アジアにおける災害対応のイノベーションとTDAを取り入れた防災計画支援

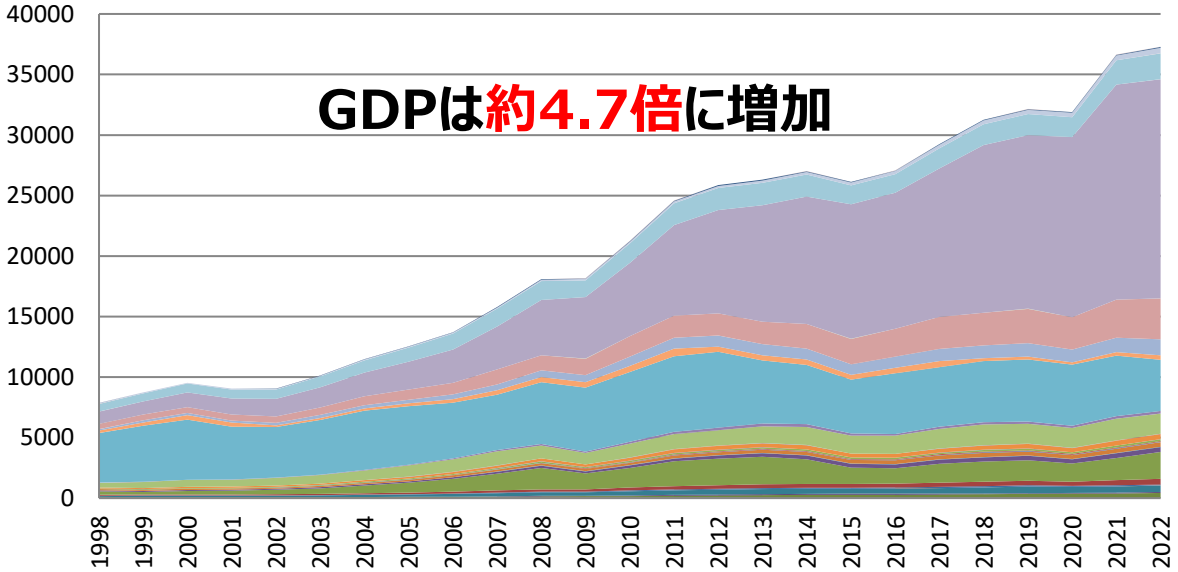
2024/9/3

アジア防災センター　リサーチフェロー

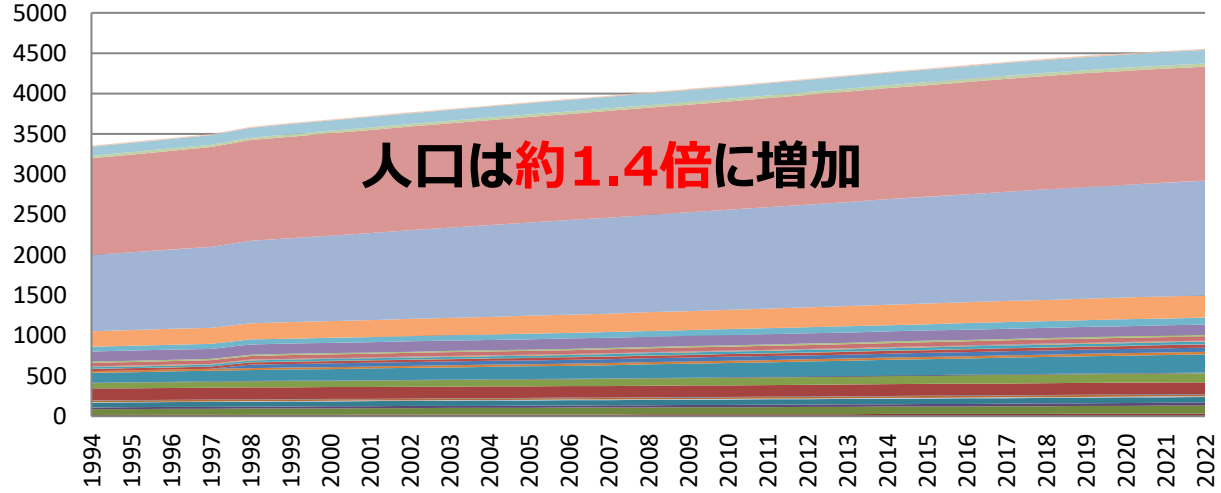
荒木田　勝　（ma-arakida@adrc.asia）

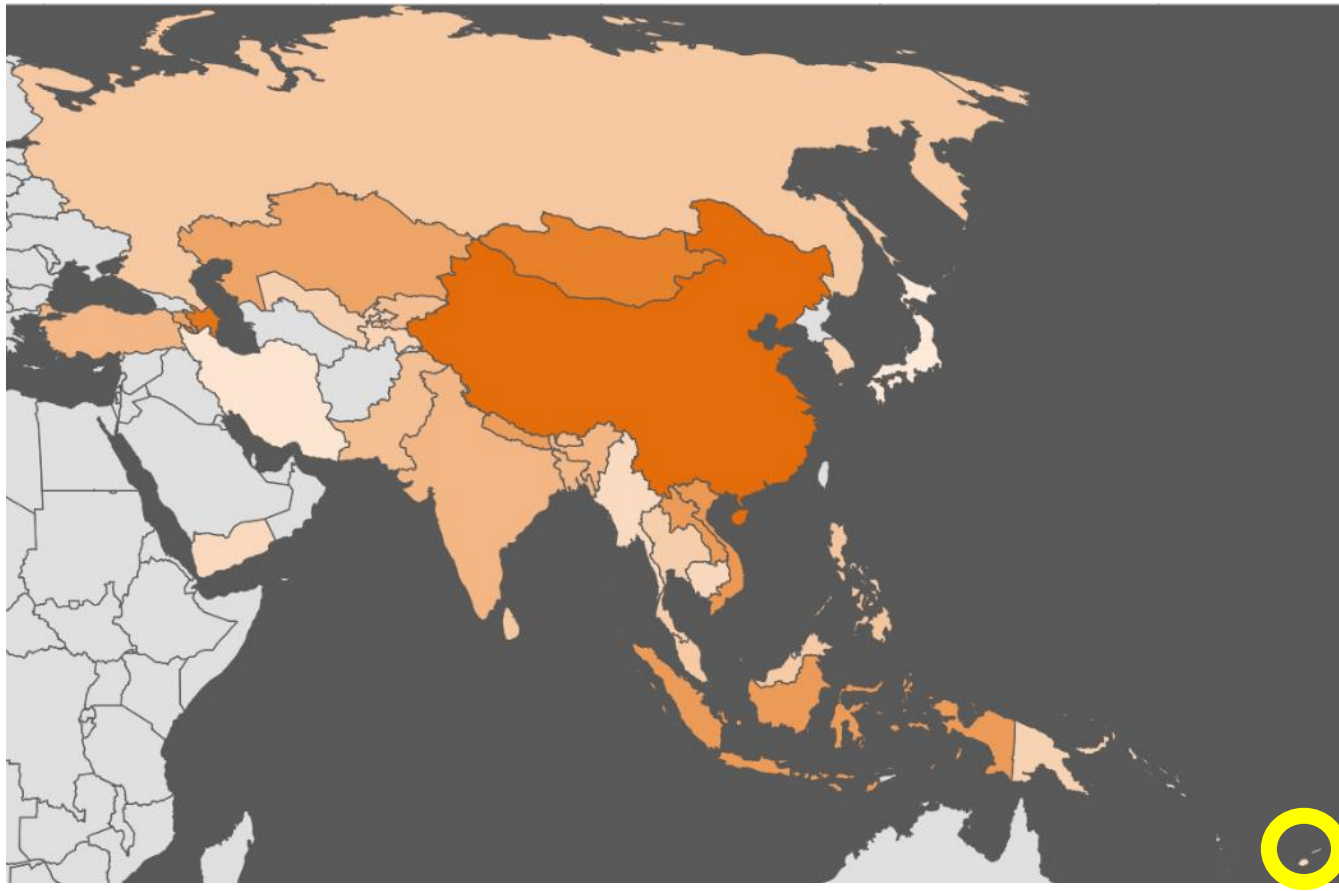
アジアの急速な経済成長

25年間のADRCメンバー国のGDPの推移



25年間のADRCメンバー国の人口推移





