

COVID-19 CRISIS: PRESERVING LIVES & LIVELIHOODS

A GUIDE FOR MALAYSIAN POLICYMAKERS

27 March 2020



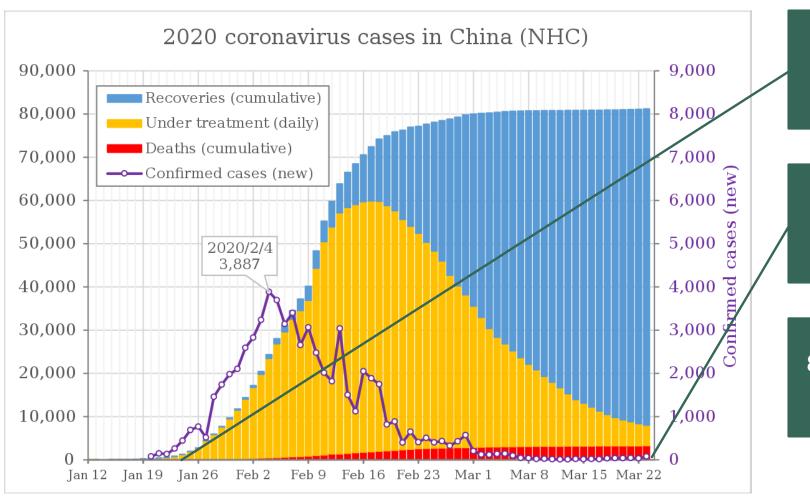
EXECUTIVE SUMMARY

- The COVID-19 crisis is at least a 3-month crisis with longer-term impacts on society and the economy, requiring a longer-term "on-off" adaptive suppression strategy.
- Healthcare impact: Malaysia has insufficient hospital beds to manage the peak outbreak. Additional capacities need to be increased with immediate urgency.
- National economy: Covid-19 is a triple shock on the economy (supply, demand, and financial). There is a need to save lives and manage the impact on livelihoods while concurrently managing the economic shock and its consequences.
- Food security: Domestic food consumption may be affected by disrupted supply chains. Access to stable, sufficient, and healthy food supply at affordable prices is key, especially for the most vulnerable populations.
- 5 Supply chain: Critical Supply Chains need to be identified, protected and allowed to operate under high risk mitigation parameters.
- Vulnerable communities: An estimated 5.1 mil people from vulnerable communities (elderly and migrant workers) and 2.8 mil B40 households require additional measures as they are at greater risk from the COVID-19 outbreak and the social and economic consequences.
- A 24-month Emergency Response Plan is required to soften and manage the effects of the crisis and to prepare Malaysia for a post-Covid world.
- A strong National Approach is needed that embraces a **3-pronged management strategy**: Manage the pandemic, manage the affected, and manage the economy and the post-crisis impact.
- The National Approach needs to mobilise all the assets of the country including public, private and civil sectors to support the Emergency Response Plan. The 6C approach provides a framework for this concerted effort Coordinate, collaborate, calibrate, communicate, channel, and celebrate.



THE COVID-19 CRISIS IS NOT A 4-WEEK CRISIS; IT IS AT LEAST A 3-MONTH CRISIS WITH LONGER-TERM IMPACTS

The lockdown in Wuhan lasted for over 2 months



23 January: Lockdown begins in Wuhan

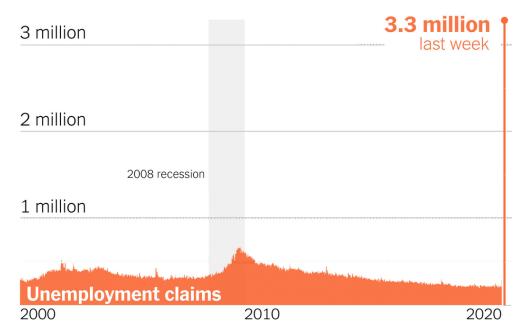
22 March: Loosening of two-month lockdown in Wuhan

