Standing Committee
for Economic and Commercial Cooperation
of the Organization of Islamic Cooperation (COMCEC)

COMCEC

“Alleviating Adverse Effects of Natural Disasters on Poor Segments of Society in the OIC Member Countries”

by Nazire Nergiz Dinçer

THE 23RD MEETING OF THE COMCEC POVERTY ALLEVIATION WORKING GROUP

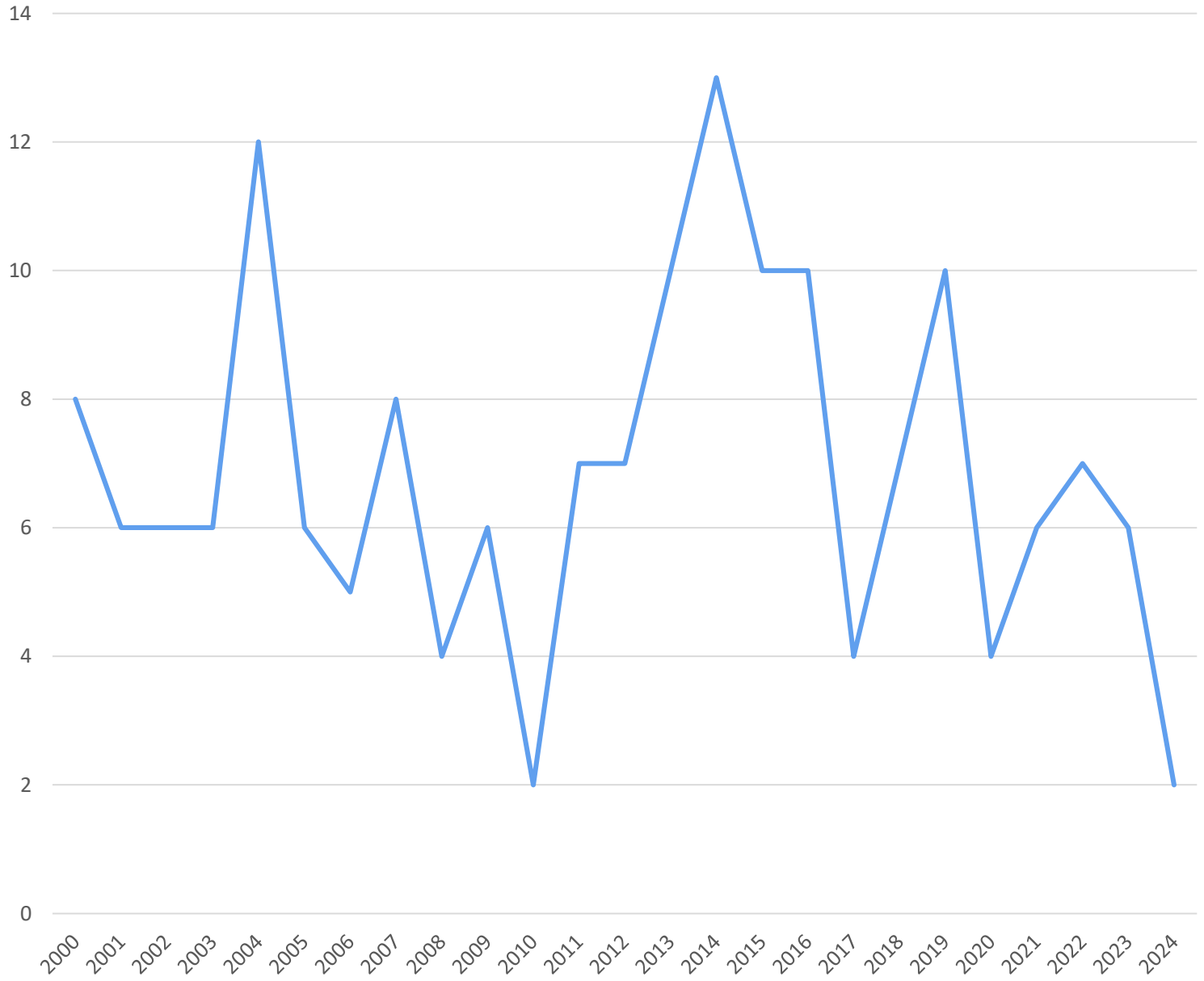
(Sept 16, 2024)

Case Studies

- Japan
- Egypt
- Indonesia
- Nigeria

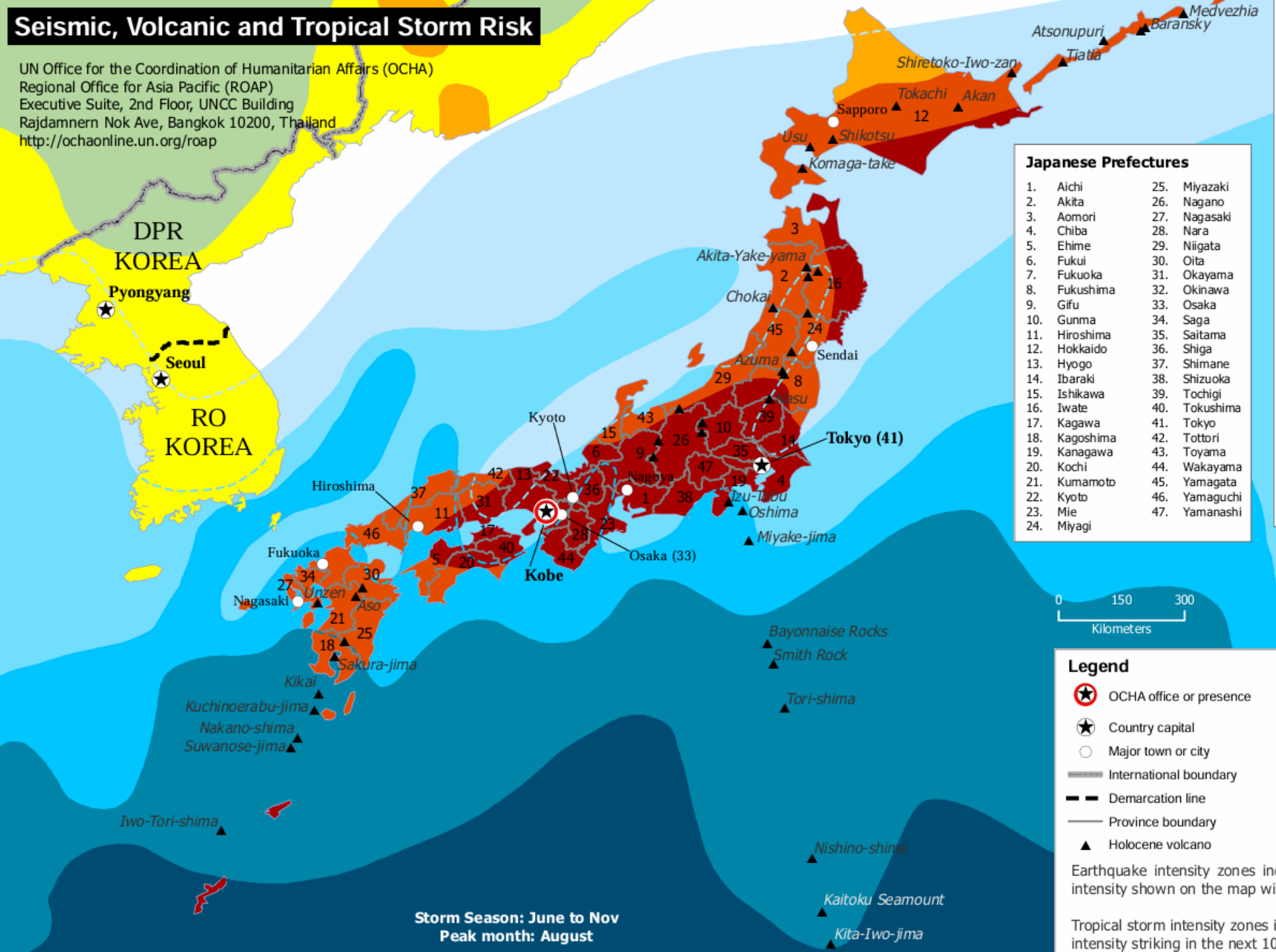
JAPAN

Disasters Occurred in Japan between 2000-2024, by year



Seismic, Volcanic and Tropical Storm Risk

UN Office for the Coordination of Humanitarian Affairs (OCHA)
Regional Office for Asia Pacific (ROAP)
Executive Suite, 2nd Floor, UNCC Building
Rajdamnern Nok Ave, Bangkok 10200, Thailand
http://ochaonline.un.org/roap



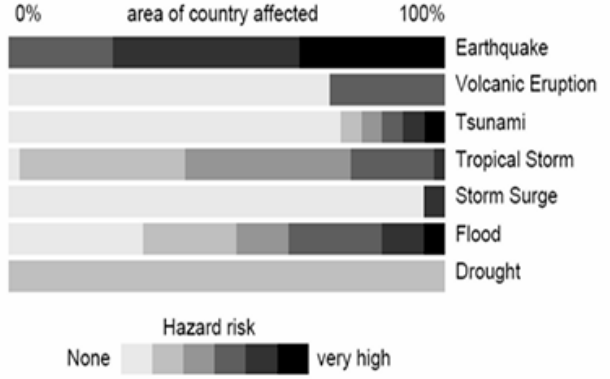
Storm Season: June to Nov
Peak month: August

Japanese Prefectures

1.	Aichi	25.	Miyazaki
2.	Akita	26.	Nagano
3.	Aomori	27.	Nagasaki
4.	Chiba	28.	Nara
5.	Ehime	29.	Niigata
6.	Fukui	30.	Oita
7.	Fukuoka	31.	Okayama
8.	Fukushima	32.	Okinawa
9.	Gifu	33.	Osaka
10.	Gunma	34.	Saga
11.	Hiroshima	35.	Saitama
12.	Hokkaido	36.	Shiga
13.	Hyogo	37.	Shimane
14.	Ibaraki	38.	Shizuoka
15.	Ishikawa	39.	Tochigi
16.	Iwate	40.	Tokushima
17.	Kagawa	41.	Tokyo
18.	Kagoshima	42.	Tottori
19.	Kanagawa	43.	Toyama
20.	Kochi	44.	Wakayama
21.	Kumamoto	45.	Yamagata
22.	Kyoto	46.	Yamaguchi
23.	Mie	47.	Yamanashi
24.	Miyagi		

All Natural Hazard Risks

The bar chart below shows the degree of exposure to natural hazards and the percentage of area affected. Tsunamis and storm surges are a threat to coastal regions, particularly gulfs, bays, and estuaries. Flood hazard results from river floods and torrential rain. Drought is caused by major deviations from the normal amounts of precipitation. Frost hazard depends on elevation and latitude.



