

CHE SITI NOOR BINTI CHE MAMAT

Principal Assistant Director
Operations Coordination Division
National Disaster Management Agency (NADMA)
Prime Minister's Department
MALAYSIA

Disclaimer

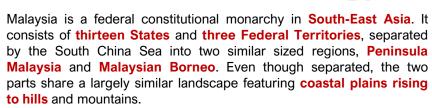
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The country covers **329,847 square kilometer** of land, whilst 0.3% of it is **water body** (**1,190 sq. km.**).

Peninsula Malaysia extends to the south and southwest from Myanmar and Thailand. It is about 800 km long and about 320 km wide. The land borders length to the neighbors includes:

• 1,881 km Indonesia

595 km Thailand

266 km Brunei

East Malaysia is an elongated strip of land approximately 1,125 km long and approximately 275 km wide on the island of Borneo. East Malaysia has three topographic features which include a flat coastal plain, hill-and valley region, and mountainous region; as Mount Kinabalu at its peak at the elevation of 4,095 meter high.

The **coastline** is measured at **4,675** km; 2,068 km being in Peninsula and the remainder 2,607 km in East Malaysia. Malaysia's two coasts create **differing maritime priorities and threats**.

Malaysia Maritime Zone (MMZ) covers an area of 516,851 sq km. Within the MMZ there are 561 islands.





Malaysia enjoys **Tropical Climate** with uniform temperature between 21 – 32 Celsius. The average annual rainfall is 2,500 mm of which 60% of it came during November to January.

Malaysia experienced two distinct monsoons
North-East Monsoon occurs from November till
March & South West Monsoon occurs from June to
August and two inter-monsoon in between.

Malaysia is non-disaster prone country. Often affected by **natural hazards** such as floods, landslides, haze as well as some rare cases of earthquake and tsunami. Other anthropogenic types like chemical disaster, disease outbreak & pandemic.



Malaysia has been recognized as one of the 12 known 'megadiversity' countries in the world.

Approximately 55% of the country's total land area is still forested, including permanent reserved forest (PRF), state land forests, national parks, and wildlife and bird sanctuaries.

A total of 10.6% of Malaysia's land area has been designated as terrestrial protected areas. The remaining land uses comprise agricultural crops, rubber plantations, oil palm plantations, urban and other uses.

Malaysia has an estimated 15,000 species of vascular plants, 306 species of mammals, 742 species of birds, 242 species of amphibians, 567 species of reptiles, over 449 species of freshwater fish, over 500 species of marine fish and more than 150,000 species of invertebrates.





Mount Kinabalu's specialty lies in its location at a renowned World Heritage Site—Kinabalu Park in Sabah. Nature lovers will be delighted to be able to witness the many variations of flora and fauna that are to be found on the mountain at different altitudes.

Towering at 4,095 metres (13,435 feet), the granite peaks are constantly veiled in wisps of clouds and at times during a clear day, the summit reveals a distinct glacier carved pinnacles. It is one of the safest and most conquerable peaks in the world.









and signature dishes.

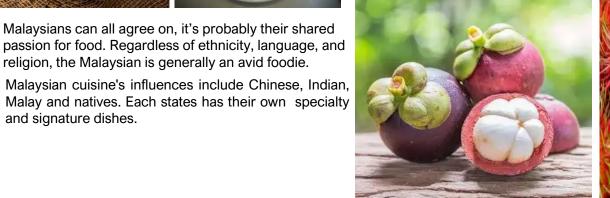
















(A)















altogether.



Malaysia has great cultural diversity with its

varied ethnic makeup of Malays, Chinese, Indians,

and indigenous tribes. Malaysia has 80 ethnicities

Counted at 16.9 million (52.3%), there are 110 males for every 100 females. (15.5 million /47.7%).

The population growth in 2024 is at 2.0% and it is gradually increased compared to 1.7% in 2020.







Regarding the age distribution, Malaysia has 26.4% children 0-14 years old, 68.3% working age 15-64 years old and 5.3% elderly people above 65 years old.

Every person has the right to profess and practice his own religion. The census by the Malaysian government in 2020, 63.5% of the population practices Islam; 18.7% Buddhism; 9.1% Christianity; 6.1% Hinduism; 1.8% is atheist; and 0.9% belong to other religious groups that include animists, Confucianists, Taoists, Sikhs.

There are 9.6 million residentials and 8.23 million household. Household ration is 3.8 and the current density is 98 people per km².



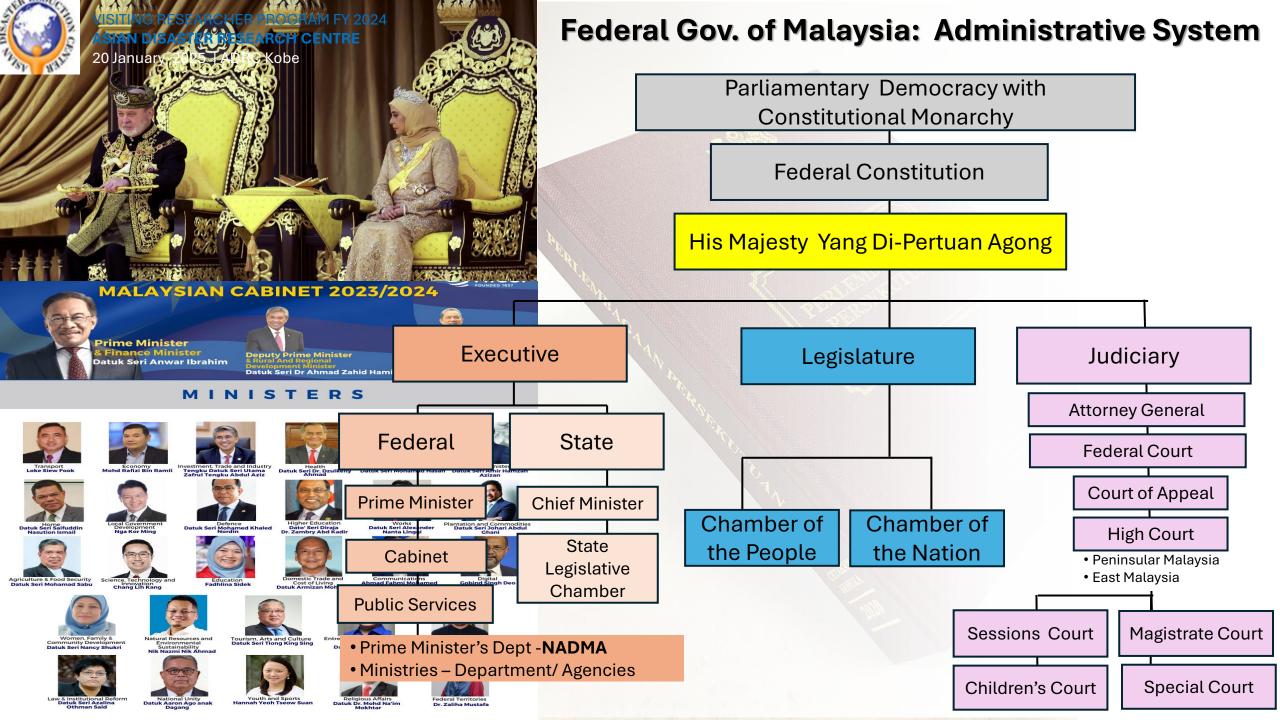
Red-brave, white - clean and kind & blue unity.