2023年にフィジーが32番目のメンバー国
としてアジア防災センターに加盟

1900-2023の世界の災害発生件数の推移

1900-2023
- 年平均117

過去10年 (2013-2022)
- 年平均349

2023
- 374

- **洪水:** 5,926 件 (41%)
- **台風等:** 4,731件 (33%)
- **地震:** 1,612件 (11%)

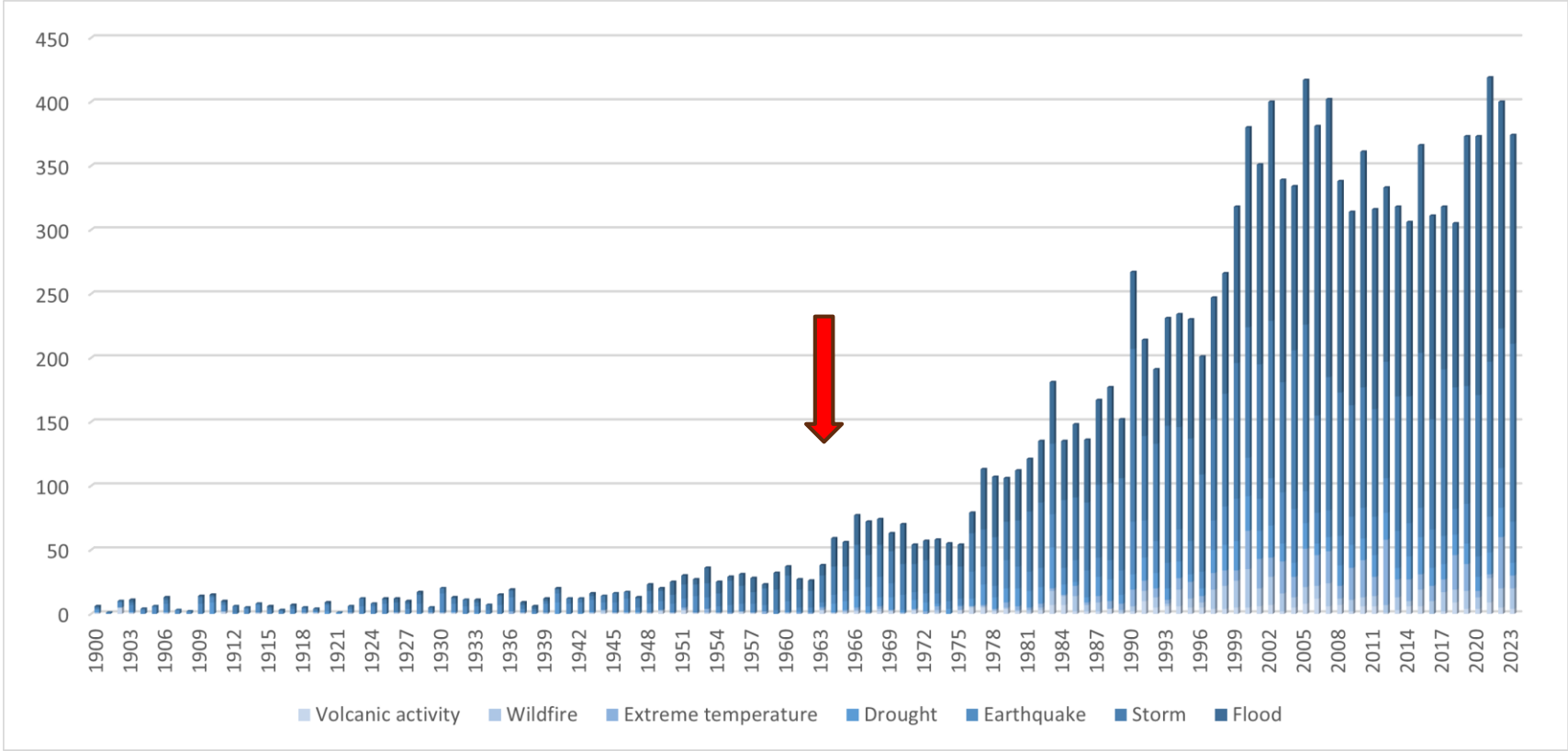
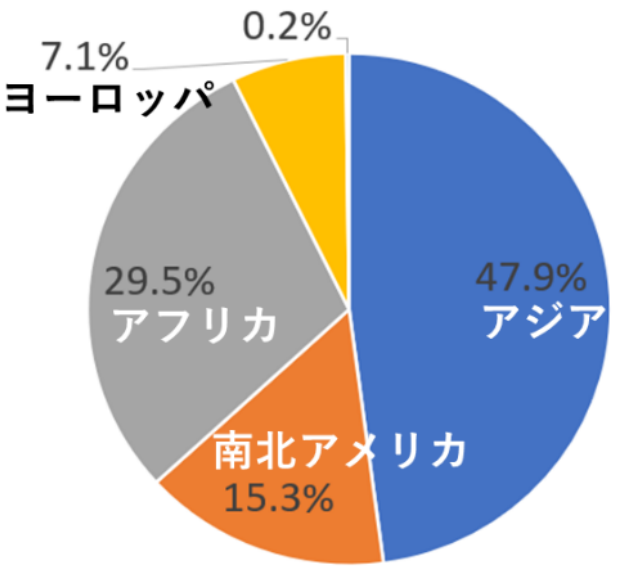