Legend

- OCHA office or presence
- Country capital
- Major town or city
- International boundary
- Demarcation line
- Province boundary
- Holocene volcano

Earthquake Intensity
Modified Mercalli Scale

- Degree I-V
- Degree VI
- Degree VII
- Degree VIII
- Degree IX-XII

Tropical Storm Intensity
Saffir-Simpson Scale

- One: 118-153 kmh
- Two: 154-177 kmh
- Three: 178-209 kmh
- Four: 210-249 kmh
- Five: 250+ kmh

Earthquake intensity zones indicate where there is a 20% probability that degrees of intensity shown on the map will be exceeded in 50 years.

Tropical storm intensity zones indicate where there is a 10% probability of a storm of this intensity striking in the next 10 years.

Disasters Occurred in Japan between 2000-2024, by disaster type

Disaster Type	#Disasters	#Death	#affected
Tropical cyclone	67	682	1,800,000
Earthquake	28	432	665,515
Heat wave	16	1,120	213,904
Riverine flood	12	176	174,297
Flood (General)	11	369	1,800,000
Blizzard/Winter storm	10	283	15,512
Storm (General)	8	114	4,972
Landslide (wet)	3	126	467
Ash fall	2	0	16,400
Tsunami	2	19,847	394,139
Flash flood	2	27	30,025
Tornado	2	9	4,138
Severe weather	2	4	612
Volcanic activity (General)	1	63	69
Hail	1	0	12,100
Coastal flood	1	18	360,110
Mudslide	1	26	900
Cold wave	1	8	610
Lightning/Thunderstorms	1	3	2,540
Forest fire	1	0	222
Total	***172***	***23,307***	***5,496,532***

Data Source: *EM-DAT, CRED / UC Louvain, Brussels, Belgium*

IDPs due to Disasters in Japan, 2008-2022

Hazard Type	IDPs (2008-2022)
Drought	-
Earthquake	708,966
Erosion	-
Extreme Temperature	137
Flood	509,539
Mass Movement	407,687
Storm	3,032,745
Wave action	-
Wildfire	43

Year	IDPs
2008	800
2009	-
2010	85,000
2011	892,000
2012	308,080
2013	638,682
2014	707,144
2015	485,263
2016	862,457
2017	20,770
2018	144,929
2019	264,523
2020	186,001
2021	13,415
2022	50,456

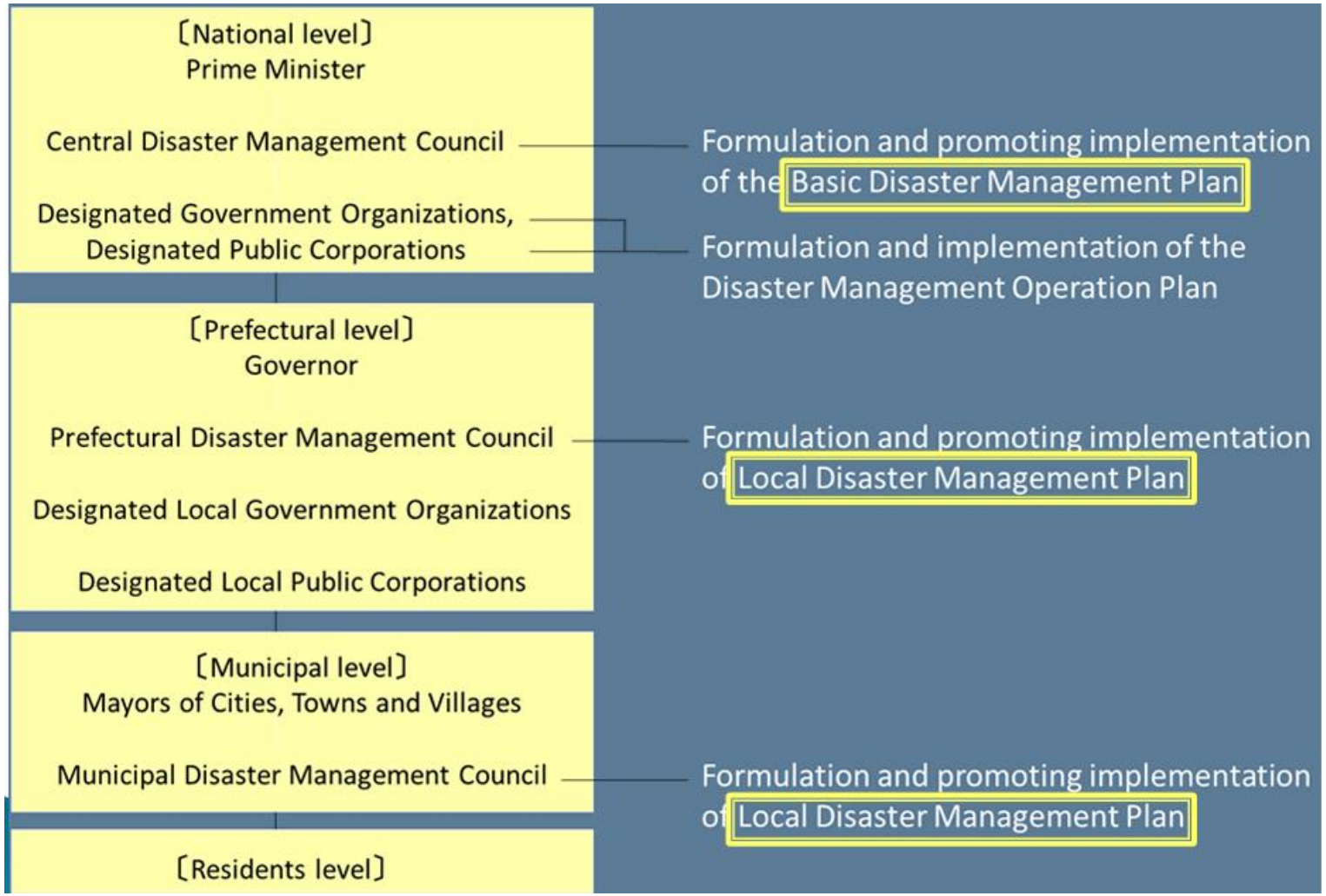
Notes: *Authors' calculations.*

Data Source: *Global Internal Displacement Database (https://www.internal-displacement.org)*

Progress in Laws and Systems

Disaster Events		Disaster Management Acts	
1959	Typhoon Ise-Wan	1961	・Disaster Countermeasures Basic Act (DCBA)
1964	Niigata Earthquake	1966	・Act on Earthquake Insurance
1978	Miyagi-Ken-Oki Earthquake	1981	・Amendment of Building Standard Law
1995	Great Hanshin-Awaji Earthquake	1995	・Amendment of DCBA ・Act on Promotion of Earthquake-proof Retrofit of Buildings
2011	Great East Japan Earthquake	2011 2012 2013	・Tsunami Resident City Development Act ・Amendment of DCBA ・Amendment of DCBA

National and Local Disaster Management Plan



Early Warning Systems

The Japan Meteorological Agency (JMA) operates 24-hour systems to accurately supervise different natural events and weather conditions.

J-Alert is a national system that disseminates emergency data using both artificial satellites and terrestrial lines to transmit messages to districts, cities, and towns

The Disaster Information Sharing System (L-Alert) is a joint platform that allows local municipalities to quickly and effectively communicate essential information to residents through various media during disasters

Application

Information and Communications Systems	• Japan has established a robust central disaster management radio network to ensure seamless communication among disaster prevention organizations nationwide during large-scale disasters, such as earthquakes
Disaster Reduction Drill	• The Basic Act on Disaster Management mandates the execution of disaster management drills to ensure preparedness and raise awareness among residents
Human Resources Development	• To develop capable disaster management personnel, the Cabinet Office initiated the "Program for Developing Disaster Management Specialists."