Red, white and blue - represents Malaysia as a country belonging in the Commonwealth.

Crescent and star - represents Islam as the official religion for the Federation, as yellow symbolises sovereignty of the Malay Rulers and their roles as leader of the faith in the constituent states.

The 14-pointed star itself symbolises the "unity and co-operation among the states. 14 stripes represent 14 states in Malaysia







VISITING RESEARCHER PROGRAM FY 2024 ASIAN DISASTER RESEARCH CENTRE 20 January 2025 | ADRC Kobe

- Malaysia is relatively safe from large-scale geological hazards such as earthquakes and tsunamis generated at subduction zones. Considered as non-disaster prone-country.
- However, it is more exposed to climate-related hazards, namely floods, landslides, and storms.
- Additionally, there is a potential risk of manmade disasters.

TYPES OF DISASTERS - updates



Natural Disaster (flood, storm/typhoon, eg, tsunami, storm surge, drought,



Industrial disaster i.e. explosions, fires, pollution, and leaks of hazardous materials either inside or outside premises, plants, depots, or areas that process, produce, and store these materials



Accidents involving the storage, transportation, distribution, and transfer of hazardous materials



Collapse of high-rise construction & special structures



Large-scale fire outbreaks involving a wide area, strategic areas, densely populated areas, high-rise buildings, constructions, special structures, and large-scale forest fires



Air crash incident in high density population



Train collision or derailments of trains or other rail transport systems involving a large number of victims and significant property damage, impacting the environment



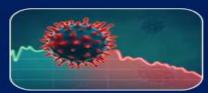
Dam / reservoir break in a densely populated area, impacting the environment



Chemical, biological, radiological and nuclear incident involving installations or related activities, where such accidents could potentially spread and result in loss of life, property damage, environmental pollution. and disrupt local activities



Haze jeopardizing public order, safety and health, economy activities and government administration.



Disease Outbreak/Pandemic / **Epidemic/Zoonosis**



Others (as declared by govt)

1926





Bah Merah (The Red- Flood)

occurred at the end of 1926, affecting almost the entire Peninsular Malaysia affecting estimation of 250,000 people 1971



Kuala Lumpur Flood

Kuala Lumpur was struck by a massive flood that crippled nearly 50% of the city. This event led the government to declare a National Flood Emergency, announced by the then Prime Minister, YAB Tun Abdul Razak. The states of Pahang, Selangor, and Johor were also impacted, with an estimated 180,000 people affected

2014



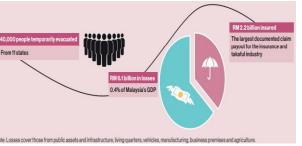
Bah Kuning (The Yellow-Flood)

IMPACT: 541,896 flood victims; 319,156 (58.9%) in Kelantan 2,076 homes destroyed 6,698 homes damaged 1,335 evacuation centres 25 flood-related deaths; 11 in Kelantan RM 2.85 billion in public property loss (not including personal and private properties)