8 April: Wuhan lockdown to be lifted



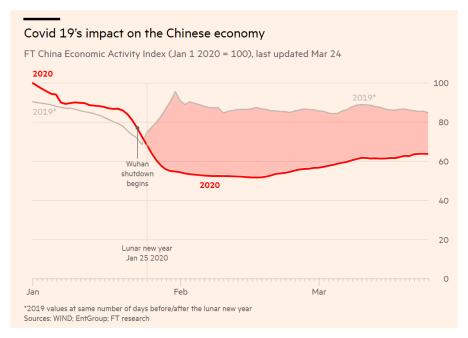
THE OUTBREAK AND MEASURES TO CONTAIN IT SIGNIFICANTLY IMPACT THE ECONOMY, WITH SECOND- AND THIRD-ORDER EFFECTS

An unprecedented surge in U.S. jobless claims (data released 26 March 2020)



- Record high of 3.3 million claims vs previous week of 282,000 claims
- 4x the previous 1982 record or 700k claims

China's economic activity is down by 25% compared to a year ago



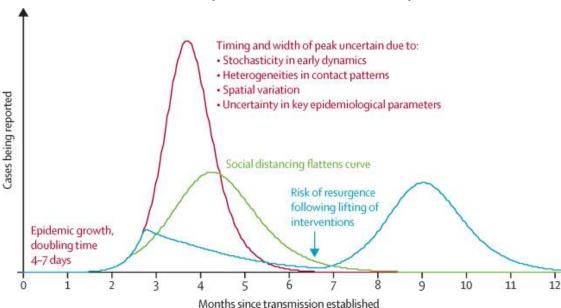
- While domestic demand has stimulated China's economy, it is an exporter to the world.
- The rest of the world is in the early to mid-stages of grappling with the outbreak.



THE COVID-19 OUTBREAK IS AN EPIDEMIOLOGICAL CURVE, REQUIRING A LONGER-TERM "ON-OFF" ADAPTIVE TRIGGERING SUPPRESSION STRATEGY

The Covid-19 outbreak is an epidemiological curve – expected to peak in a few months with subsequent waves of infection and clusters

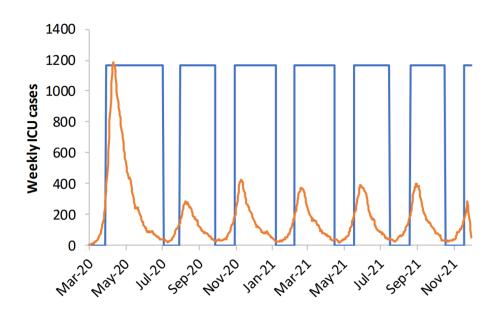
Illustrative simulations of a transmission model of COVID-19



Source: Anderson et al. (2020) How will country-based mitigation measures influence the course of the COVID-19 epidemic? The Lancet (https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30567-5/fulltext)

A strict longer-term lockdown for a few months is not socially or economically feasible – an "on-off" adaptive triggering suppression strategy may be required

Illustrative on-off adaptive triggering suppression strategy for the UK



Source: Ferguson et al. (2020) Impact of non-pharmaceutical interventions (NPIs) to reduce COVID19 mortality and healthcare demand. (https://www.imperial.ac.uk/media/imperial-college-COVID19-NPI-modelling-16-03-2020.pdf)



SOME POSSIBLE SHORT-, MEDIUM-, AND LONG-TERM OUTCOMES



SHORT-TERM

- Supply chain blockages of essential and non-essential goods
- Livelihoods of low-income groups, wage-earners, SME owners impacted
- Rise in social issues and mental stress from a 4-week movement control order

2 MEDIUM-TERM

- Businesses, especially SMEs will struggle to continue operations, leading to loss of jobs.
- Expanded healthcare system required with scaled-up hospitals
- Retooling of industries required.