Institutional Framework

Core Institution

- ***The Central Disaster Management Council***

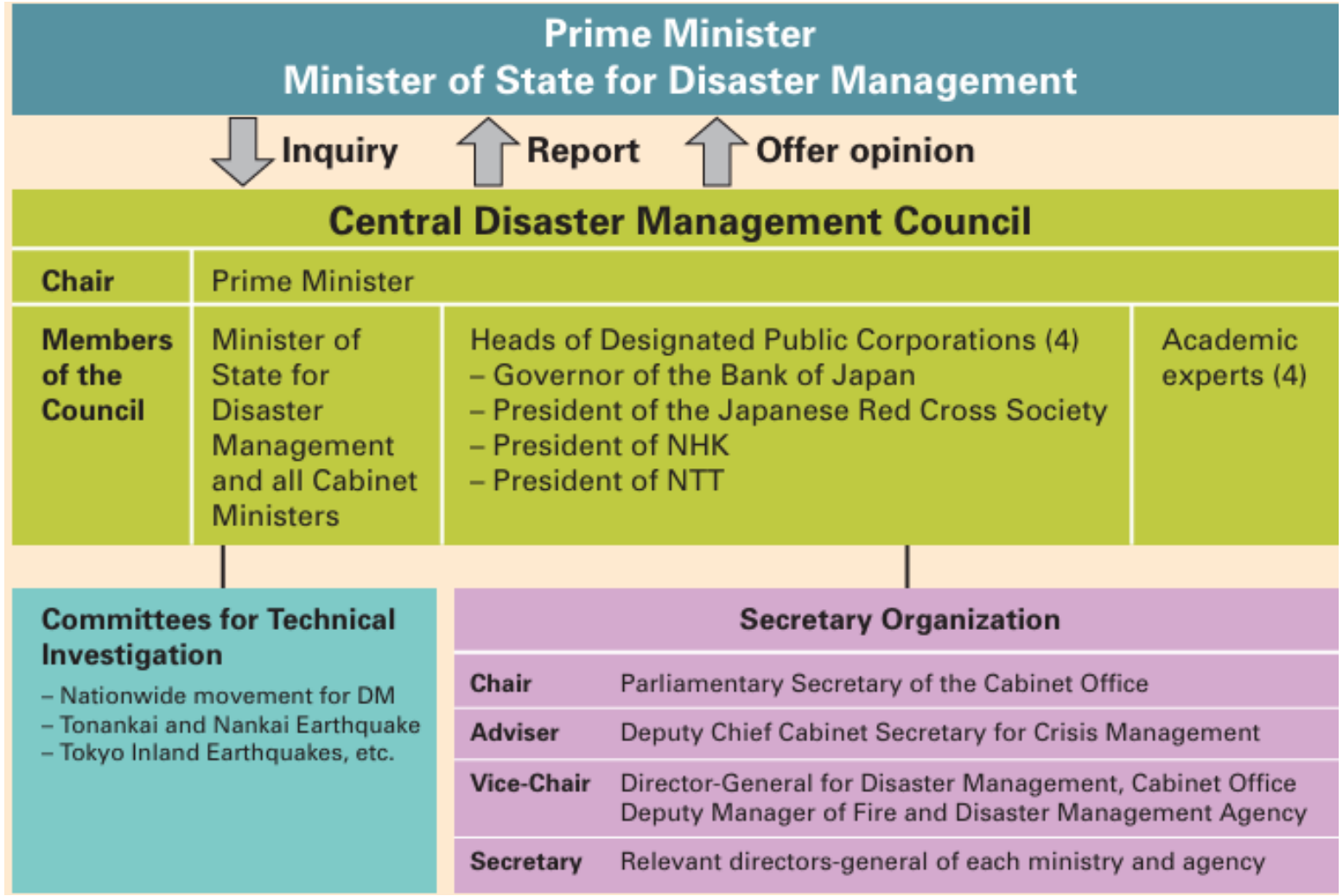
Peripheral Institution

- ***Fire and Disaster Management Agency***

NGOs

- ***Association for Aid and Relief (AAR), Japan***
- ***Japan Platform***
- ***Japan International Support Program (JISP)***
- ***The Japanese Red Cross Society***

Structure of the Central Disaster Management Council



Primary Activities of the Central Disaster Management Council

Developing and coordinating the implementation of the Basic Disaster Management Plan.

Creating and managing contingency plans for emergencies.

Advising the Prime Minister or the Minister of State for Disaster Management on key issues related to disaster management.

Facilitating consultations on significant disaster management matters in response to inquiries from the Prime Minister or the Minister of State for Disaster Management.

Challenges

- Geographical and Climatic Exposure
- Demographic Shifts
- Community and Social Challenges
- Urban and Environmental Degradation

Lessons Learnt

- Reconstruction and Strengthening Systems
- Citizen Preparedness
- Information Sharing and Specialized Teams
- Roles of National and Local Government
- Educational Resources and Awareness

Needs for Improvement

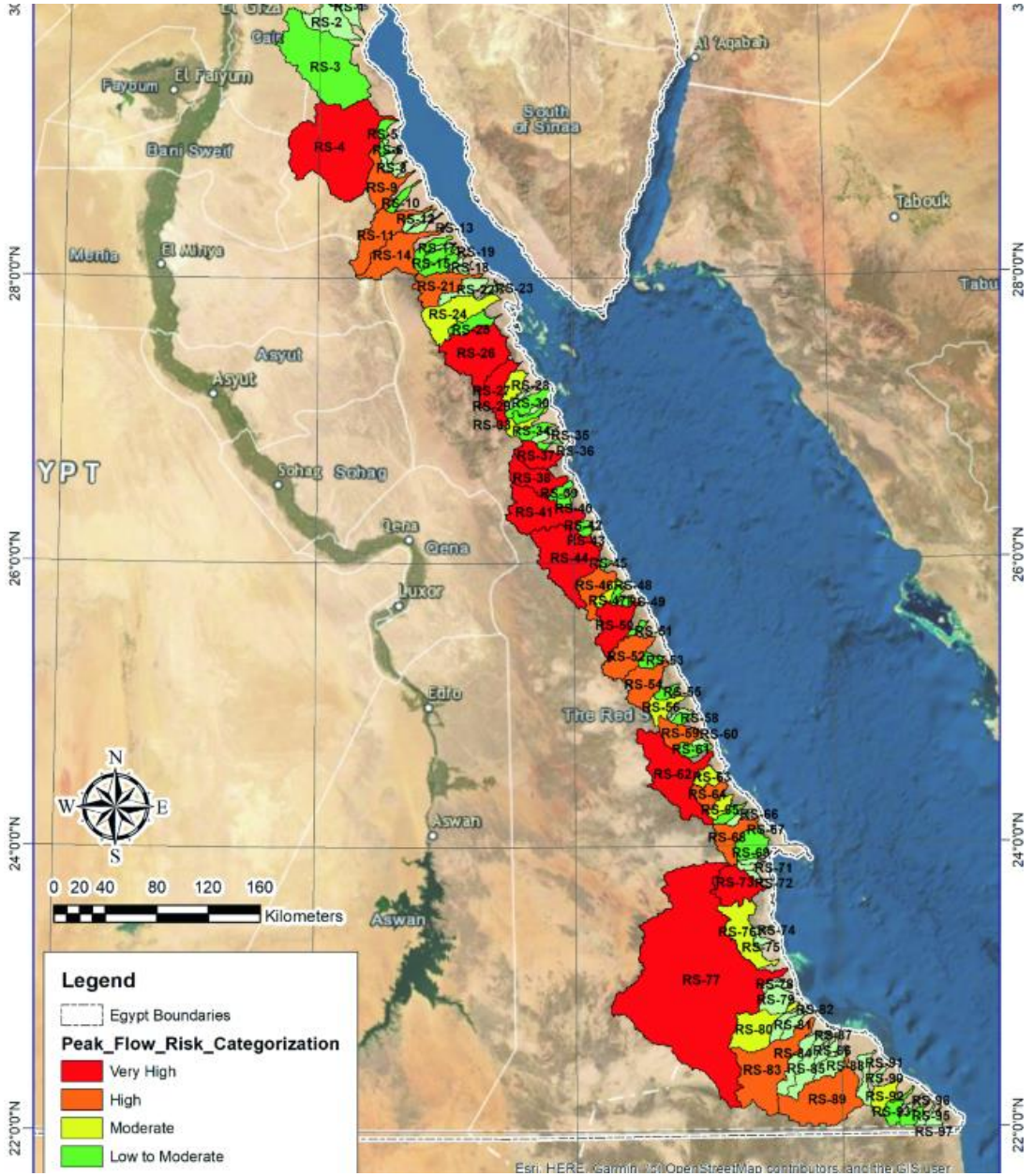
Disaster signage and explanations must be multilingual to accommodate the growing international community .

Interagency coordination must be enhanced to address disasters efficiently .

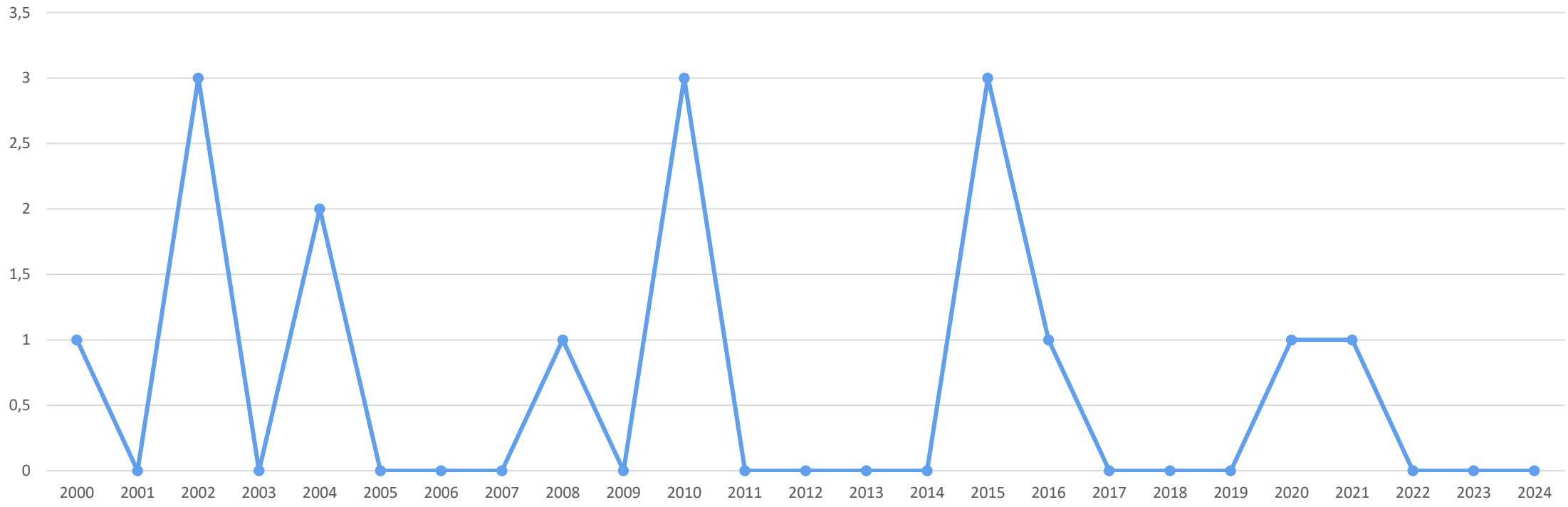
The government must allocate a budget to address vulnerabilities in critical infrastructure, including river embankments, roads and bridges, airports, and power facilities, to enhance their resilience against major disasters.