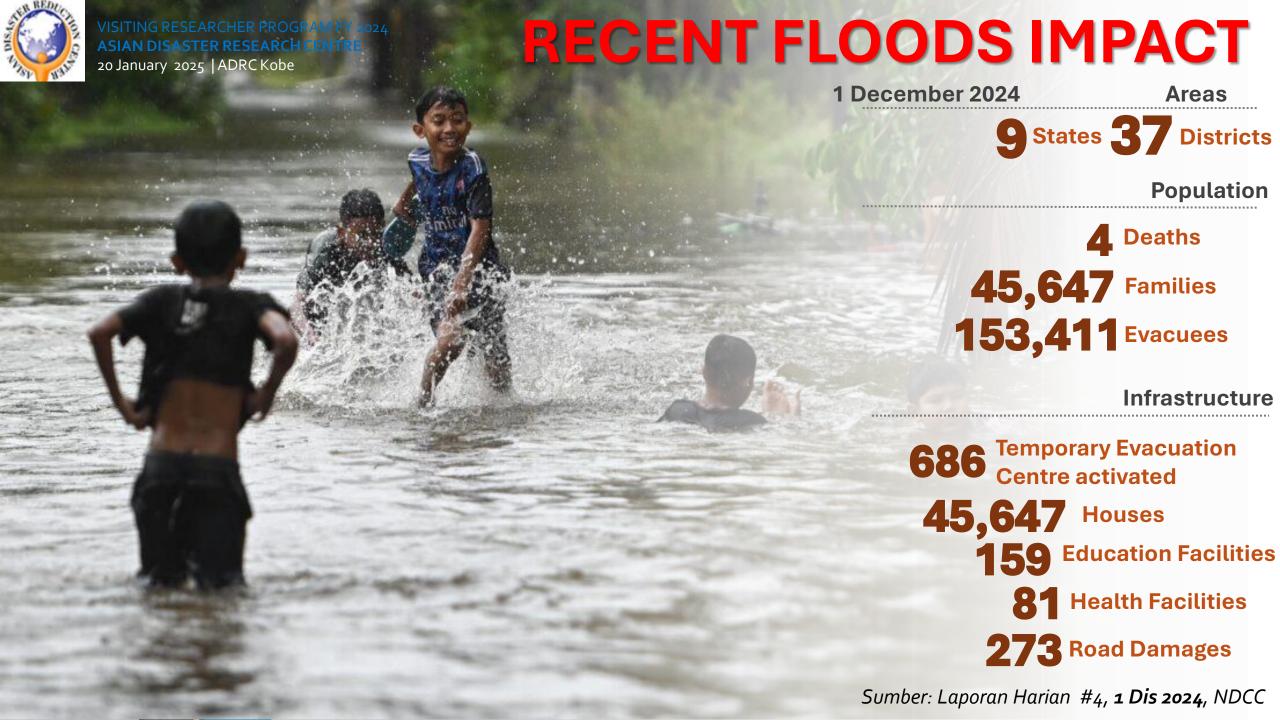
NADMA was established

2021





Flooding event of 17
December 2021, the worst
affected was State of
Selangor with such a big
scale disaster happened at
the urban area. 58 casualties
were recorded marked as the
highest mortality in the
history of Malaysia due to the
flooding. Damage and losses
were estimated at RM6.1
billion.





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Malaysia experiences two monsoon seasons: Southwest Monsoon (June through August) and Northeast Monsoon (November through March). The South and East Coasts of Peninsular Malaysia are particularly prone to frequent floods during the year-end monsoon season.

Flash floods have become more common in major cities like Kuala Lumpur, Kuching and the state of Penang due to rapid urban expansion that leads to deforestation and insufficient drainage. Precipitation levels increased steadily between 1951 and 2020 and more than one climate model predicts further yearly increases by the end of the 21st century.

Without adaptation efforts, this will expose Malaysia to increased flood risks. This means that historically 1-in-100-year floods could become as frequent as 1-in-50 or 1-in-25 years, 3 with more damaging impacts to be expected.





In 29 August 1996 Heavy <u>rainfall</u> starting at noon and lasting for six hours. Around 6:00 PM, a loud noise was heard from the hills behind the village, followed shortly by a torrent of mud and water that breached the village, causing widespread flooding and structural damage. After 13 days, the search was officially called off on September 11, 1996, with the final death toll at 39, with five missing



On 27 December 1996, tropical storm "Greg" hit the northwest coast of Sabah State, Malaysia, causing heavy rainfall, with winds blowing at more than 70 km/h, and widespread flooding & debris flow, 170 persons were killed and over 100 missing. More than 3,000 people were left homeless and at least 300 buildings damaged. Keningau district was severely affected



The 2008 Bukit Antarabangsa landslide was a landslide that occurred on the early morning of 6 December 2008, at the town of Bukit Antarabangsa of Selangor, Malaysia. 4 people were killed while 15 others were injured from the incident. 14 houses were destroyed due to the event

Standardization of Development Guidelines in Hill and Highland Areas 2009

Batang Kali Landslides

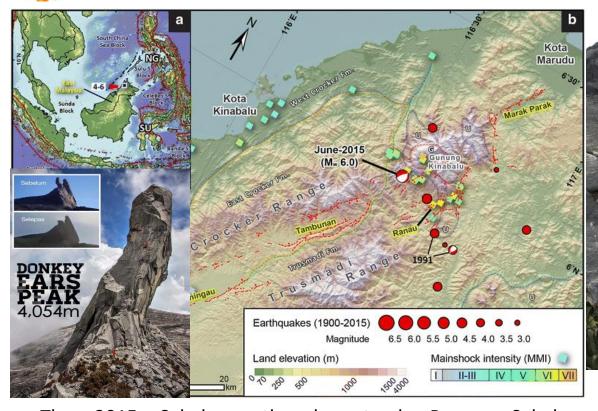






- Occurred in the early hours of 16
 December 2022 at hilly area of
 Batang Kali, Selangor. burying
 campsites at an organic farm.
- The accident trapped 92 people, most were campers from the farm. 61 were rescued, 8 people requiring hospitalization and 31 people perished.
- The worst landslide event in Malaysia for 2022, and second deadliest land-sliding event in Selangor after Highland Tower tragedy in 1993.
- Nearly 400 SAR responders from 15 government agencies were deployed for 10days rescue efforts, with canine and heavy machinery operators.