3 LONG-TERM

- Acceleration of the digital economy
- A push towards self-sufficiency in critical industries and for essential goods such as food supplies
- Opportunities in new areas and industries for Malaysia in a post-Covid-19 world



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GOVERNMENTS NEED TO STAY AHEAD OF THE COVID-19 CURVE – A SPEED PREMIUM IS ESSENTIAL

Bloomberg

Prognosis

WHO Issues a Rare Public Scolding, Saying Countries Wasting Time

By <u>Thomas Mulier</u>, <u>Corinne Gretler</u>, and <u>Naomi Kresge</u> March 26, 2020, 4:27 AM GMT+8

- ▶ World isn't ready for a pandemic, emergencies chief Ryan says
- ► Countries should maintain lockdowns despite cost, Tedros says



Most Read

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Billionaires Want People Back to Work. Employees Aren't So Sure

BUSINESS

WHO Issues a Rare Public Scolding, Saying Countries Wasting Time "20% to 60% of the world's adult population could become infected"

Mark Lipsitch
Professor of Epidemiology
Harvard T.H. Chan School of Public Health

"Up to 70% of Germany could become infected"

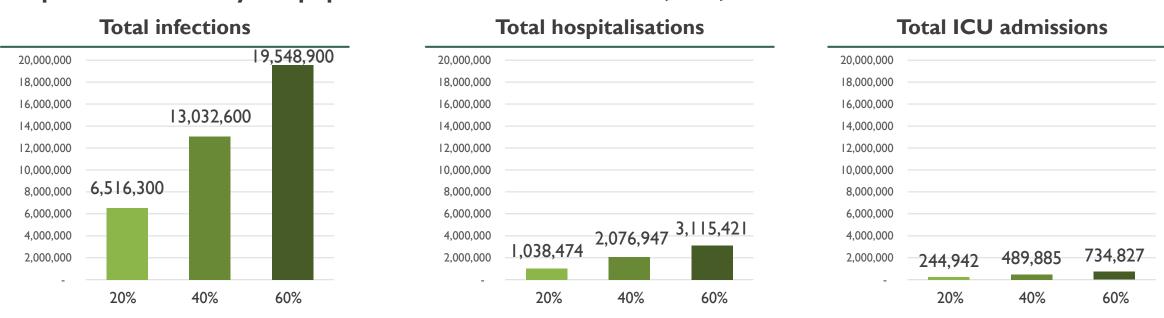
Angela Merkel German Chancellor

WHO: We Squandered the First Window of Opportunity to Fight Virus



IF 20% OF MALAYSIANS ARE INFECTED, 1.04 MIL WILL BE HOSPITALISED, IF 60% OF MALAYSIANS ARE INFECTED, 3.12 MIL WILL BE HOSPITALISED