EGYPT

Flash Flood Risk in Egypt



Disasters Occurred in Egypt between 2000-2024, by year



Disasters Occurred in Egypt between 2000-2024, by disaster type

Disaster Type	#Disasters	#Death	#affected
Lightning/Thunderstorms	3	57	32,707
Riverine flood	3	31	4,300
Storm (General)	2	44	82
Flood (General)	2	17	6,305
Heat wave	1	110	66
Rockfall (dry)	1	98	697
Flash flood	1	40	20,400
Cold wave	1	3	105
Ground movement	1	0	250
Viral disease	1	0	120
Total	***16***	***400***	***65,032***

Data Source: *EM-DAT, CRED / UC Louvain, Brussels, Belgium*

IDPs due to Disasters in Egypt, 2008-2022

Hazard Type	IDPs (2008-2022)
Drought	-
Earthquake	-
Erosion	-
Extreme Temperature	-
Flood	10,654
Mass Movement	20,000
Storm	-
Wave action	-
Wildfire	8

Year	IDPs
2008	20,000
2009	-
2010	-
2011	-
2012	-
2013	-
2014	200
2015	100
2016	820
2017	-
2018	8
2019	-
2020	8,434
2021	1,100
2022	-

Notes: *Authors' calculations.*

Data Source: *Global Internal Displacement Database (https://www.internal-displacement.org)*

Overview of DRM in Egypt

Influenced by historical experiences with natural disasters

Developed through legislative efforts and institutional reforms

Aimed to enhance disaster prevention, response, and recovery

Aligned with global best practices

Development of DRM

- **Law No. 179/1956**
  - Focus: Civil defense during air raids and public disasters
  - Established Higher Council for Civil Defense
  - Ministry of Interior authorized to mobilize resources and personnel
- **Presidential Decree No. 3000**
  - Established the Search and Rescue Centre at the Ministry of Defense
  - Enhanced coordination of emergency responses
- **Law No. 4/1994**
  - Egyptian Environment Affairs Agency (EEAA) prepares emergency plans
  - Ensures availability of resources for managing environmental crises
- **National Centre for Land Use Planning (Decree No. 153/2001)**
  - Coordinates land use policies and state land assessments

DRM in Egypt

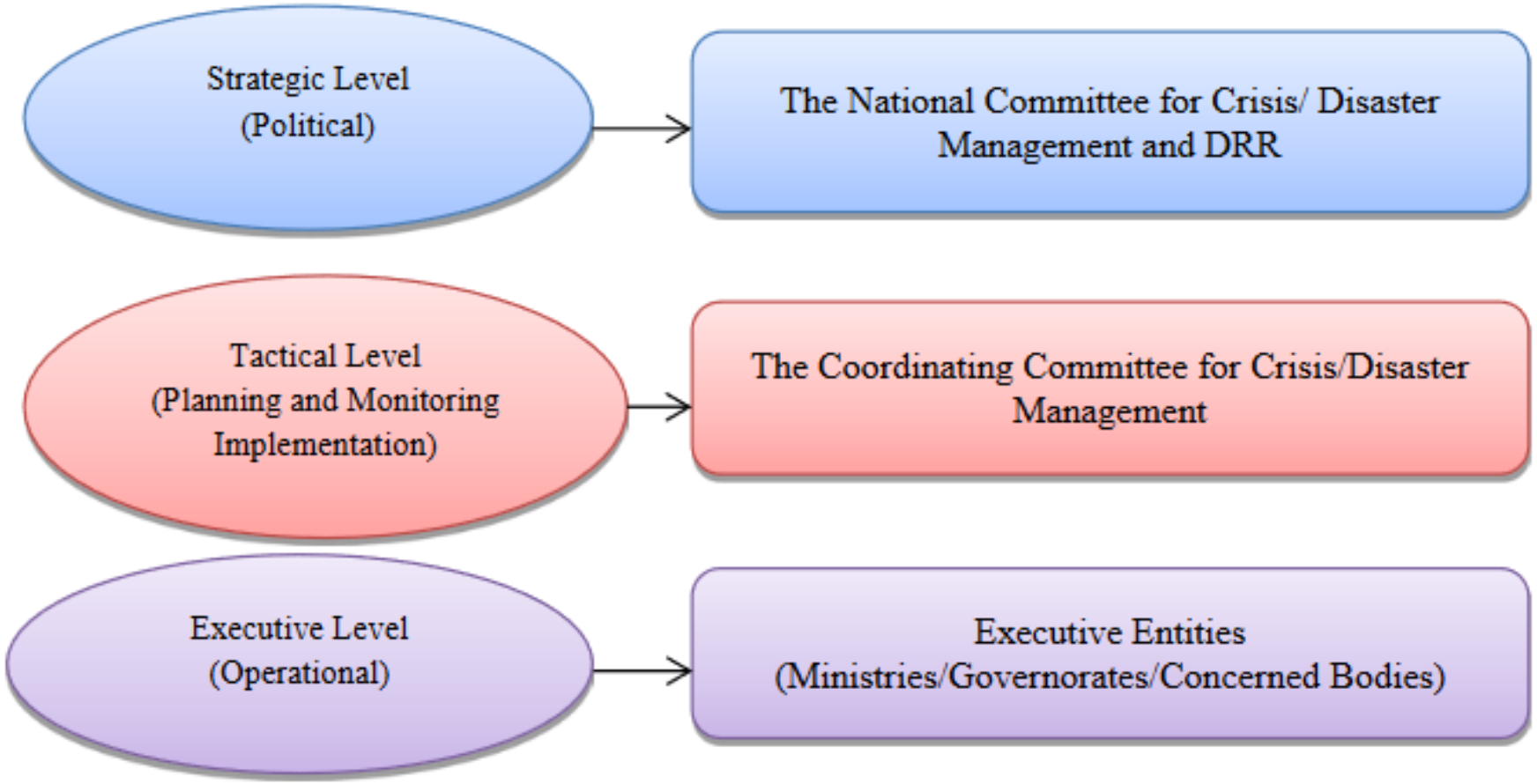
Prime Minister's Decree No. 1537/2009

- Established the National Committee for Crisis/Disaster Management and DRR
- Aligned with the UNISDR framework
- Coordinates national disaster policies and improves overall resilience

Prime Minister's Decree No. 3185/2016

- the Crisis Management Committee,
- the National Committee for Crisis/Disaster Management and DRR,
- the Coordinating Committee for Crisis/Disaster Management
- the Advisory Committee for Crisis/Disaster Management and DRR
- the Crisis/Disaster Management and DRR Sector at the Information and Decision Support Center
- Crisis/Disaster Management Departments located in various ministries, governorates, agencies

Levels and Mechanisms of Coordinating Crisis/Disaster Management



INSTITUTIONAL FRAMEWORK

Core Institutions

- Egyptian Civil Protection Authority
- Armed Forces Engineering Authority

Peripheral Institutions

- Ministry of Social Solidarity
- Egypt Healthcare Authority

NGOs

- Egyptian Red Crescent Society
- CARE Egypt
- Haya Organization
- International Development Partners

Development Partners and NGOs Involved in DRR in Egypt

NGO	Type	Objectives	Programs
Egyptian Red Crescent Society	National	Emergency response, disaster preparedness	Relief services, training, DRR projects
CARE Egypt	National	DRR, emergency response, community resilience	Hazard mapping, early warning systems, relief aid
Haya Organization	National	Emergency relief, disaster management	Relief services, preparedness, community support
World Food Programme (WFP) Egypt	International	Food security, emergency assistance	Food distribution, food security initiatives, DRR
IFRC	International	Coordination, humanitarian advocacy, DRR	Disaster response support, global DRR practices
UNICEF Egypt	International	Child rights, emergency relief, disaster management	Health services, education, child protection
Arab Network for Environment and Development (RAED)	Regional International	Environmental sustainability, DRR	Environmental projects, climate adaptation, DRR strategies

Challenges

climate change

urban density

economic difficulties

lack of education and awareness on the impact of climate change and disaster management