Figure 7.1 Trend of natural disaster occurrence 1900-2023
(EM-DAT/CRED, 2024)

災害が多発し被害が大きいアジア

災害発生件数、人的被害数、経済損失額、どれもアジアが最も多い。

災害による人的被害数の比較



出典：The OFDA/CRED International Disaster Database – www.emdat.be
Universite Cathorique de Louvain, Brussels (Belgium) and UN

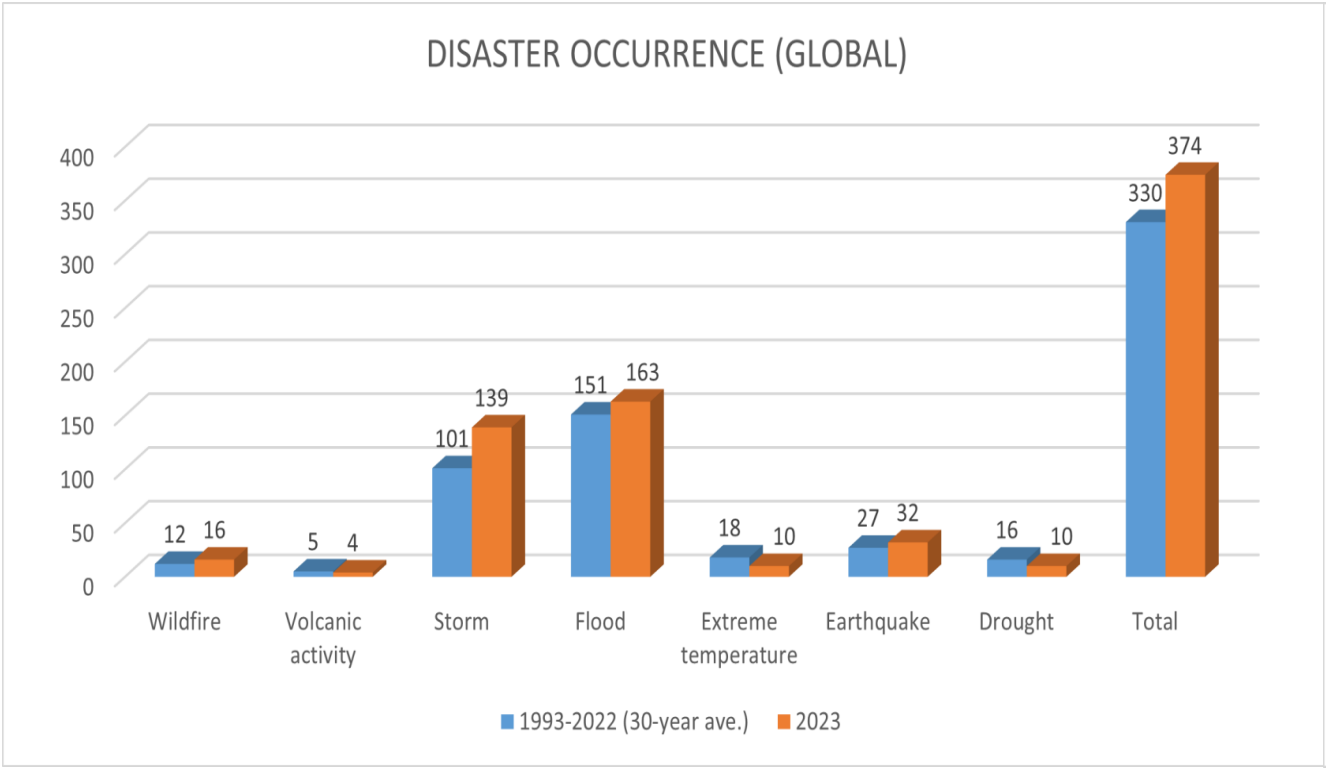
過去30年にアジアで発生した主要災害

災害種別発生件数比較 (世界とアジア)