Earthquake

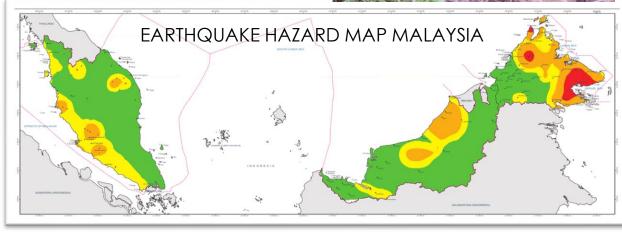


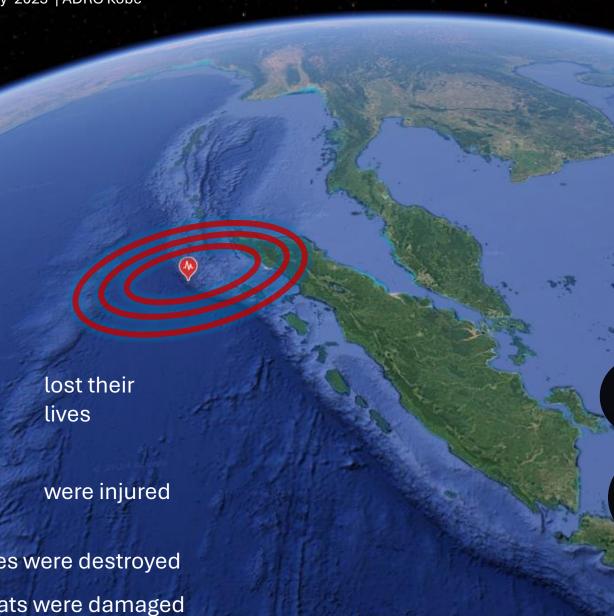






- 2015 Sabah earthquake struck <u>Ranau</u>, <u>Sabah</u> a magnitude of 6.0 on 5 June which lasted for 30 seconds. The epicentre was 10km below the Mount Kinabalu. The earthquake was the strongest to affect Malaysia since the 1976 Sabah earthquake
- Eighteen fatalities were reported, all occurring on Mount Kinabalu including ten Singaporeans, six Malaysians, and two from both China and Japan. About 137 climbers were stranded on the mountain but were subsequently rescued.





Earthquake at Sumatera-Andaman in Indian Ocean on 26 December 2005 at 09:00AM propagate tsunami and hit Malaysia

5 hours later

It affected West Coast of Peninsular Malaysia: **Penang, Kedah, Perak and Selangor**

The wave heights ranges from 2-3 meter to 6-8 meters.

The tsunami reached up to 3 kilometers inland in some areas.



1991 – "Bright Sparkles Firework Explosion" The ban of fireworks factories & the establishment of HAZMAT in Fire Rescue Department

20 January 2025 LADRC Kobe

1993 – "Highland Towers Collapsed": the establishment of the Special Malaysia Disaster Assistance and Rescue Team (SMART) (1995); National Directive No. 20 – Policy and Disaster Management Mechanism 1997



NADMA

- Established in 2015
- Purview of the Prime Minister's Department.
- Purpose: National focal point agency for disaster-related matters
- Leadership: Headed by a Director-General
- Guidance Document:

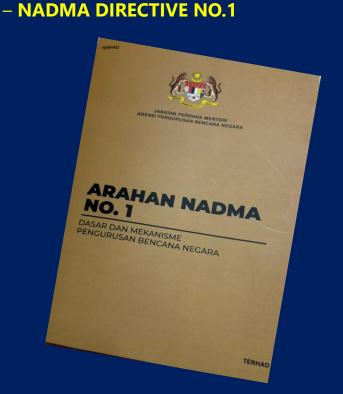
NADMA Directive No.1: The Policy and Mechanism of National Disaster and Relief Management starting August 1, 2024







"an event that causes disruption to the community activities and national affairs, loss of life and property damage, economic losses, impacts the environment and ecosystem which surpass the affected local community's ability and capacity and require extensive resource mobilization to cope with.."



NATIONAL DISASTER MANAGEMENT AGENCY (NADMA) DIRECTIVE NO.1 AS THE GUIDING DOCUMENT FOR DISASTER MANAGEMENT

Definition of "Disasters"

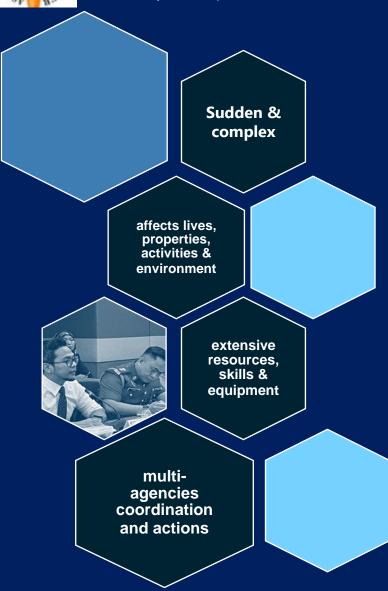
Role of National Disaster Management Agency (NADMA): acts as the National Focal Point and updates the government structures & their roles

Outlines Malaysia's disaster management policies and mechanism – before, during and after (post-disaster) encompassing **prevention**, **mitigation**, **preparation**, **responses**, **recovery efforts**. Emphasizes on DRR and defines disaster risk.

Defines the roles and responsibility of Government Agencies, Statuary Bodies, NGOs and private entities involve in Disaster Management – Disaster Management Committee

Several changes include – updates on terms, emerging hazards, DVI, rearrangement of WGs under JPB P/N/D, OSCP, role of agencies & NGOs.



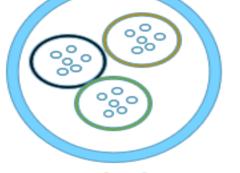




disaster escalates



disaster escalates



District Disaster Management Committee

Chairman:

District Officer Mayor/ Resident

Secretariat:

District Civil Defence Force

Member:

District Police Chief (OCPD)
Rep from the Military
Head of District Agencies
Rep from District Agencies
Local Authority
Rep from utility operators
Community leaders

State

Disaster Management Committee

Chairman:

State Secretary/ DG of Federal Territory Dept.