Impact of total Malaysian population infection rates at 20%, 40%, and 60%

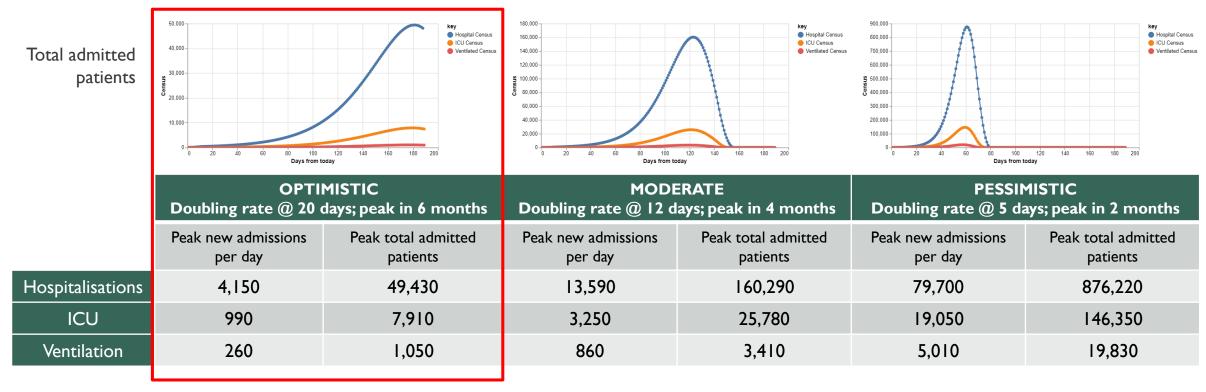


- Various studies estimate that 20% to 60% of the total overall population would eventually be infected (e.g. Harvard Professor of Epidemiology Marc Lipsitch and a Lancet article).
- However, not all of those infected would show symptoms (i.e. asymptomatic cases).
- Our model estimates that based on Malaysia's population age groups, 15.9% of infected cases would require hospitalisation while
 3.8% would require ICU admission.



THE OPTIMISTIC SCENARIO ESTIMATES PEAK INFECTIONS AT 6 MONTHS, REQUIRING 49,430 HOSPITAL BEDS

Our three scenarios estimate that peak total admitted patients would range from 49.340 to 876,220 depending on the doubling rate



Notes:

We used Penn Medicine's CHIME Model (COVID-19 Hospital Impact Model for Epidemics) to estimate the peak number of hospital beds required (https://penn-chime.phl.io/).

Assumptions used: Current hospitalized patients = 800; Hospitalization rate 15.9% of total infections; ICU rate 3.8% of total infections; Ventilated 1% of total infections Hospital length of stay of 12 days; ICU length of stay of 8 days; Ventilated length of stay of 4 days; total population of 32.6 mil.



HOWEVER, MALAYSIA HAS LESS THAN HALF THE REQUIRED NUMBER OF HOSPITAL BEDS AT PEAK (OPTIMISTIC SCENARIO)

62,568

TOTAL HOSPITAL BEDS IN MALAYSIA

46,6 Public hospital beds

15,957 Private hospital beds

64.8%

AVERAGE BED OCCUPANCY RATE (BOR)

68.4% Public hospital average

54.5% Private hospital average

2 X

NO. OF BEDS
REQUIRED IN THE
OPTIMISTIC
SCENARIO
(PEAK AT 6 MONTHS)

22,008 Estimated spare beds

49,430 Beds needed at peak

While a large figure, we have not even accounted for the additional medical staff, support staff as well as medical supplies required.

Note: 2018 data shown. Private hospital BOR figure is author's estimate.

Source: Ministry of Health Malaysia, Health Facts 2019

(http://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama/HEALTH%20FACTS/Health%20Facts%202019 Booklet.pdf)



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INCREASED RISK OF RECESSION – MALAYSIA WAS ALREADY BATTLING ECONOMIC HEADWINDS BEFORE THE COVID-19 TRIPLE ECONOMIC SHOCK

PRE-COVID 19

Economic headwinds (non-exhaustive list)



Global trade war

- US and China introducing new tariffs
- In 2019, US and China accounted for 23.9% of Malaysia's exports and 28.8% imports



Crash in fuel prices

- Budget 2020 assumption of US62/barrel; current price below US30/barrel
- Oil revenue was projected to contribute 20.7% to government income



Prolonged property downturn

- Property overhang of 50k residential units worth RM34 bil (as of Q3 2019)
- No improvement in sight, increased risk of collapse

COVID-19 Triple economic shock*



Demand shock

- Quarantines, lockdowns, and social distancing impact consumer demand.
- E.g. aviation and tourism severely impacted, cancellation of Visit Malaysia Year 2020



Supply shock

- Global supply chains are long and complex;
 mapping of supply chains is opaque.
- E.g. impact on Malaysian E&E industry suppliers, customers, and workforce.