過去30年と2023年の発生件数が増えたのは、嵐・洪水、山火事、地震。減少したのは異常気温、干ばつ、火山

世界：2023年(374)は過去30年平均(330)と比較して13%発生件数が多い。

アジア：2023年(152)は過去30年平均(132)と比較して15%発生件数が多い。



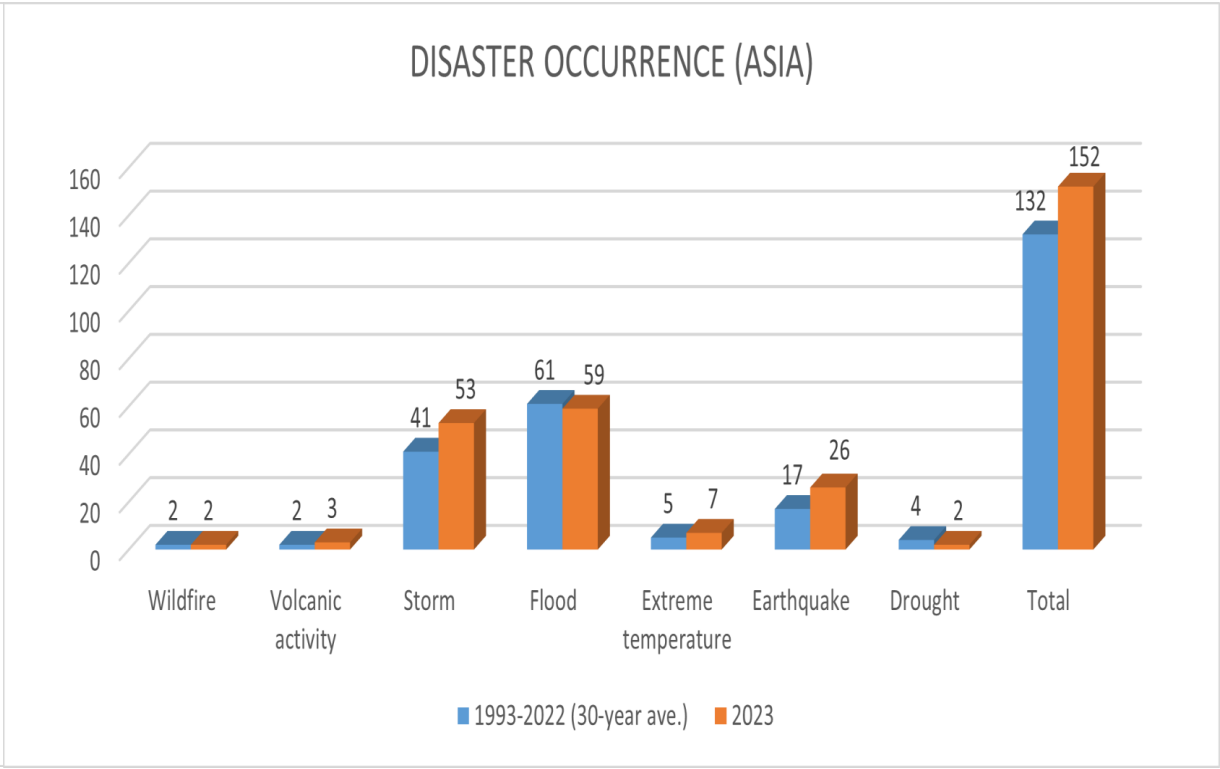


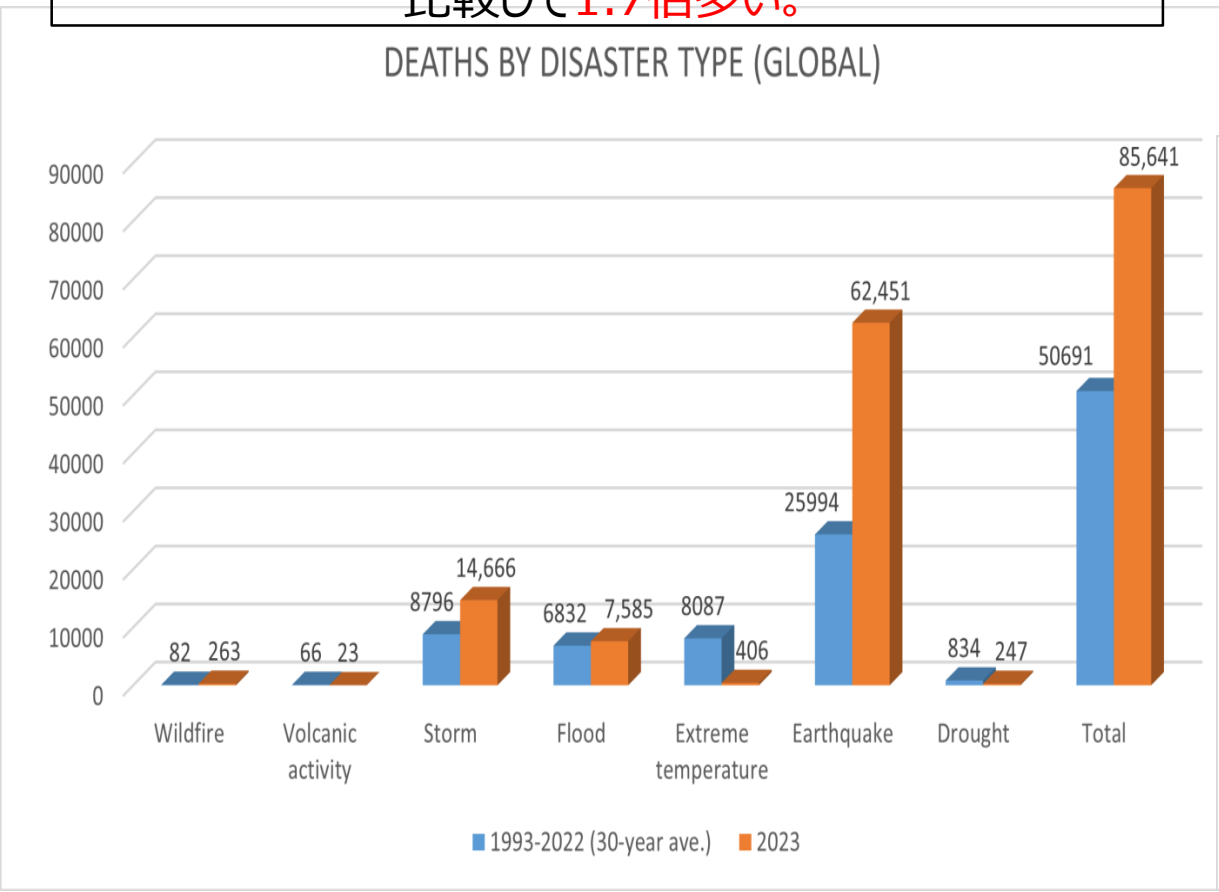
Figure 7.3 Global disaster occurrence by disaster type 1993-2022 vs 2023
(EM-DAT/CRED, 2024)

死者数 (世界とアジア)