Secretariat:

State Civil Defence Force

Member:

State Police Chief Commanding Officer (CO) State Financial Officer Head of State Agencies District Officers

Federal Disaster Management Committee

Chairman:

Deputy Prime Minister

Secretariat:

NADMA

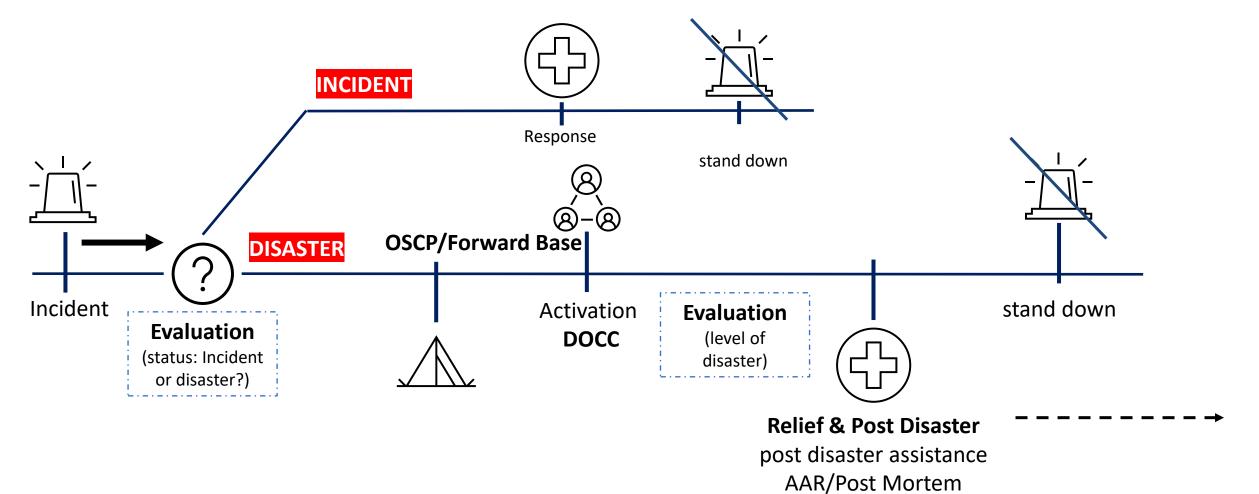
Member:

Chief Sec. to the Gov
Attorney-General
Chief of Armed Forces
Inspector-General of Police
General Secretary of Treasury
Sec. Generals
Director-Generals
State Secretaries

Disaster Level 1

Disaster Level 2

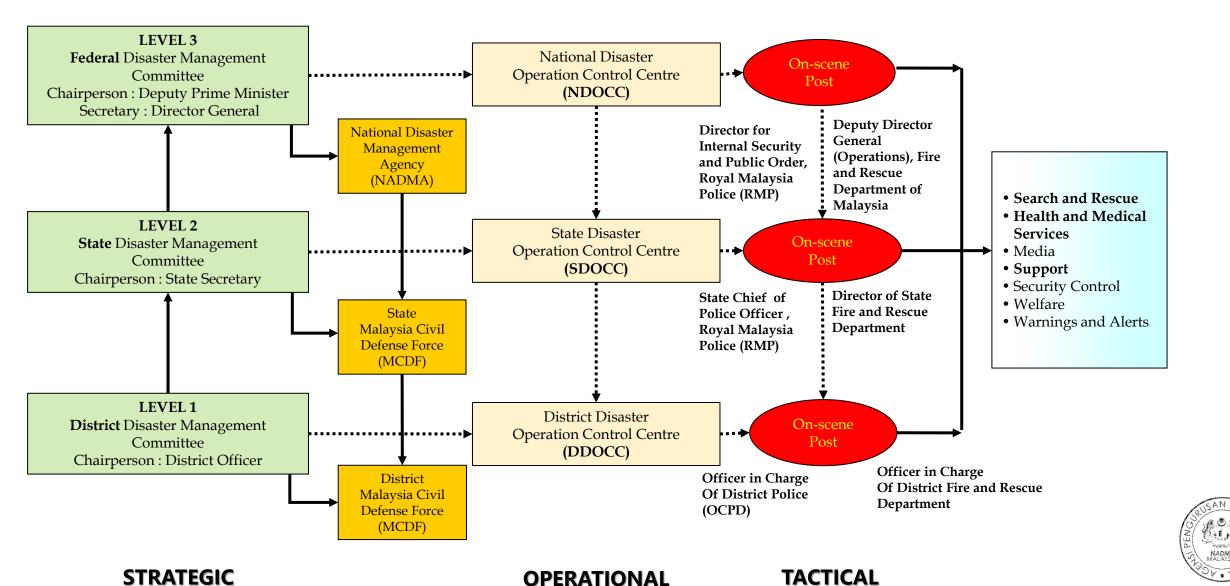
Disaster Level 3



TIMELINE

DISASTER MANAGEMENT

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ON-SCENE COMMMAND POST STRUCTURE

ON SCENE COMMAND POST (COMMANDER) (DEPUTY COMMANDER)

ADMINISTRATION

- ROYAL MALAYSIA POLICE (PDRM)
- FIRE RESCUE DEPARTMENT (JBPM)
- CIVIL DEFENCE FORCE (ATM)
- Supporting the administration of operations and reporting of OSCP.
- Acting as an intermediary between OSCP and DOCC

RESPONSE

- FIRE RESCUE DEPARTMENT(JBPM)
- ROYAL MALAYSIA POLICE(PDRM)
- MALAYSIA ARMFORCES (ATM)
- CIVIL DEFENCE FORCE(APM)
- MINSTRY OF HEALTH(KKM)
- MARITIME ENFORCEMENT AGENCY(APMM)
- MALAYSIA SPECIAL DISASTER ASSISTANCE AND RESCUE TEAM(SMART)
- MALAYSIA RED CRESCENT
- OTHER AGENCIES
- Search and rescue of victims
- Victim Identification (DVI),
- Managing emergency treatment,
- Managing public health

TECHNICAL

- MALAYSIA METEOROLOGY DEPARTMENT
- DEPARTMENT OF IRRIGATION AND DRAINAGE(JPS)
- FIRE RESCUE DEPARTMENT (JBPM)
- PUBLIC WORKS DEPARTMENT(JKR)
- DEPARTMENT OF ENVIRONMENT(JAS)
- MINSTRY OF HEALTH(KKM)
- ATOMIC LICENCING AGENCY
- CIVIL AVIATION AUTHORITY MALAYSIA
- MINERALS AND GEOSCIENCES DEPARTMENT
- MALAYSIA CHEMISTRY DEPARTMENT
- DEPARTMEMNT OF OCCUPATIONAL HEALTH
- MALAYSIA SPACE AGENCY
- SURVEY AND MAPPING DEPARTMENT
- NATIONAL GEOSPATIAL CENTRE
- DEPARTMEN TOF STATISTICS
- OTHER AGENCIES
- Providing technical and expert services in ongoing disasters,
- Providing expert advice to response agencies in disaster relief operation

