban farming. Promoting urban farming also resonates well with the 2021-

2025 National Food Security Policy Action Plan set up by the Malaysian government to strengthen food security in the nation.⁷

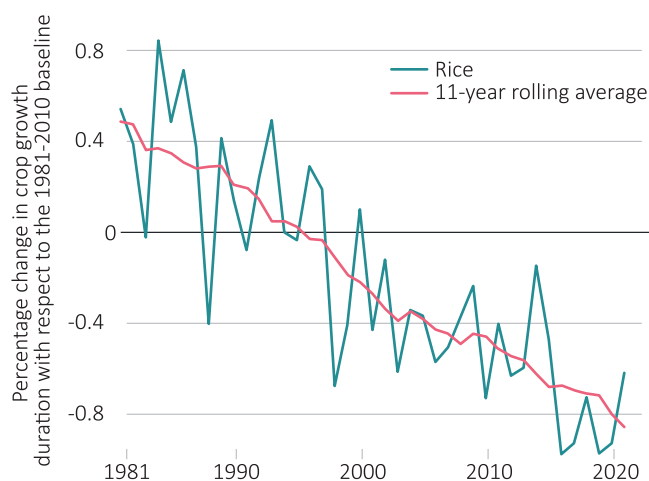


Fig 2: Percentage change in the crop growth duration for rice in Malaysia with respect to the 1981-2010 baseline.

The implementation of urban farms should substantially improve the supply of food commodities at the household level, create job opportunities, combat hunger and malnutrition, and boost community health. Although most of the interest/research into urban farming has focused on high-value fruits and vegetables, there is increasing interest in South East Asia in urban rice production, which has the added benefit of using drip irrigation which reduces pressure on water resources and reduces methane emissions, thereby contributing to mitigation efforts. Estimates indicate that available urban lands worldwide, including rooftops, parks, and other vacant spaces, could produce 10% of the global output of legumes, roots, tubers, and vegetables.⁸ This global data aligns with the latest estimates available for several countries, such as the UK, showing that the current production by urban farming in the country is sufficient to supply the urban population with fruit and vegetables for approximately 1 month annually.⁹ *To realize its full potential, however, policies should ensure timely provision of resources, including capital, knowledge and training packages, and insurance packages, to minimize the risk returns uncertainty.*

2. Invest in vertical farming. In addition to promoting urban agriculture in general, implement policies that promote vertical farming. Investing in vertical farming can help avoid the food security problems brought

about by the current declining duration of the growing seasons for strategic crops in the country. Legislation and or/guidance for vertical farming should include retooling available vacant indoor spaces in the country, which can support the materialization of this transition.

This could include indoor spaces like shopping malls, the occupancy rate of which has declined consecutively for five years, from 79.2% in 2019 to 77.5% in 2020 (the lowest occupancy since 2003), according to the National Property Information Centre (NAPIC). As the country's Valuation and Property Services Department (JPPH) reports, a similar

trend is also observed in Malaysia's privately-owned office buildings.¹⁰ Vertical farms incorporating aquaponics, hydroponics, and aeroponics could be a source of climate adaptation by enabling more robust food production systems.

Prioritize preventive and control measures against mosquito-borne disease

Between 1990 and 2019, Malaysia experienced a 55.4% increase in vulnerability to severe dengue outcomes (Fig. 3). **Indicator 1.3** (Climate Suitability for Infectious Disease Transmission) shows a year-round climate suitability for the transmission of dengue in Malaysia since at least the 1950s. Over that time, the basic reproduction number (R_0), a measure of a disease's contagiousness, has ranged between 5 and 7.

Malaysia has a strong legislative foundation for dengue control.¹¹ Tackling dengue, a climate-sensitive mosquito-borne disease, is in itself an adaptation strategy to reduce the consequences of climate change on human health. Therefore, the general recommendation is to prioritize preventive and control measures against dengue. Below are the specific recommendations:

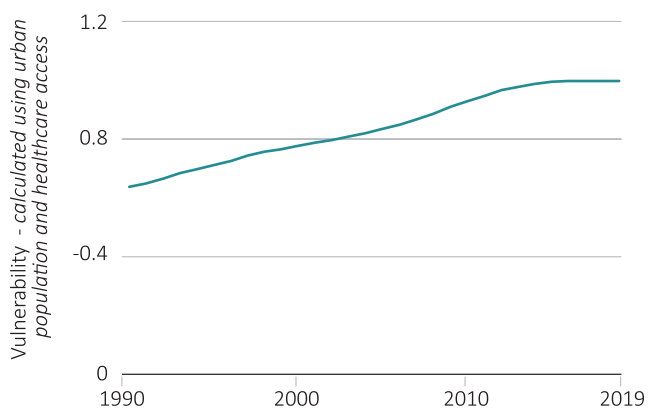


Fig 3: Values represent the national vulnerability to severe dengue outcomes (calculated using urban population and healthcare access).