トルコ・シリア地震の影響が大きい

世界：2023年(85,641)は過去30年平均(50,691)と比較して1.7倍多い。

アジア：2023年(63,017)は過去30年平均(30,167)と比較して2倍多い。



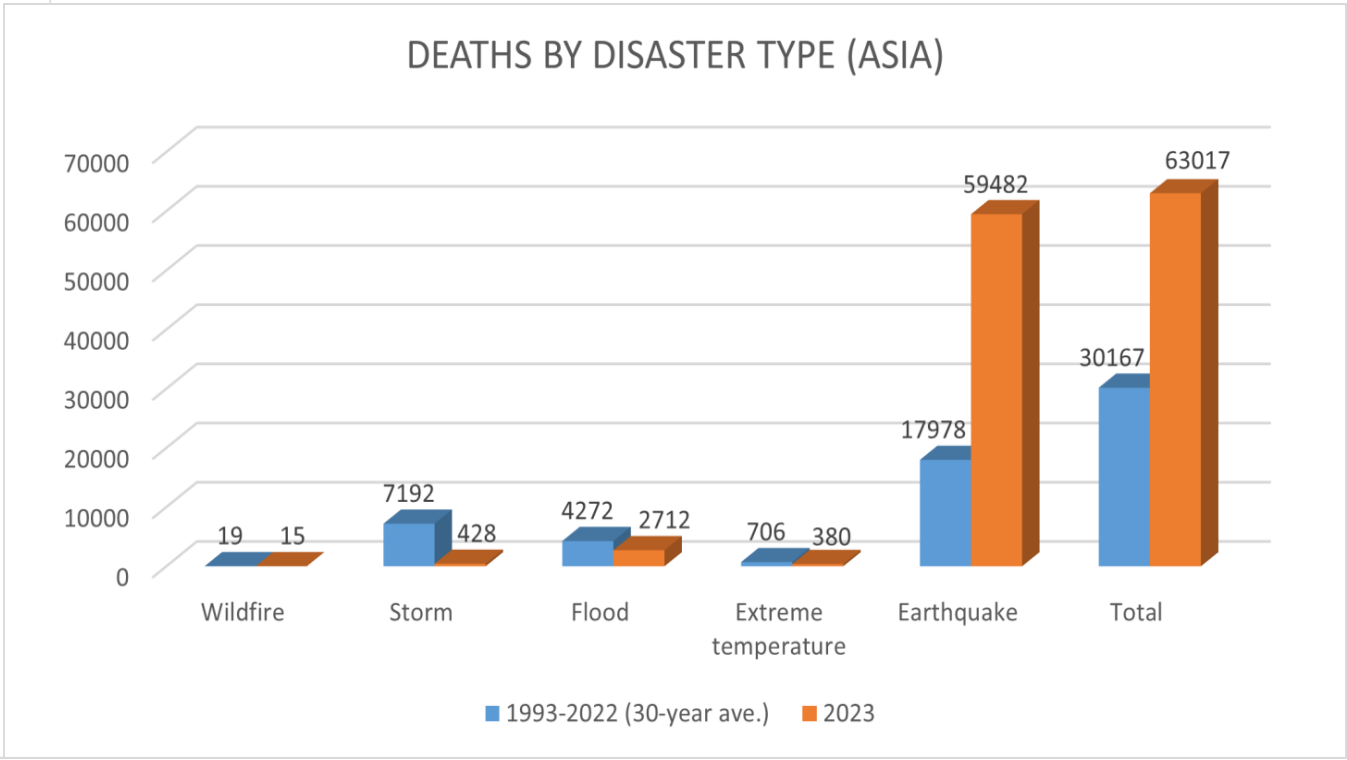


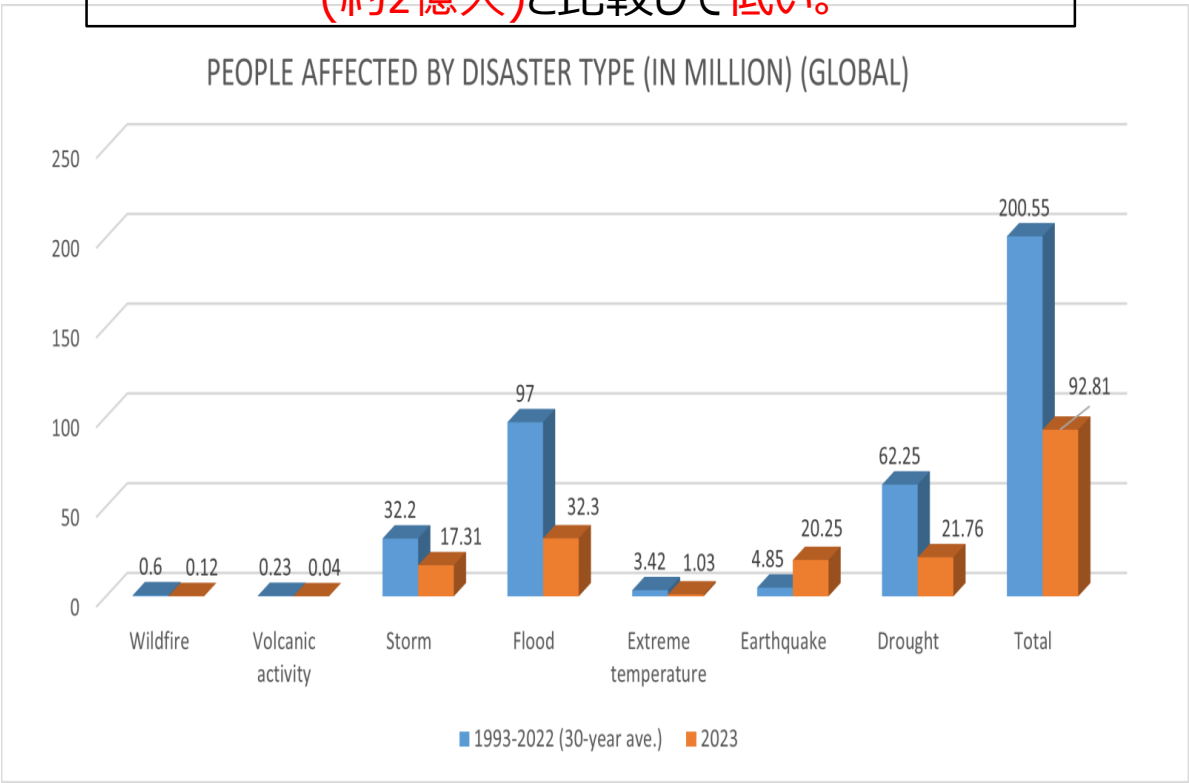
Figure 7.4 Number of people killed by disaster type 1993-2022 vs 2023
(EM-DAT/CRED, 2024)

被災者数 (世界とアジア)

地域別被災者分布

- **アジア：** - 66.33 million people (71%)
- **アフリカ：** - 12.54 million people (14%)
- **アメリカ：** - 10.73 million people (12%)