SUPPORT

- DISTRICT OFFICE
- ROYAL MALAYSIA POLICE(PDRM)
- MALAYSIA ARMFORCES(ATM)
- DEPARTMENT OF IRRIGATION AND DRAINAGE(JPS)
- PUBLIC WORKS DEPARTMENT(JKR)
- DEPARTMENT OF VETERINAR (DVS)
- DEPARTMENT OF VOLUNTEER(RELA)
- MALAYSIA COMMUNICATION AND MULTIMEDIA COUNCIL(SKMM)
- LOCAL AUTHORITY
- TENAGA NASIONAL BERHAD/ ELECTRICITY OPERATOR
- TELEKOM MALAYSIA BERHAD
- WATER SUPPY OPERATOR
- OTHER AGENCIES
- Assisting with logistics, communication, and other support to facilitate operations in controlling and overcoming the disaster,
- Establishing security control at the incident site,
- Conducting investigations,
- Facilitating communication.

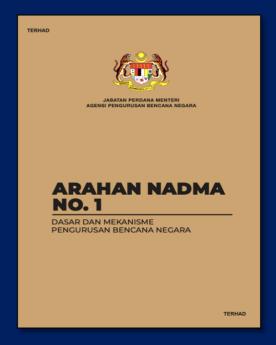
RELIEF ASSISTANCE

- WELFARE DEPARTMENT(JKM)
- MINISTRY OF HEALTH (KKM)
- CIVIL DEFENCE FORCE (APM)
- RED CRESCENT MALAYSIA(BSMM)
- DEPARTMENT OF VOLUNTEER(RELA)
- MINISTRY OF TOURISM AND CULTURE(MOTAC)
- FOREIGN MINISTRY
- OTHER AGENCIES
- Evacuating victims,
- Providing food for victims/staff,
- roviding/managing evacuation centers, Providing first aid and counseling services

MEDIA

- INFORMATION DEPARTMENT
- BROADCAST DEPARTMENT
- OTHER AGENCIES
- Media coverage,
- Electronic media coverage,
- Media control

NADMA'S PUBLICATIONS 2024



DISASTER MANAGEMENT
DIRECTIVE NO.1
3 OCTOBER 2024



NATIONAL DISASTER RISK REDUCTION POLICY 2030
3 OCTOBER 2024



CBDRM GUIDELINES

14 MEI 2024

NATIONAL POLICY ON DISASTER RISK REDUCTION 2030

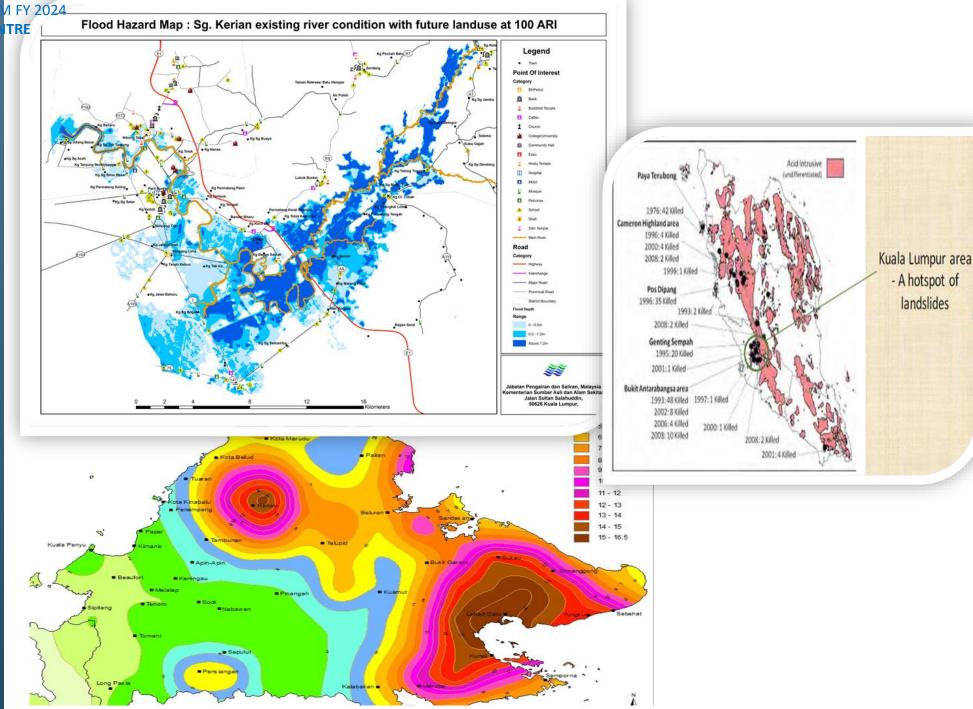




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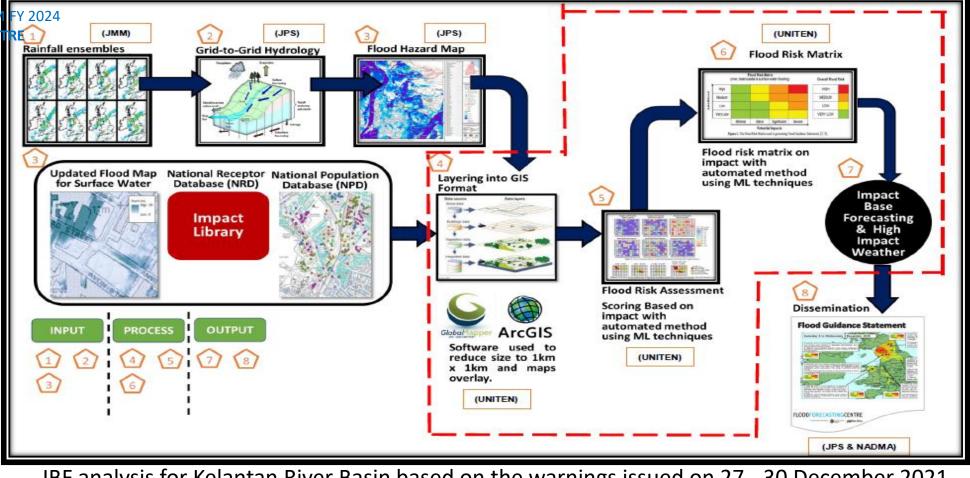
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DRR ACTIVITY HAZARD AND RISK MAPS