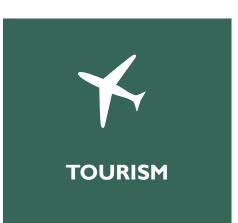


Financial shock

- Signs of a global liquidity crunch
- E.g. businesses and households struggle to manage cash flows amidst credit tightening and increase in defaults



THE TRIPLE ECONOMIC SHOCK HAS HIT MANY INDUSTRIES – E.G. TOURISM AND E&E MANUFACTURING



Malaysia data

RM220.6b Gross Value Added

RM94.5b Direct GDP

3.5 mil employed

Latest updates

- Major global airlines including Emirates, Singapore Airlines, and Cathay Pacific have slashed capacity and grounded most of their fleet
- The World Travel and Tourism Council warns that 50 million jobs globally in the travel and tourism industry could be cut (12-14% of jobs) while recovery could take up to 10 months once the outbreak is over
- Malaysia Airlines, AirAsia, and Malindo have also reduced flights and implemented various employment cost-cutting measures



RM361.8 bil Gross Output

RM78.6 bil Value Added

556k employed

- The COVID-19 outbreak has disrupted supply chains for 75% of American companies; global production out of China fell to an all-time low in February
- Semiconductor demand is expected to shrink by up to 20% (worst case).
- Malaysian E&E manufacturers are reported to be facing supply chain issues and reduced demand.



DECISIVE ACTION IS REQUIRED TO MANAGE THE ECONOMIC UNCERTAINTY, REASSURE MARKETS, AND MINIMISE THE TRIPLE SHOCK





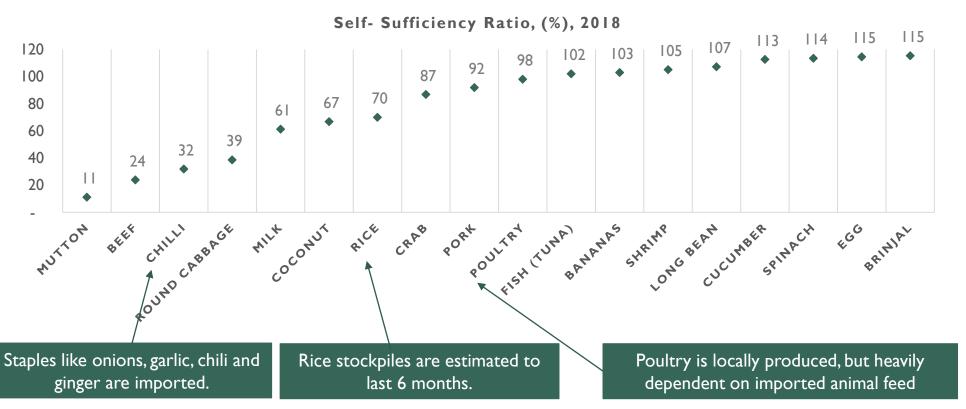
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DOMESTIC FOOD CONSUMPTION MAY BE AFFECTED BY DISRUPTION IN IMPORTS AND LOCAL PRODUCTION

Malaysia imports more than RM50bn worth of food

- Prices and availability will be sensitive to global trends and supply chain disruptions
- 16 of the 33 most commonly consumed agricultural products have a self-sufficiency ratio (SSR) of more than 100%. SSR calculates reliance on imports (higher numbers indicate higher domestic production).



% Imported

30% RICE

44% VEGETABLES

37% FRUITS

25% FISH

95% MILK

100% WHEAT

75% BEEF



ENSURE ACCESS TO STABLE, SUFFICIENT, AND HEALTHY FOOD SUPPLY AT AFFORDABLE PRICES

Risks

Food shortages

- Hoarding may continue, with estimates of 20-25% increase in demand at stores amidst changing consumer behaviour for duration of MCO.
- E.g. Gardenia bread shortage, factories at full production capacity

Disruption to local production

- Livestock (especially poultry) heavily dependent on imported animal feed
- Bottlenecks caused by food packaging shortages, regulations
- Illness of workers and staff, at worst case scenario estimated at 30% of staff loss at a time.

Disruption to imports

- Rising import prices, affecting consumption. E.g. wheat and beef
- Fresh produce may be affected by tighter border controls, increasing food waste

Long-term health effects

 Limited access to fresh, nutritious food and increased consumption of processed, unhealthy foods leads to micronutrient deficiency and diet-related non-communicable diseases like Diabetes.