Lessons Learnt

Early warning systems

An integrated approach to disaster management

Community engagement and education

Resilient infrastructure and urban planning

Effective resource allocation and funding

Technological advancements

A robust policy and legislative framework

International collaboration and learning

Needs for Improvement

investing in advanced early warning systems

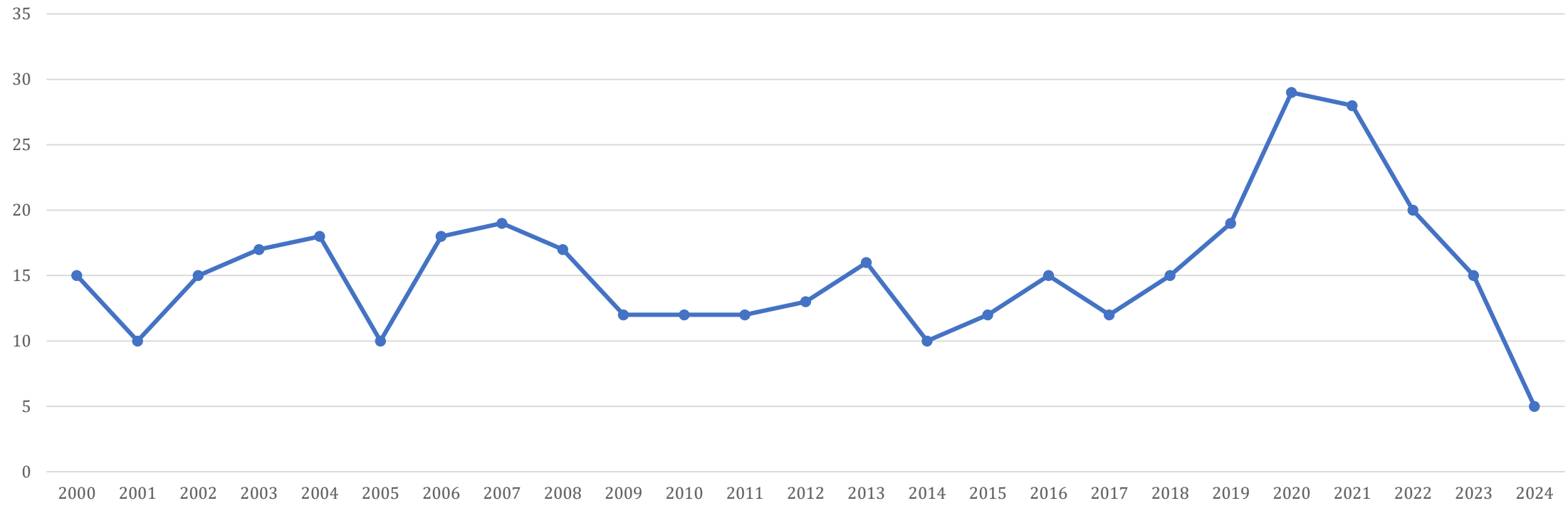
bolstering infrastructure development

public awareness and education

enhancing interagency coordination

INDONESIA

Disasters Occurred in Indonesia between 2000-2024, by year

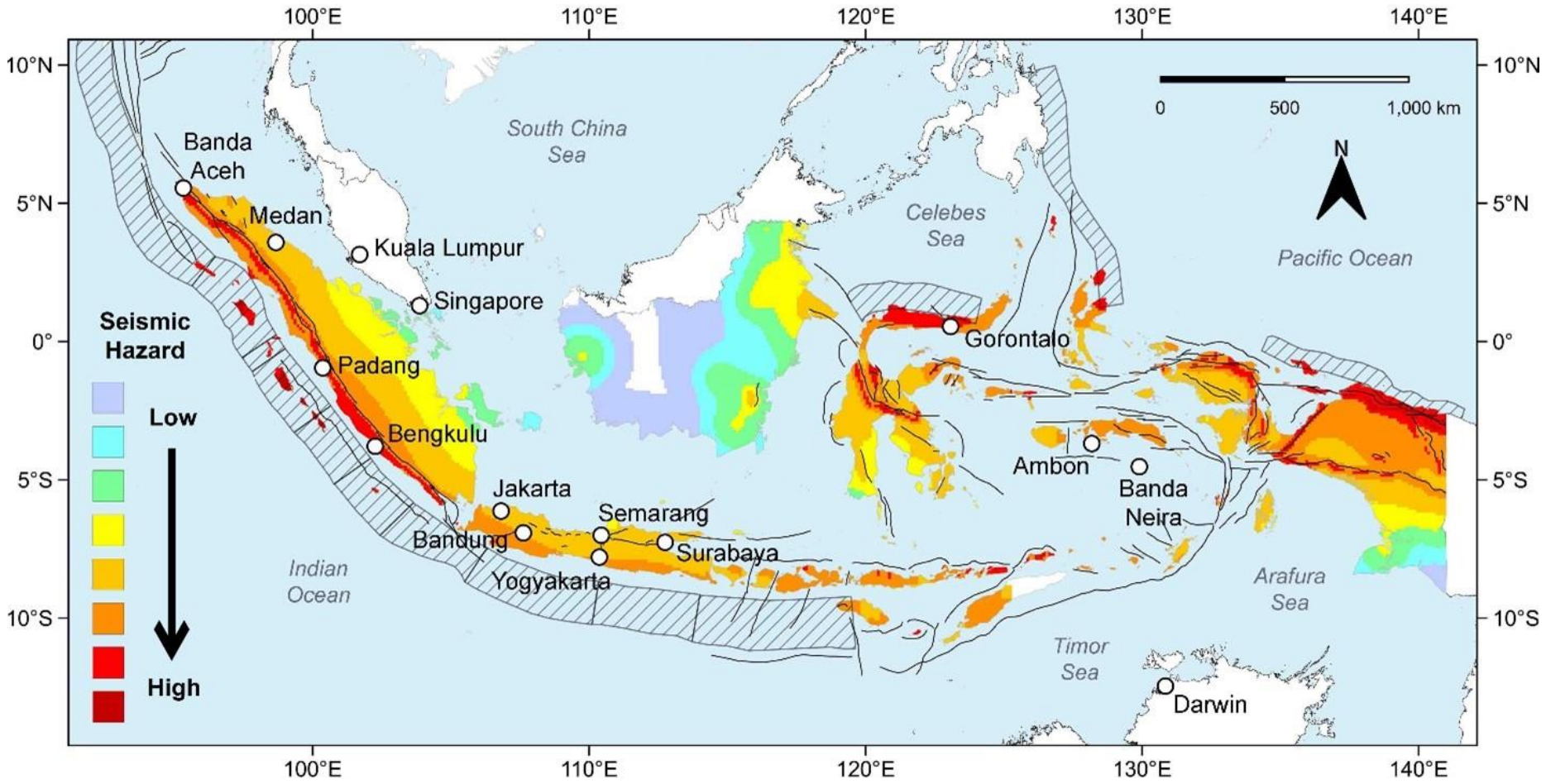


Disasters Occurred in Indonesia between 2000-2024, by disaster type

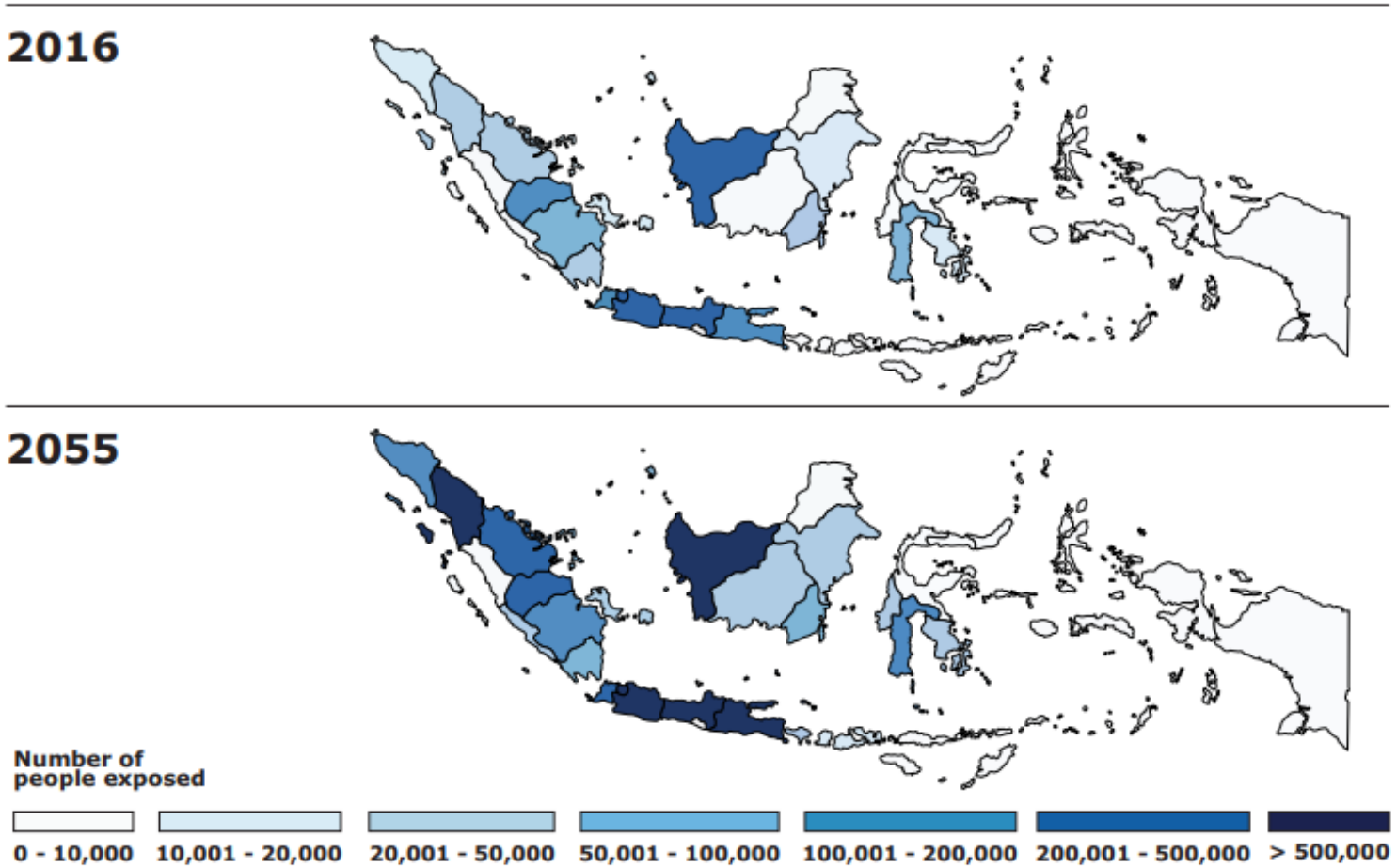
Disaster Type	#Disasters	#Death	#affected
Flood (General)	78	490	3,000,000
Riverine flood	75	1,718	3,900,000
Earthquake	71	9,718	11,000,000
Landslide (wet)	50	1,640	891,735
Flash flood	45	2,134	1,800,000
Ash fall	22	390	498,061
Tsunami	7	171,192	2,600,000
Viral disease	7	1,064	95,205
Forest fire	5	19	410,064
Tropical cyclone	3	237	512,975
Mudslide	3	106	56,215
Drought	3	11	19,000,000
Severe weather	3	5	3,390
Volcanic activity (General)	2	453	181,127
Pyroclastic flow	2	71	11,245
Lava flow	2	0	1,879
Infectious disease (General)	1	22	357
Bacterial disease	1	17	757
Storm (General)	1	16	10,060
Rockfall (wet)	1	12	55
Tornado	1	5	490
Wildfire (General)	1	0	0
Total	***384***	***189,320***	***43,973,615***