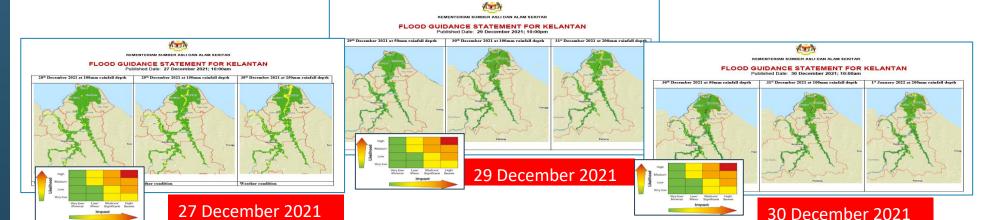




DRR ACTIVITY FLOOD IMPACT-BASED FORECASTING IBF



IBF analysis for Kelantan River Basin based on the warnings issued on 27 - 30 December 2021





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V5

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DRR ACTIVITY REMOTE SENSING AND UAV DATA UTILIZATION



National Disaster Command and Relief Committee Centre (NDCC) Director for Search and Internal NADMA Security and Rescue Public Order, · Health and RMP Medical Services Disaster Management · Media Support and Relief Committee Operation Control Centre (State Secretary) Security Control State Chief of · Welfare Police Officer RMP · Warnings and STATE CIVIL DEFENCE DEPT Alerts District Disaster Management District Disaster and Relief Committee Operation Control Centre (District Officer) Officer in Charge Of District DISTRICT CIVIL DEFENCE DEPT Police (OCPD)

DRONE DEPLOYED TO PROVIDE REAL TIME IMAGE AND VIDEO

- > RAPID ASSESSMENT
- > SITUATION AWARENESS
- > OPERATION PLANNING AND COORDINATION





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EARLY WARNING TO EARLY ACTION EWE2E



- Community-based Early-Warning-System and Living Labs for local disaster risk reduction are co-developed and coimplemented for better supporting humanised technological and innovation advancement focused on communitycentred equitable resilience in vulnerable regions.
- Empowering local actors, breeding local champions, leveraging local assets/resources, coupling with local knowledge are the secret recipe to enhance the local resilience, and effectively anticipate, respond to, and recover from the impacts of current, and future systemic risk, and compounding disaster

DRR ACTIVITY



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DRR ACTIVITY

NATIONAL PREPAREDNESS MONTH

2024





- An annual event, held since 2016 to commemorate the International Day for Disaster Risk Reduction (IDDRR), aims to strengthen disaster risk preparedness.
- This year's launch took place on October 13, 2024, officiated by the Deputy Prime Minister under the theme 'Malaysian Community Prepared.'
- The event is supported by ministries, departments, universities, NGOs, and stakeholders, who collaborate to conduct programs and activities related to Disaster Risk Reduction (DRR) and Disaster Management (DM) throughout the month.

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BANJIR: BANTUAN MENYELAMAT, KERJASAMA AGENSI PENYELAMAT STRATEGIC LEVEL READ OF 10 00 HALAM 1 BANJIR: BANTUAN MENYELAMAT, KERJASAMA AGENSI PENYELAMAT STRATEGIC LEVEL READ OF 10 00 HALAM 1 BATTIK KHARRU. SHAHRIL IORUS JAMA TO 17 M. MINISTRATE HALAM 1 STRATEGIC LEVEL STRATEGIC LEVEL READ OF 10 00 HALAM 1 BERNAMA TO 12 M. MINISTRATE HALAM 1 STRATEGIC LEVEL STRATEGIC LEVEL READ OF 10 00 HALAM 1 STRATEGIC LEVEL STRATEGIC LEVEL READ OF 10 00 HALAM 1 STRATEGIC LEVEL READ OF 10 00 HALAM 1 STRATEGIC LEVEL STRATEGIC LEVEL READ OF 10 00 HALAM 1 STRATEGIC LEVEL STRATEGIC LEVEL STRATEGIC LEVEL L