世界：2023年(約93百万人)は過去30年平均(約2億人)と比較して低い。



アジア：2023年(約66百万人)は過去30年平均(約1.7億人)と比較して低い。

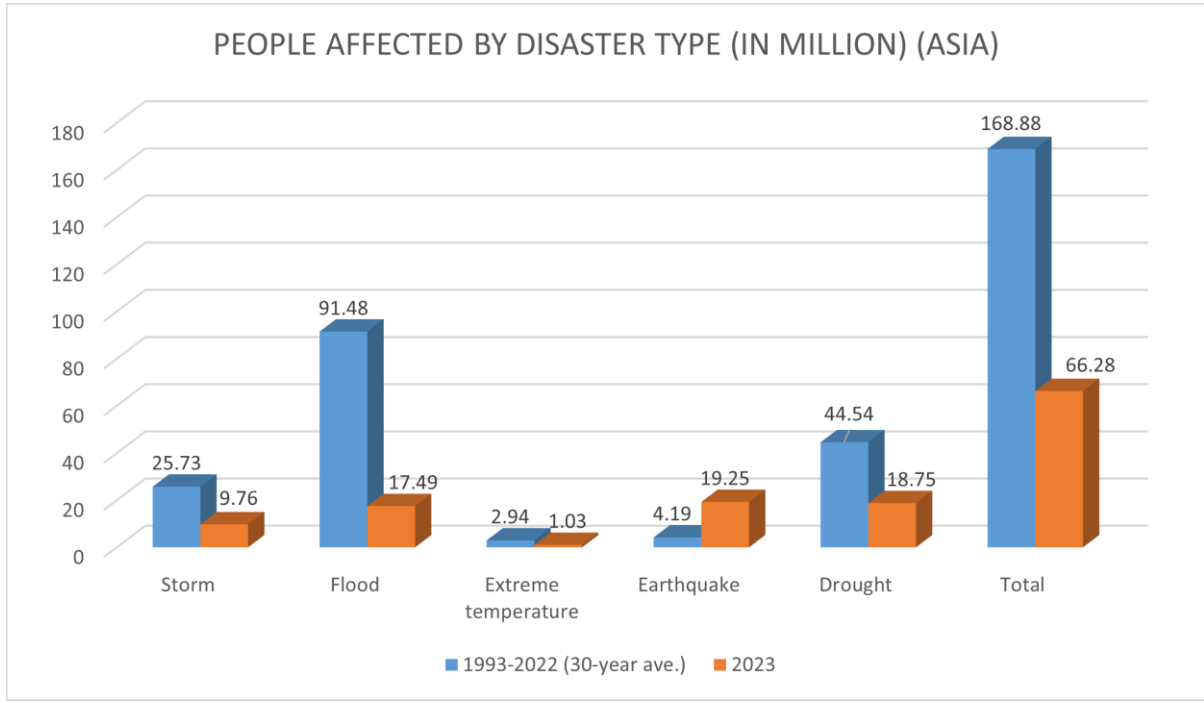
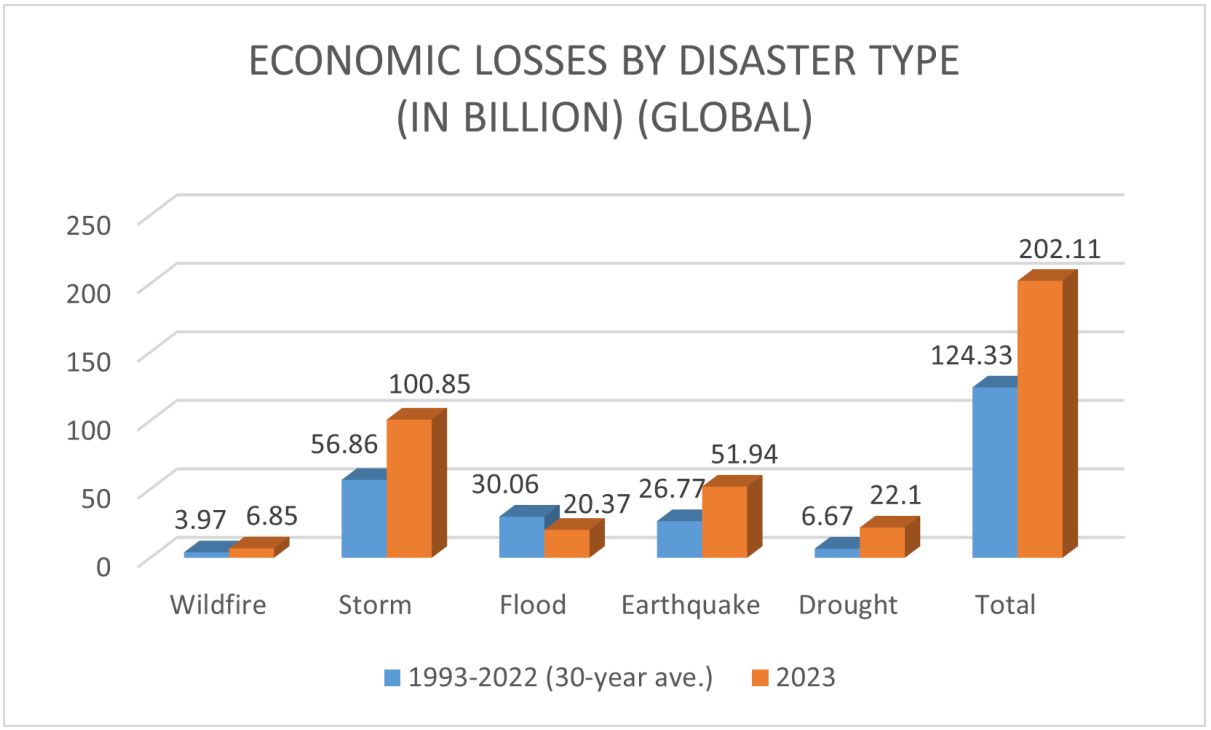


Figure 7.5 Number of people affected by disaster type 1993-2022 vs 2023
(EM-DAT/CRED, 2024)

経済損失 (世界とアジア)