Mitigation

- Develop list of essential food items and strategically secure supplies in anticipation of continuation of current situation for 12-18 months.
- Create centralised food planning and logistics system, using currently unutilised warehouses and employing people newly laid-off
- Formulate **health-based food rationing** or voucher scheme, e.g.
 redeemable for fruits and vegetables
- Plan diversification and increase of local production for longer-term consumption and reduce reliance on imports.



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KEY SUPPLY CHAIN RISKS NEED TO BE MITIGATED



Malaysian statistics

Manufacturing PMI (Purchasing Managers Index) fell to 48.5 in February

(<50 indicates a contraction)

Key issues

- E&E industry particularly vulnerable
- Heavily reliant on China's production
- Delays in imported inputs constrain outputs
- Logistical bottlenecks
- Further shocks anticipated as COVID-19 spreads West



Approx. 24% of food in Malaysia is imported

- Approvals for packaging creating bottlenecks
- Vulnerable to disruption of animal feed imports
- Panic-buying and hoarding may reduce food inventories



> 90% of three-ply masks imported

500 additional **ventilators** required

- Lack of medical staff capacity, hospital beds, and equipment
- Price gouging
- Insufficient domestic production of equipment
- Vulnerability to raw material imports for production of equipment
- Concerns over drug supply-chain



INNOVATIVE APPROACHES ARE REQUIRED TO UNBLOCK CRITICAL SUPPLY CHAINS

CASE STUDY: RESPONSE TO HEALTH SUPPLY CHAIN

RE-TOOLING PRODUCTION LINES

- Perfume-makers, such as Christian Dior, and alcohol brands, such as Brewdog, are producing hand sanitisers
- Fashion retailer Zara sourcing material for masks
- Clothes manufacturer Hanes producing masks in Latin America and exporting to USA

INCREASED HEALTHCARE SPENDING

- Repurposing spaces, e.g. U.S. Navy hospital ship in New York and college dorms in New Jersey, into temporary hospitals
- Earlier establishment of Singapore's Diagnostics
 Development Hub sped up development of test kits

2 INNOVATIVE SOLUTIONS

- Car manufacturer Volkswagen to explore 3D printing of ventilators
- 3D printing of face shields in Malaysia
- Al diagnostics supercomputer used in Tianjin, China
- Use of big data for contagion tracking in Singapore

4 MEDICAL STAFF RECRUITMENT

- Final-year medical students in UK to fight pandemic
- Amazon delivering and pick up at-home test kits in Seattle
- New York recruitment of retired health care officials



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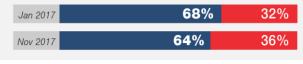


THE TOP 3 VULNERABLE COMMUNITIES IN MALAYSIA ALONE TOTAL 5. I MILLION PEOPLE AND 2.8 MILLION HOUSEHOLDS

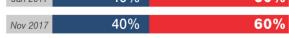
Pre-COVID-19, Malaysians were already financially stressed

National Public Opinion Survey on Economic Hardship Indicators 2017











Source:

Merdeka Center (2017)

Yes No

Vulnerable communities are at greater risk from the COVID-19 outbreak

2.1 MIL AFFECTED ELDERLY



- Malaysia's elderly (aged 65 years and over) are at greater risk from more serious complications from COVID-19 and have less access to non-COVID-19-related healthcare
- The highest death rate worldwide is in people above 70 years

2.8 MIL AFFECTED B40 HOUSEHOLDS



- Many of the B40 population are casual and low-skilled workers who are **more likely to lose their jobs** in this crisis, resulting in financial hardship
- Low health literacy, malnutrition, and chronic diseases, which mostly occur in B40 households, as well as living in high-density housing puts them at a greater risk

EST. 3 MIL* AFFECTED MIGRANT WORKERS



- Key sectors (e.g. construction, hospitality, and plantation) are dependent on migrant workers
- Reluctance to visit government health facilities for fear of losing wages, being laid off or deportation (especially undocumented workers)