1. Revitalize the implementation of the integrated vector management program for dengue-carrying mosquito control.¹² Although Malaysia has an established management programme for addressing this public health concern, some of the interventions have been overshadowed by the recent COVID-19 pandemic and its consequences. Implementing these interventions needs to be sustained, cost-effective, and socially acceptable to avoid imposing extra hazards to the environment, economy, and people. The programme should be regularly updated based on monitoring and evaluating the outputs and informed by scientific evidence. One Health approach and use of technology in dengue surveillance and warning system should be implemented to improve the dengue management programme.

2. Engage all relevant stakeholders in dengue control. Dengue is still an important health issue in Malaysia, and its control must be a participatory process.¹³ Stakeholders such as health professionals, local communities, the private sector, schools, and even youth organisations must be mobilized through cross-disciplinary consultations across ministries for a whole-of-society approach to dengue control.

Accelerate shifting fossil fuel subsidies in favor of renewable energies

Indicator 2.4 (Net value of fossil fuel subsidies and carbon prices) shows that in 2019, Malaysia had a net-negative carbon price, indicating that the government is effectively subsidizing fossil fuels (Table 1). Despite a 66% reduction in subsidies since 2010, Malaysia still allocated a total of US\$ 1.15 billion to that purpose in 2019 alone. Fossil fuel subsidies provide incentives for the continued burning of health-harming fossil fuels. They also tend to be regressive, benefiting high-income families most. However, in the short-term, removal of these subsidies can harm lower-income households unless efforts are made to ensure appropriate redistribution of government subsidy savings. These could include, for example, ensuring access to low-cost public transport, or providing other sources of aid to those that might be most affected by the higher energy prices.

TABLE 1: VARIATIONS IN NET CARBON PRICE IN MALAYSIA BETWEEN 2010 AND 2019.

	2010	2019
Net carbon price by country, real 2021 US\$/tonne	-18	-4.9
Net carbon revenue by country, real 2021 billion US\$	-3.42	-1.15
Net carbon revenue as % of current health expenditure	-34.10%	-7.80%

For Malaysia to achieve its net-zero ambition by 2050, as articulated in the 12th Malaysia Plan, the general recommendation is to **accelerate shifting fossil fuel subsidies in favor of renewable energies**. Below are specific recommendations:

1. Remove subsidies from fossil fuels and invest in renewable energy and energy efficient technologies. The current subsidies allocated to fossil fuels should be gradually reduced because they hinder the transition to a healthy, low-carbon energy system in agreement with Malaysia's climate ambition, as well as the implementation of national plans to combat air pollution, such as Malaysia's Department of Environment's Clean Air Action Plan (CAAP).¹⁴ Subsequently, a new and better subsidy strategy favoring the production of affordable renewables and cleaner transport technologies such as electric vehicles, should be established. In parallel, policies should be developed considering the short to medium-term negative impact of the subsidy removal and subsequent energy price increases, particularly on lower-income households and businesses. Differentiated reduction in subsidies must be considered, as a "one size fits all" approach means that those who can afford a reduction in subsidies are likely the greater polluters.

2. Increase the energy efficiency of fossil fuel-driven systems. These cost-effective actions will, to some extent, mitigate the economic burdens caused by removing fossil fuels subsidies, reduce air pollution, and contribute to climate change mitigation. This can, in part, be achieved by strengthening the implementation of the National Energy Efficiency Action Plan¹⁵ across all sectors, including transport, mining, construction, housing, and industry. Generating awareness of the measures taken among all the target groups leading to their constant engagement and empowerment would also be needed for effective implementation of the plan.

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THE LANCET COUNTDOWN

The *Lancet* Countdown: Tracking Progress on Health and Climate Change exists to monitor the links between public health and climate change, and the transition from health threat to opportunity. We are a global collaboration of over 300 leading experts from academic institutions and UN agencies across the globe, bringing together climate scientists, engineers, energy specialists, economists, political scientists, public health professionals and doctors.

Each year our findings are published annually in medical journal *The Lancet* ahead of the UN climate change negotiations. Our data makes clear how climate change is affecting our health, the consequences of delayed action and the health benefits of a robust response.

MALAYSIAN MEDICAL ASSOCIATION (MMA)

The Malaysian Medical Association (MMA) is the oldest medical association with the largest number of doctors in the country. Formed in 1959, the MMA is the main representative body for all registered medical practitioners in Malaysia, with more than 15,000 members. MMA members include Private and Public, Specialists and General Practitioners, Medical Officers and House Officers, and Medical Students.

ACADEMY OF MEDICINE OF MALAYSIA (AMM)

Founded in 1966, the Academy of Medicine of Malaysia is a professional and educational society for medical specialists in Malaysia. The Academy is based in Kuala Lumpur and includes all medical specialties. The Academy is committed to disseminating knowledge and information on health-related matters.