Data Source: *EM-DAT, CRED / UC Louvain, Brussels, Belgium*

2017 National Seismic Hazard Map of Indonesia



The Estimated Increase in the # of People Exposed to Coastal Flooding



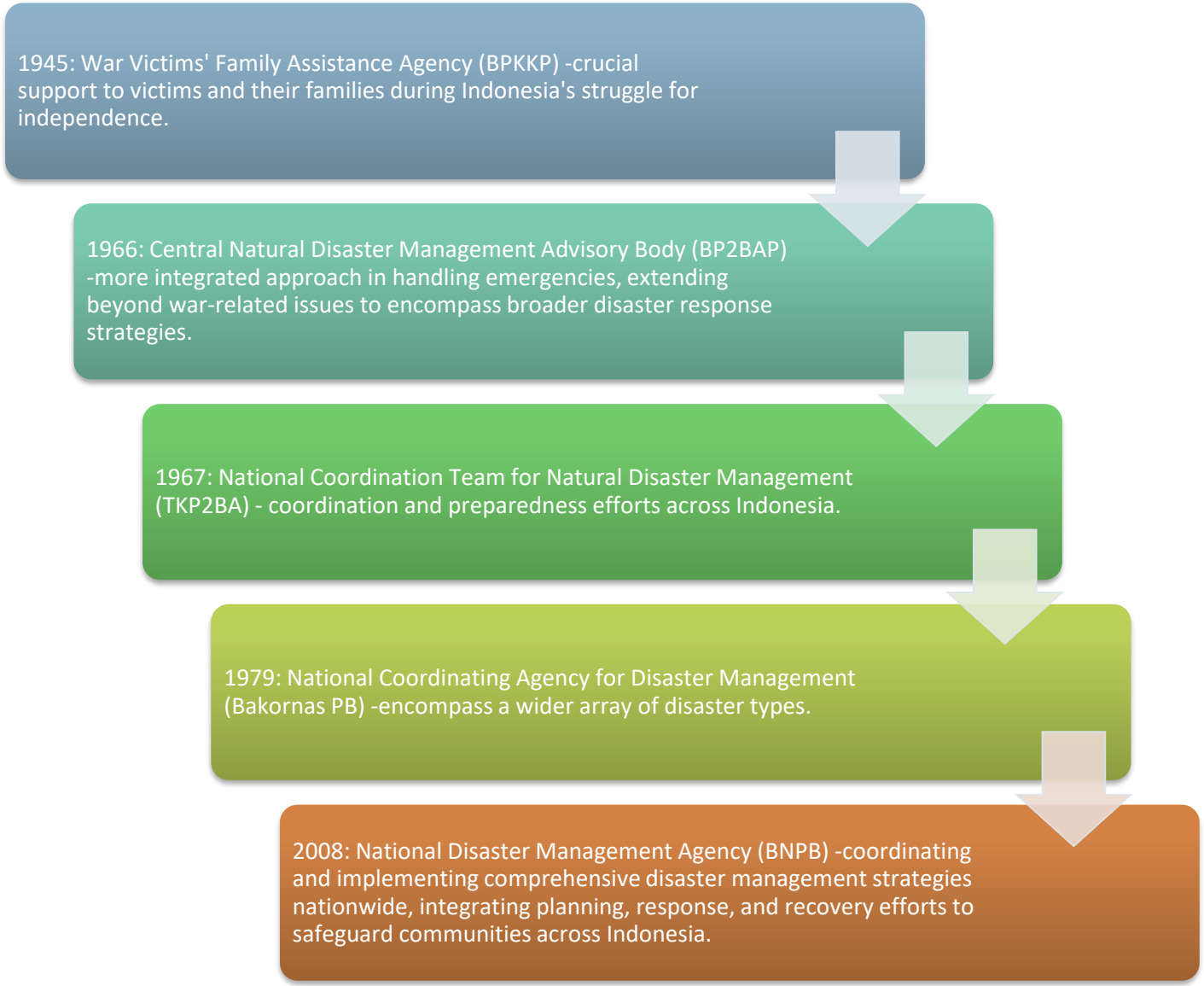
IDPs due to Disasters in Indonesia, 2008-2022

Hazard Type	IDPs (2008-2022)
Drought	-
Earthquake	2,300,323
Erosion	-
Extreme Temperature	-
Flood	4,429,703
Mass Movement	52,820
Storm	173,781
Volcanic Activity	867,487
Wave Action	1,452
Wildfire	2,726

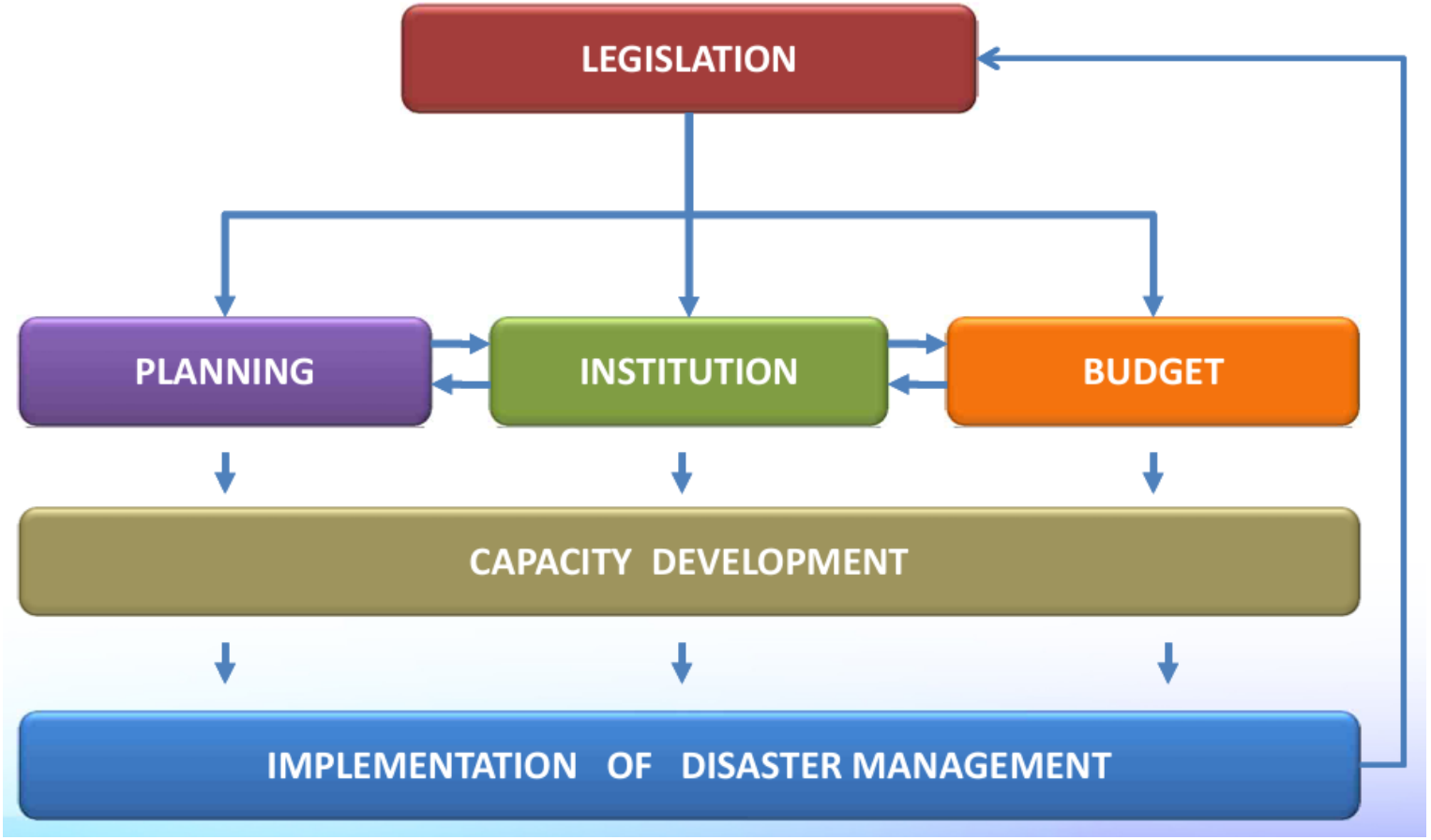
Year	IDPs
2008	221,620
2009	854,000
2010	409,830
2011	7,395
2012	103,610
2013	427,987
2014	943,133
2015	204,086
2016	1,203,932
2017	374,267
2018	853,516
2019	463,471
2020	703,679
2021	749,534
2022	308,232

Notes: *Authors' calculations.*
Data Source: *Global Internal Displacement Database (https://www.internal-displacement.org)*

Development of DRM



Indonesian National Disaster Management System



DRR Funding

Annual Funding

Allocated to support routine and operational activities of ministries and departments

Contingency Funding

Budget allocated for emergency preparedness.

On-call Funding

Allocated for emergency response.

Social Assistance Funding

Provided for post-disaster assistance.

Community Contributions

Voluntary funding organized independently by the community.

International community support fund

The international community supports in building better disaster management

The Indonesian Rapid Response and Assistance (INDRRA) force

A combined civil-military unit from various ministries and agencies.

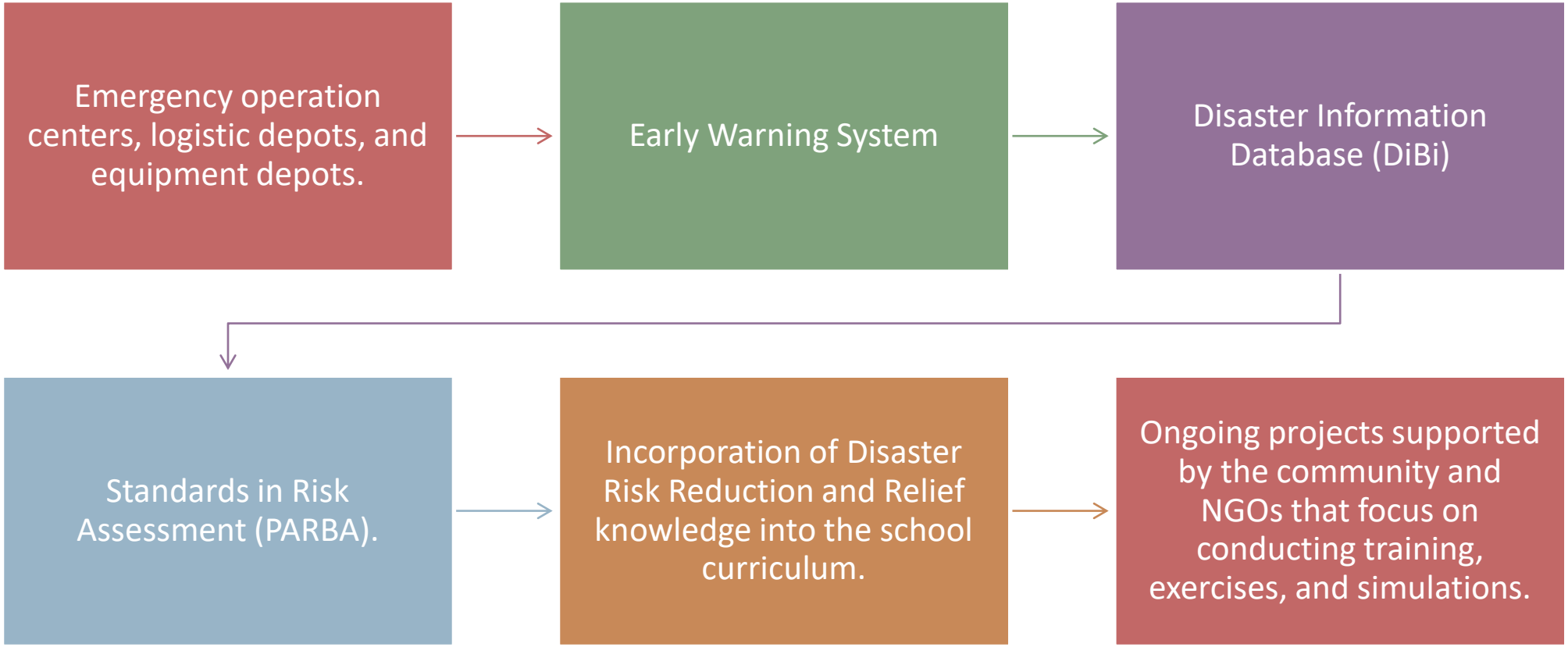
On standby to assist disaster-affected local governments with emergency activities in a timely and integrated manner.