洪水が都市部に発生しなかったのか検証が必要

世界：2023年(約2千億ドル)は過去30年平均(約1240億ドル)と比較して多い。



アジア：2023年(約760億ドル)は過去30年平均(約523億ドル)と比較して多い。

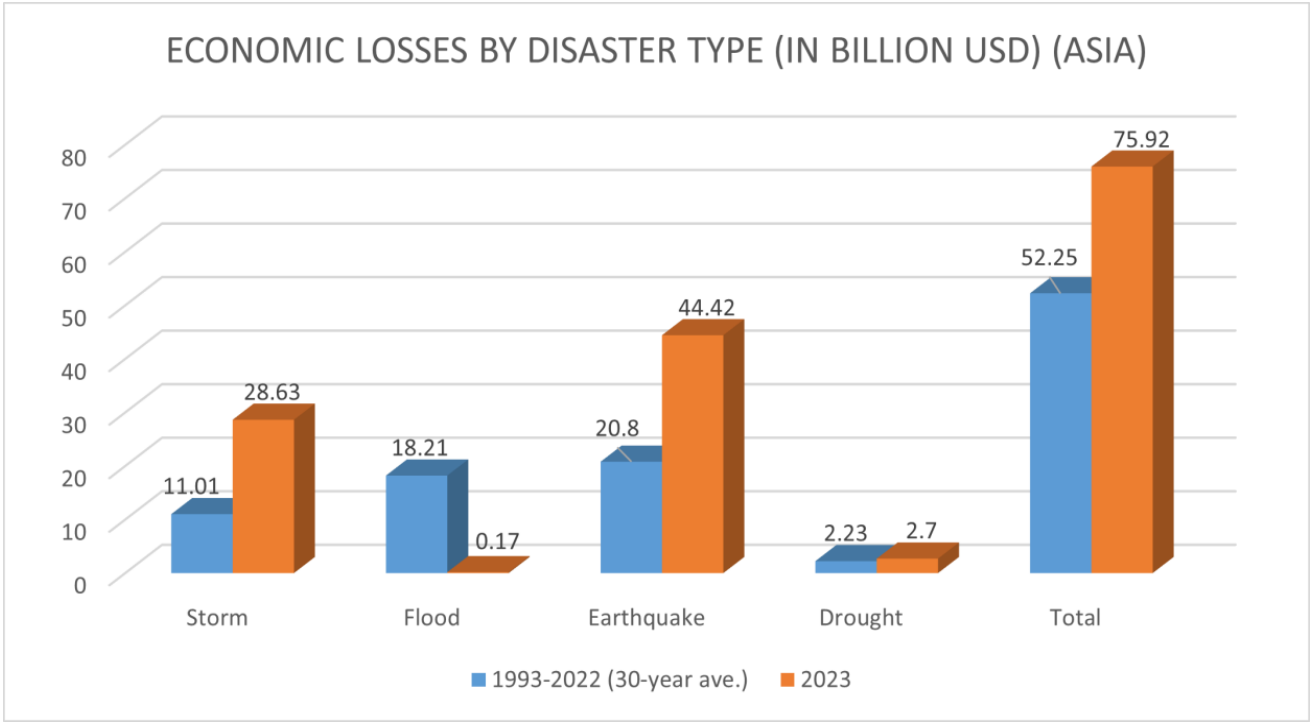


Figure 7.6 Economic losses by disaster type 1993-2022 vs 2023 (EM-DAT/CRED, 2024)

気候関連災害の発生推移（世界とアジア）

世界

1993-2022

- 年平均286

2013-2022

- 年平均307

2023

- 322

アジア

1993-2022

- 年平均111

2013-2022

- 年平均125

2023

- 121

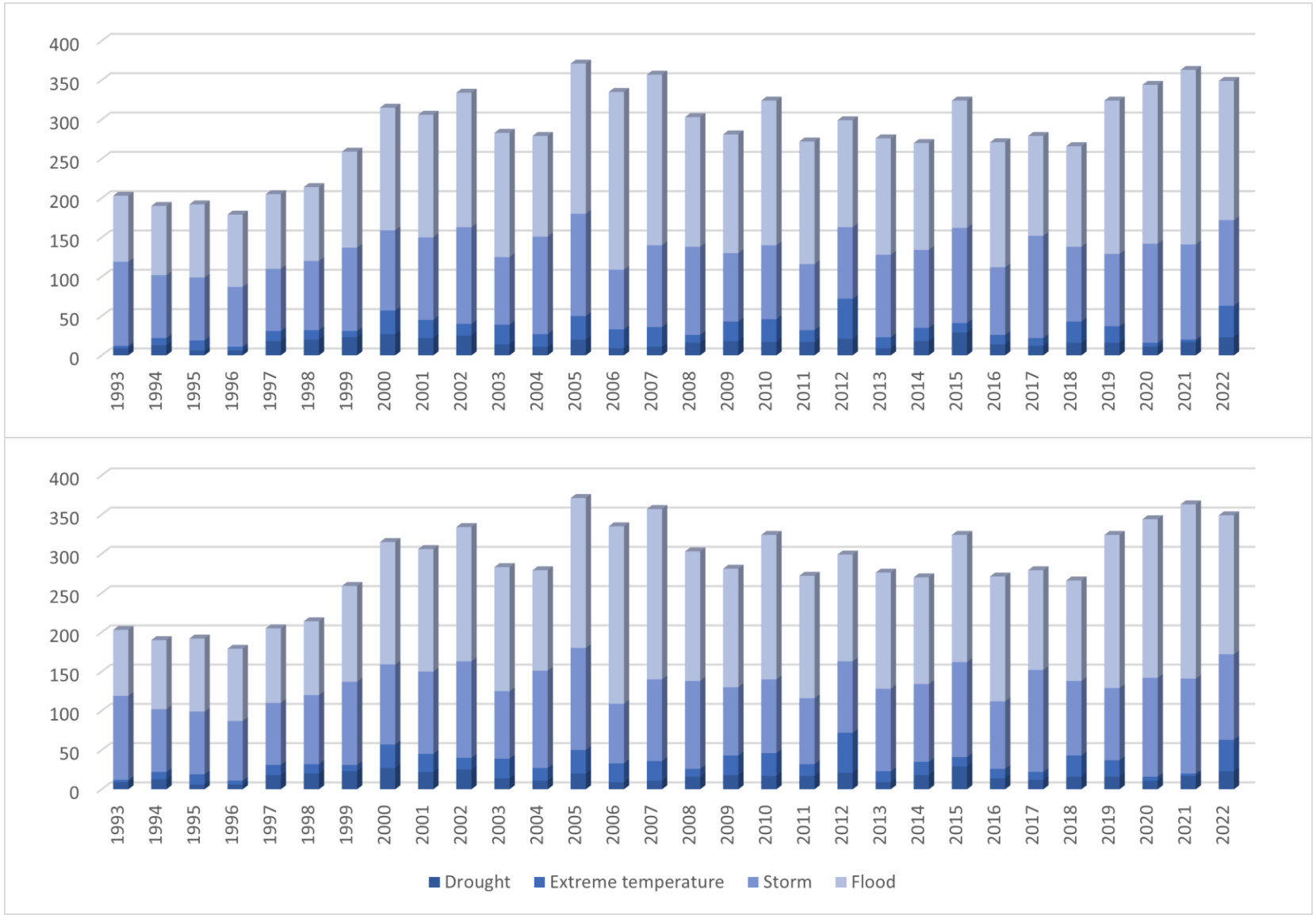
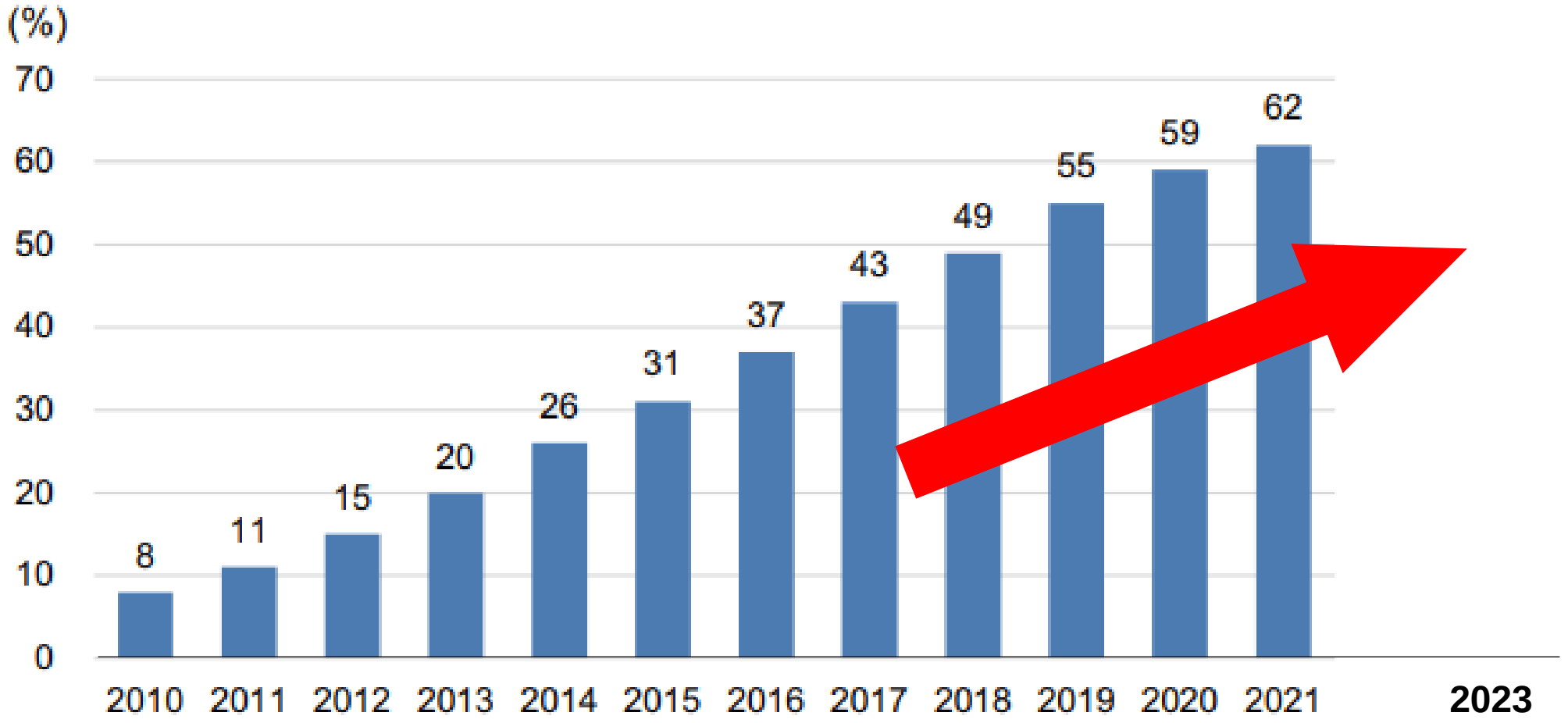