ADDITIONAL GOVERNMENT RESPONSE IS STILL REQUIRED TO ASSIST THESE VULNERABLE COMMUNITIES

MALAYSIAN GOVERNMENT'S RESPONSE

RM61.5 b economic stimulus package and additional measures announced

- Economic stimulus package, 27 Feb RM20 b
- Additional measures (16 Mar) RM0.78 b
- Additional measures (23 Mar) RM40.73 b*
 (this figure includes projected EPF withdrawals)
 - RMI.I bil Employment Insurance Fund (EIS) for retrenched Malaysian workers
 - Cash aid of RM600/month for forced unpaid leave workers earning ≤RM4,000/month
 - Accelerated BSH payment cash aid for low income households & additional RM100 oneoff payment

Various state stimulus packages ranging from RM640 k to RM1.15 b

ADDITIONAL RESPONSE IS STILL REQUIRED

It is often difficult to ensure measures are timely and effectively reach the targeted end user

- Attendance to healthcare and supply needs of older people, especially those in B40 households (e.g. in-home health checks)
- Financial assistance for low-income households in state stimulus packages, especially for states where median household income is lower
- Lenient utility bill payments for low-income households
- Temporary ban on eviction for government housing
- Temporary housing for displaced tenants including the homeless
- Inclusion of migrant workers, documented and undocumented, in the COVID-19 response plan

LEARNINGS FROM OTHER COUNTRIES

CANADA

- One-time special payment for low and medium-income households and for families with children who require additional support
- Temporary ban on eviction for nonpayments of BC Housing-funded buildings

UK

 Employee salary support for those who would otherwise be laid off

AUSTRALIA

- Residential aged-care facility visitation restrictions
- Telehealth services for the next 6 months

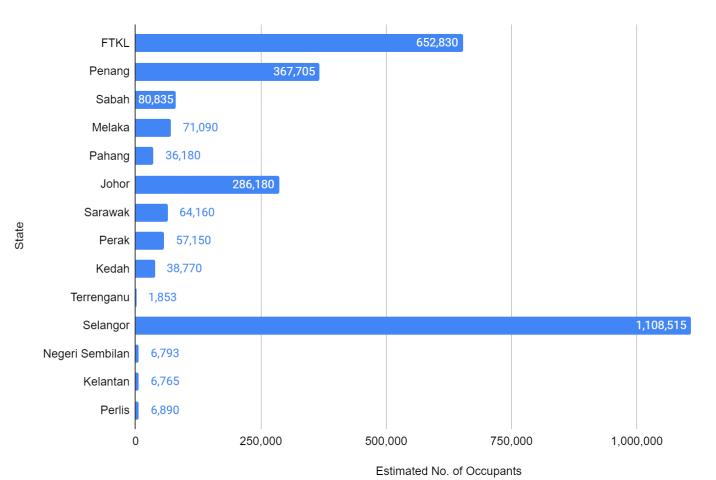
JAPAN

I-month utility bill payments deferral for all households



AN EMERGENCY COVID-19 SUPPORT PROGRAMME IS NEEDED THAT TARGETS THE URBAN POOR

Breakdown by State of Public and Private Low Cost Strata Housing, 2013



- A large number of the urban poor or B40s are concentrated in discrete public housing projects.
- Selangor and KL together make up 65% of Malaysia's total public housing population – at more than 1.7 million people
- This constitutes 25% of the Klang Valley population
- These are discrete & bounded communities because of where they live
- This population is also most highly vulnerable to the health, social and economic impact of the COVID-19 crisis.
- These public housing communities are already living in stressful conditions – the added strain of the COVID crisis may push people to despair and spark social unrest
- Therefore, we need to urgently implement a targeted program for this important social group.
- We utilise a social targeting tool through a digital platform to ensure that vulnerable groups get the support that they need,