DRR ACTIVITY

DISASTER RISK MANAGEMENT

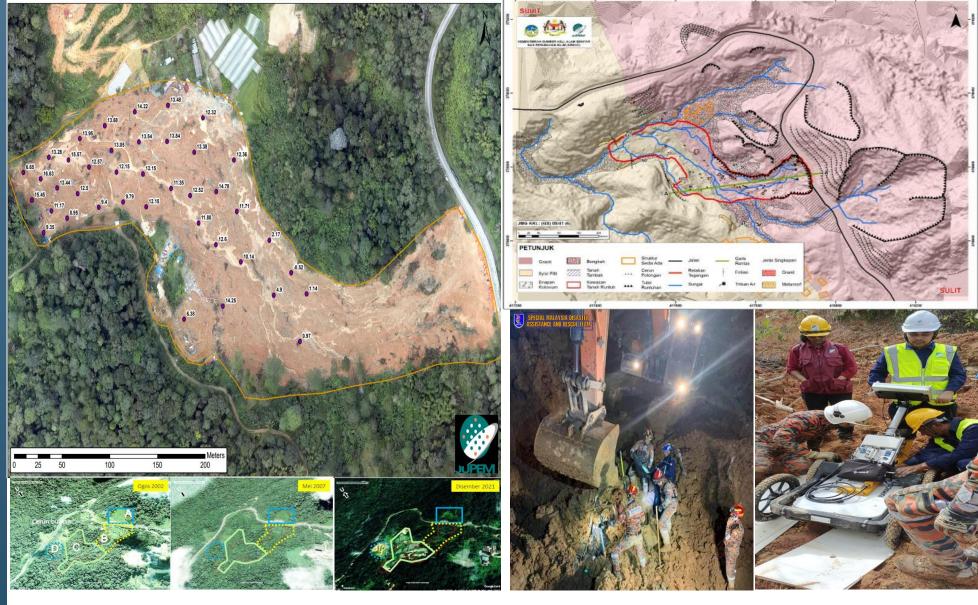
COORDINATION
& PLANNING





DRR ACTIVITY

OPERATION PLANNING & COORDINATION SAR OPERATION



• Remote sensing data analysis to identify the depth of the landslide debris

KETEBALAN TANAH SELEPAS RUNTUHAN

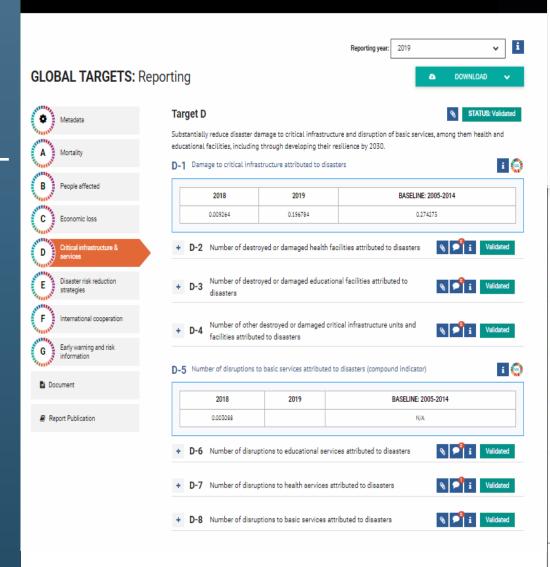
- LIDAR data acquisition for secondary risk assessment/ further disaster analysis and forensic
- Ground Penetrating Radar to provide subsurface information for the SAR planning

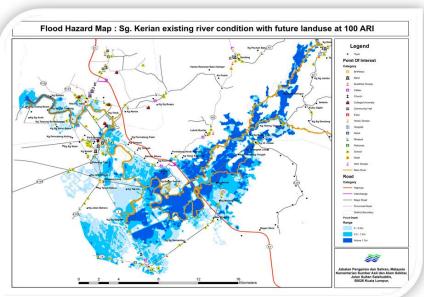


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UNDRR PreventionWeb English Sabri Abdul Mulok SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION HOME GLOBAL TARGETS ANALYTICS ADMIN

DRR ACTIVITY DISASTER DAMAGE AND LOSSES



















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COMMUNICATION EDUCATION PUBLIC AWARENESS CEPA

©MMUNITY EMPOWERMENT IN KG. DUMPIRING KUNDASANG, SABAH





With regards to the integration of science and technology in multi-hazards early warning, the cooperation between government, academia, research centres, industrial partners, NGOs, and societies had steadily increase since 2015 in translating the scientific information into action. The initiatives of risk communication, CBDRR and local leadership shows that the local community gained a sense of ownership over the EWS system, less dependency towards agencies, and are more accepting towards further DRR education.



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COMMUNITY BASED DISASTER RISK REDUCTION

CBDR





YEAR	ACHIEVE MENTS	GROUPS
2023 83 programmes	27,000 (until nov)	Community leader Youth Rural Professional body - IEM, GSM, Gov Agency- CC, Forestry, Town Planning , Local Authority, MOE, NGO, Women School Teacher Children
2022	23,405	
2021	21,000	

In 2023, a total of 83 Community-Based Disaster Risk Reduction (CBDRR) series were conducted, reaching around 27000 people from diverse array of communities, encompassing governmental, non-governmental, private, and vulnerable sectors. The focus was on mitigating the impact of various hazards, including climate related such as floods and landslide, manmade and emerging threats such as debris flow.

In addition, CBDRR programs were implemented through strategic partnerships with key stakeholders, including

(i) Government-Linked Companies (GLC) such as Petronas, Tenaga Nasional, and Telekom Malaysia, (ii) private companies including dam operators, and those in the oil and gas sector, and (iii) collaborations with researchers and universities. These partnerships aimed to accelerate awareness and knowledge in Disaster Risk Reduction and Management (DRRM).

This multi-faceted strategy not only ensured a comprehensive reach across various sectors but also accelerated the impact of CBDRR programs, fostering a more resilient and prepared community for future challenges.



PROJECT PROPOSAL

Title	Bridging Policy Gaps in Disaster Risk Reduction: Lessons from the Batang Kali Landslide Emergency Operation in Selangor, Malaysia	
Background	Landslides have caused the highest number of casualties compared to other disasters in Malaysia. Since landslide events were first recorded in 1919, this disaster has claimed more than 600 lives. The most recent massive landslide occurred at a private campsite in Batang Kali, Selangor, on December 16, 2022, at 2:30 AM, resulting in the deaths of 31 people, including 13 children, while 61 others survived.	
Problem Statement	Following this tragic event, several critical issues arose: (i) the adequacy of hazard and risk mapping, (ii) the lack of proactive mitigation measures in place, (iii) land use planning and enforcement of regulations, (iv) emergency response and lack of coordination among multiple agencies, and (v) early warning and awareness systems	
Aim	 To conduct an in-depth analysis of the Batang Kali landslide operation to identify and assess policy gaps in disaster risk reduction, particularly in residual risk management. To explore and conduct a comparative analysis with Japan emergency response and multi-agencies coordination approach regarding landslides. 	
Expected Results	The expected result of this study is to uncover both best practices and critical shortcomings in Malaysia's current DRRM policies, particularly in relation to landslide emergency operations. This study will also provide valuable insights for preparing two important documents: the Standard Operating Procedures for Landslide Hazards and the On-Scene Command Post SOP	