Established in December 2009, are fully equipped, self-sufficient, and regularly trained to handle emergency situations.

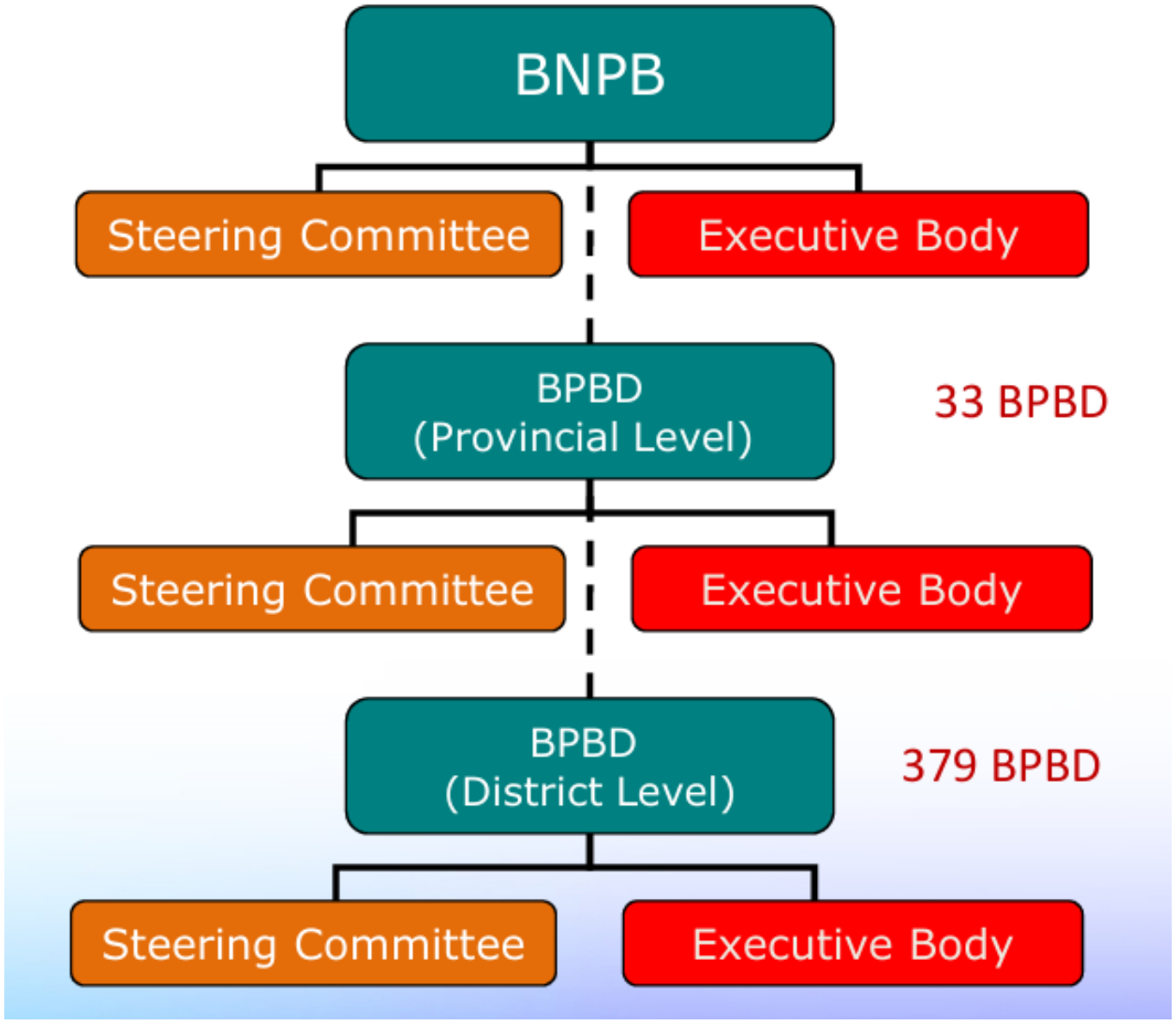
The core team comprises 550 personnel, supported by an additional 3,000 personnel.

The decision to deploy INDRRA during high-impact disasters is made by the Head of the National Agency.

Other DRR Application



Institutional Structure of the National Disaster Management System



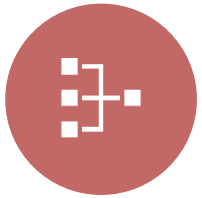
National Agency for Disaster Management (BNPB) Key Functions

- providing guidelines and directions for disaster management efforts
- determining the standards and requirements for disaster management implementation
- communicating information about disaster management activities to the public and reports on these activities to the President

NGOs

- The National Platform for Disaster Risk Reduction Indonesia (Planas PRB Indonesia)
- The Indonesian Red Cross (PMI)
- The Yogyakarta Special Region Disaster Risk Reduction Forum (DIY PRB Forum)
- The Forum PT

Challenges



Sub-optimal coordination and cooperation

Inconsistent data management and the absence of version control for disaster impact assessments

Overemphasis on emergency response at the expense of proactive disaster prevention and risk reduction efforts.

Limited technical capacity to implement effective disaster mitigation measures.

Outdated infrastructure, particularly drainage systems and flood control infrastructure

Lack of innovative financing mechanisms that go beyond traditional government budget allocations.