A DIGITAL APP CAN HELP ENSURE TARGETED SUPPORT

Create Digital Identity

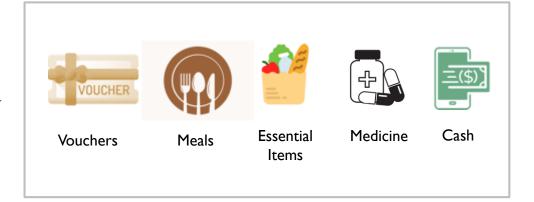
Resident Onboarding

IC E-verification

2 Eligibility Verification



3 Secure Access to Emergency Support Program





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IMPLEMENT AN EMERGENCY ECONOMIC RESPONSE PLANTO SOFTEN EFFECTS OF A RECESSION

Short-medium term impacts



Economic recession

- Triple economic shock: supply, demand, and liquidity crunch
- S&P has fallen ~30%; APAC income loss likely at US\$620bil



Shift in global supply-chains

- Transition from West to East economic power and strengthening of Asian supply chains
- Increase transparency measures



Growth in online platforms

- Rise in online retail, delivery services, virtual workplace, and social media
- Unequal effects to those without internet access



Socio-political change

- Shift away from globalization and rise in nationalism
- Increase in governmental accountability to COVID-19
- Balancing economic impacts and public health
- Trade-offs between privacy & security e.g. contagion tracking

Medium-long term impacts



Prolonged economic recession

- Dependent on depth, scale, and initial economic response
- Winners and losers



Expansion of digital life

- Greater importance on development of digital infrastructure e.g. 5G
- Changes in communication channels



Acceleration of Industry 4.0

- Growth in automation, simulation, artificial intelligence,
 3D printing, and IoT etc. and reduction in workforce size
- Medium-long term opportunity for E&E manufacturing e.g. delivery drones



Healthcare

- Growth in digital healthcare e.g. online health monitoring, connected medical devices, and virtual clinical trials
- Changes in national public health policy and global response to future crisis



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THREE-PRONGED MANAGEMENT STRATEGY – PANDEMIC, AFFECTED, ECONOMY & POST-CRISIS



Manage the pandemic

- Test, identify, and treat the infected early.
- Provide trained and well-protected frontline personnel, resources, and facilities.
- Enforce strategy to contain infections so that the healthcare system is not overwhelmed – i.e. flattening the curve approach.
- Develop management plans for the next 12 to 18 months once infection rate is slowed down.
- Create a single dedicated media and communications taskforce provide coherent and coordinated information across all channels.

2

Manage the affected

- Assist those displaced and negatively impacted by actions to manage the pandemic.
- Ensure continued provision of basic needs, public utilities, and social services.
- Assist individuals and households affected with cash transfers, support for job and income losses (including for self-employed).
- Provide businesses, particularly SMEs with increased access to funding and government guarantees of bank loan extensions.
- Unblock supply chains and government strategic stockpiling of essential goods.

3

Manage the economy and the post-crisis

- Anticipate and mitigate longer-term impacts of decisions to manage the pandemic and the subsequent knock-on effects.
- Address mid- and long-term global megatrends in a post-COVID-19 world.
- Manage unemployment.
- Prioritise generating growth.
- Improve regional cooperation to address similar crises in the future.
- Improve transparency and have regular effective communication.



KEY PRINCIPLES IN MANAGING MALAYSIA'S COVID-19 RESPONSE – THE 6C'S



COORDINATE

Ensure all efforts are clearly and holistically coordinated between and within government, private sector, and communities and all regionally and internationally.



COLLABORATE

Leverage physical, social, and intangible assets of different stakeholders through a bottom-up approach – e.g. from community organisations, NGOs, academia, and the global community.



CALIBRATE

As the outbreak situation is rapidly developing, plans and strategies need to be regularly reassessed and calibrated to ensure that they are relevant.



COMMUNICATE

Have clear and transparent communication via traditional and new media, from a single coordinated point.



CHANNEL

As the COVID-19 infections are cluster-based and impact specific groups, communities, and areas, ensure that sufficient resources are channelled appropriately to these clusters.



There will be social distress during crises such as this; therefore it is important to celebrate achievements and implement initiatives to ensure national morale is high.