Lessons Learnt

Governance matters

Enhancing the role of local institutions

Balance Agility with Long-Term Resilience

Streamline, Itegrate, and Coordinate from the Start

Prioritize Community Needs

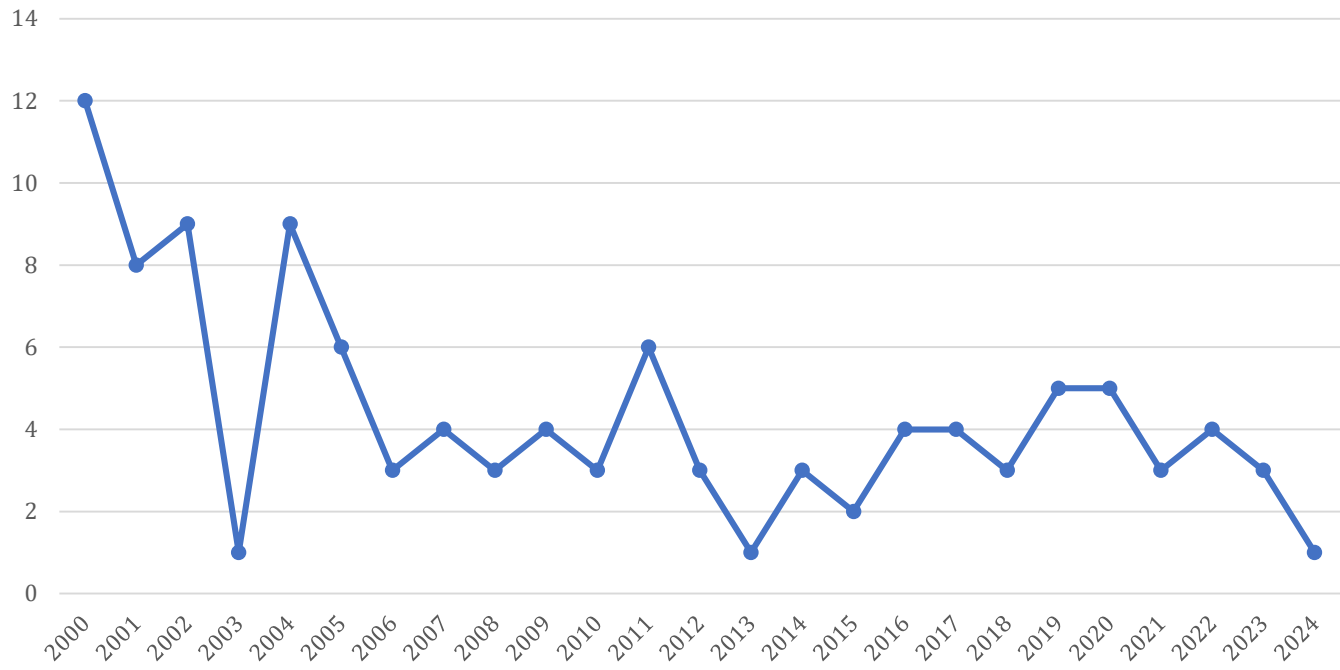
Reuse Debris Sustainably

Needs for Improvement

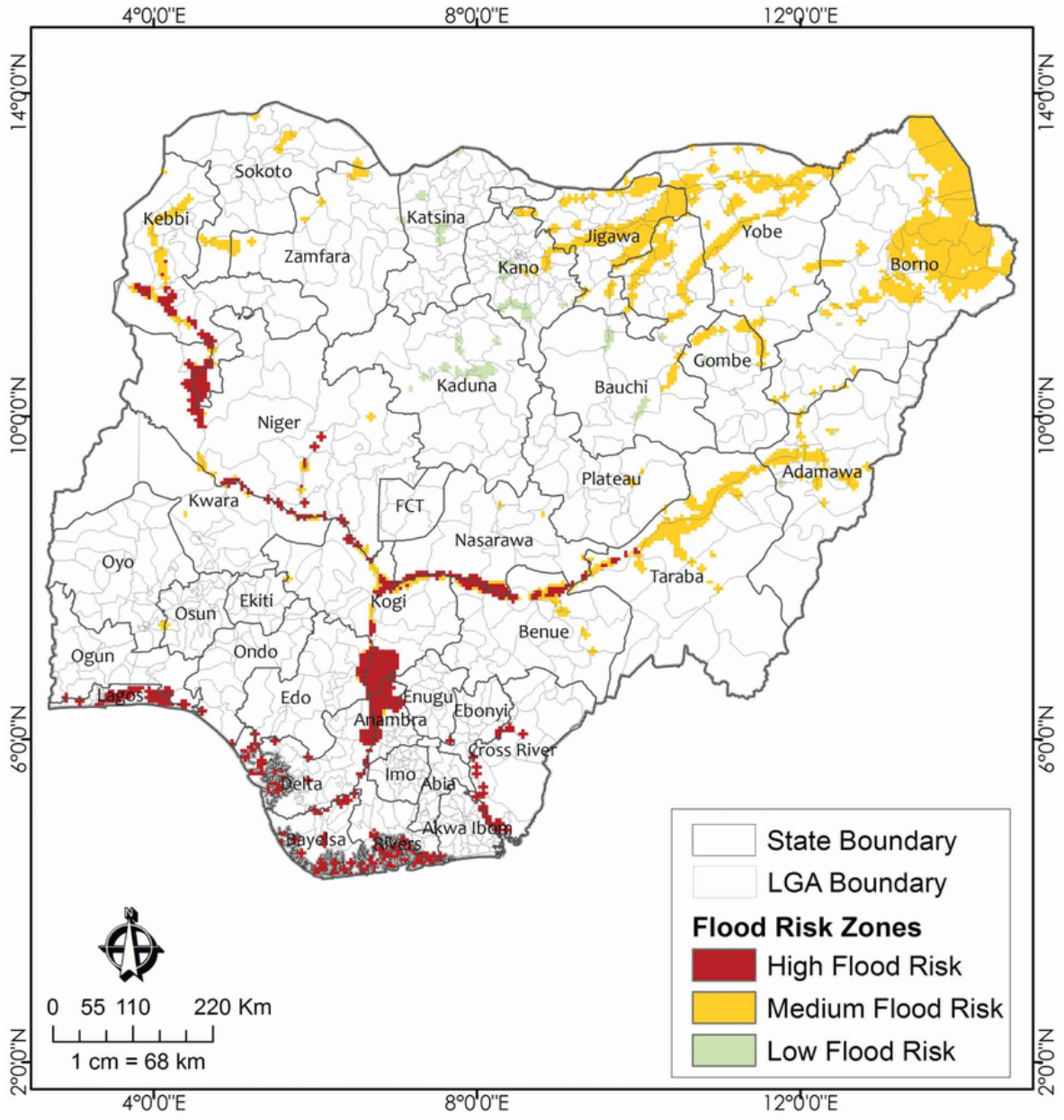
- Establish clear roles, incentives, and regulations for the private sector to enhance urban resilience.
- Encourage developers to adopt risk-informed investments through incentives and compliance with drainage and building code standards.
- Explore innovative municipal financing streams such as developer levies, incentive schemes, and public-private partnerships for drainage infrastructure and stormwater management.
- Implement programs for retrofitting critical infrastructure to withstand disaster impacts, supported by incentive or grant schemes.
- Consider opportunities for land value capture in floodplain management to promote sustainable development and resilience.

NIGERIA

Disasters Occurred in Nigeria between 2000-2024, by year



Flood Risk Map of Nigeria



Disasters Occurred in Nigeria between 2000-2024, by disaster type

Disaster Type	#Disasters	#Death	#affected
Flood (General)	22	1,438	5,100,000
Bacterial disease	21	8,430	302,715
Riverine flood	21	861	9,200,000
Viral disease	16	4,328	100,135
Infectious disease (General)	11	519	4,071
Flash flood	7	334	109,995
Lightning/Thunderstorms	3	54	16,012
Landslide (wet)	2	32	300
Storm (General)	2	1	1,507
Heat wave	1	60	0
Severe weather	1	7	1,500
Drought	1	0	19,000,000
Locust infestation	1	0	0
Total	***109***	***16,064***	***33,836,235***

Data Source: *EM-DAT, CRED / UC Louvain, Brussels, Belgium*

IDPs due to Disasters in Nigeria, 2008-2022

Hazard Type	IDPs (2008-2022)
Drought	-
Earthquake	-
Erosion	-
Extreme Temperature	-
Flood	8,512,546
Mass Movement	-
Storm	19,770
Wave action	-
Wildfire	-

Year	IDPs
2008	-
2009	140,000
2010	560,000
2011	6,300
2012	3,894,000
2013	117,000
2014	3,010
2015	100,600
2016	78,050
2017	122,000
2018	613,330
2019	157,092
2020	279,934
2021	24,000
2022	2,437,000

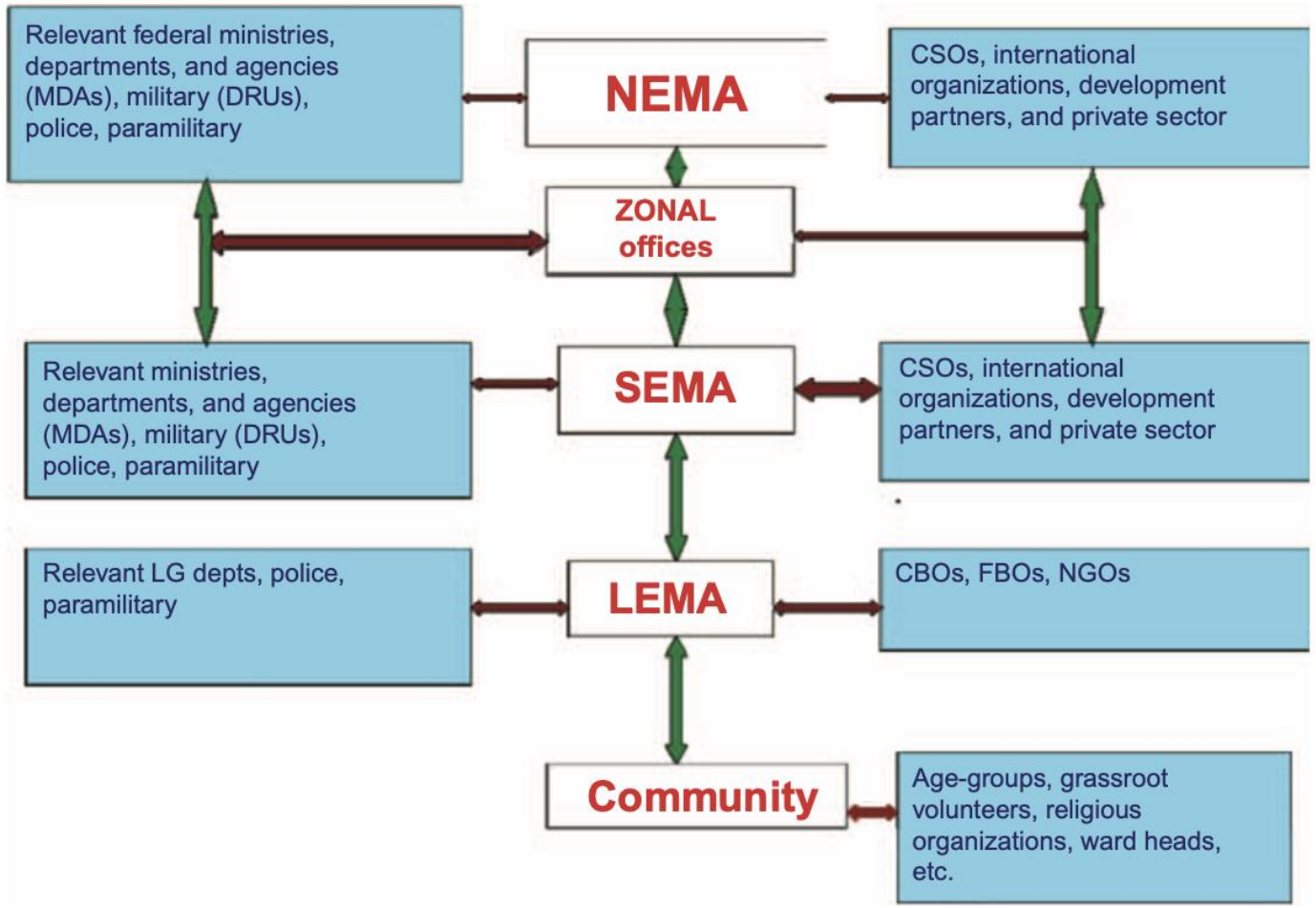
Notes: *Authors' calculations.*

Data Source: *Global Internal Displacement Database (https://www.internal-displacement.org)*

Development of DRM

- **Early Years (Post-Independence)**
- 1960s-1970s: Reactive disaster management
- 1967-1970: Biafra War – significant human and material losses
- 1976: National Emergency Relief Agency (NERA) established
  - Focused on relief distribution
  - Lacked a comprehensive disaster management strategy
- **Turning Point: The 1980s**
- Series of natural disasters (flooding, droughts)
- Highlighted the need for a structured approach
- **Establishment of NEMA (1999)**
- Tasked with prevention, mitigation, preparedness, response, recovery
- **Adoption of National Disaster Management Framework (NDMF, 2007)**
- Focus on preparedness, response, recovery, and mitigation

Institutional Structure of the Nigerian DRMS



INSTITUTIONAL FRAMEWORK

Core Institution

- National Emergency Management Agency (NEMA):

Peripheral Institutions

- State Emergency Management Agencies (SEMAs)
- Local Emergency Management Committees (LEMCs)
- Federal Ministries and Agencies
- Ministry of Health
- Ministry of Environment

NGOs

- Nigerian Red Cross Society
- International Non-Governmental Organizations (NGOs)
- Community Emergency Response Initiative (CERI)

Key Functions of National Emergency Management Agency (NEMA):

- Policy Formulation
- Disaster Response Coordination
- Capacity Building
- Public Awareness Campaigns

Challenges

- Climate Change and Environmental Degradation
- Multi-hazard Risks
- Lack of Comprehensive Legal Framework
- Coordination and Integration Issues
- Reactive Approach
- Funding and Resource Mobilization
- Exposure of Women

Lessons Learnt

MULTISECTORAL COLLABORATION

EDUCATION AND AWARENESS

EARLY WARNING SYSTEMS

PUBLIC SENSITIZATION

Needs for Improvement

- Enhance Legal Framework
- Improve Coordination
- Increase Funding
- Promote Proactive Approaches
- Support Disadvantaged Groups
- Invest in Infrastructure
- Strengthen Local DRR Institutions
- Capacity Building
- Implement Green Infrastructure

Thank You...