Figure 7.7 Global trend of climate-related disasters (drought, extreme temperature, storm, and flood) 1993-2022 (EM-DAT/CRED, 2024)

アジアにおけるスマートフォンの普及とSNS利用者の増加

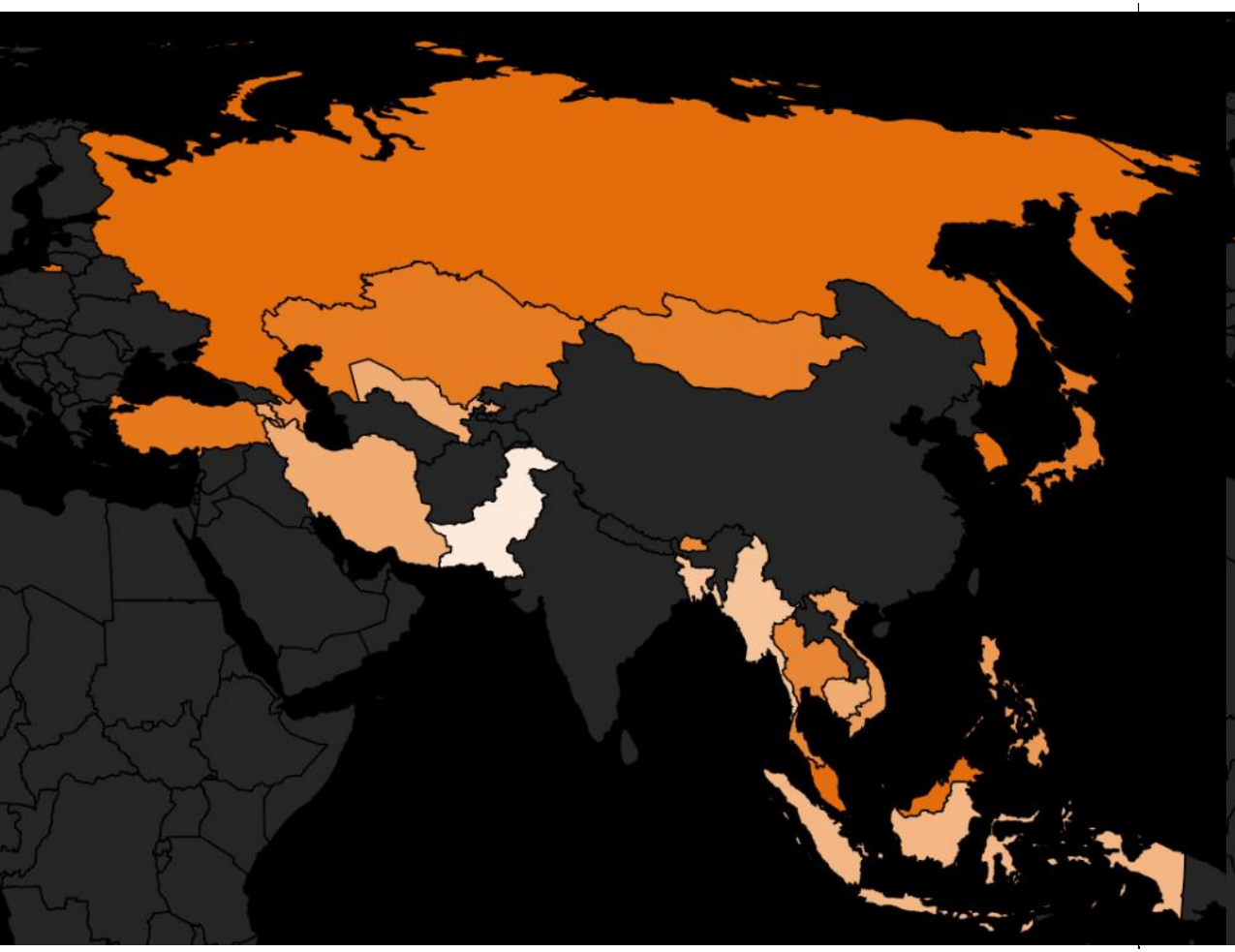


(Source) Prepared based on Statista

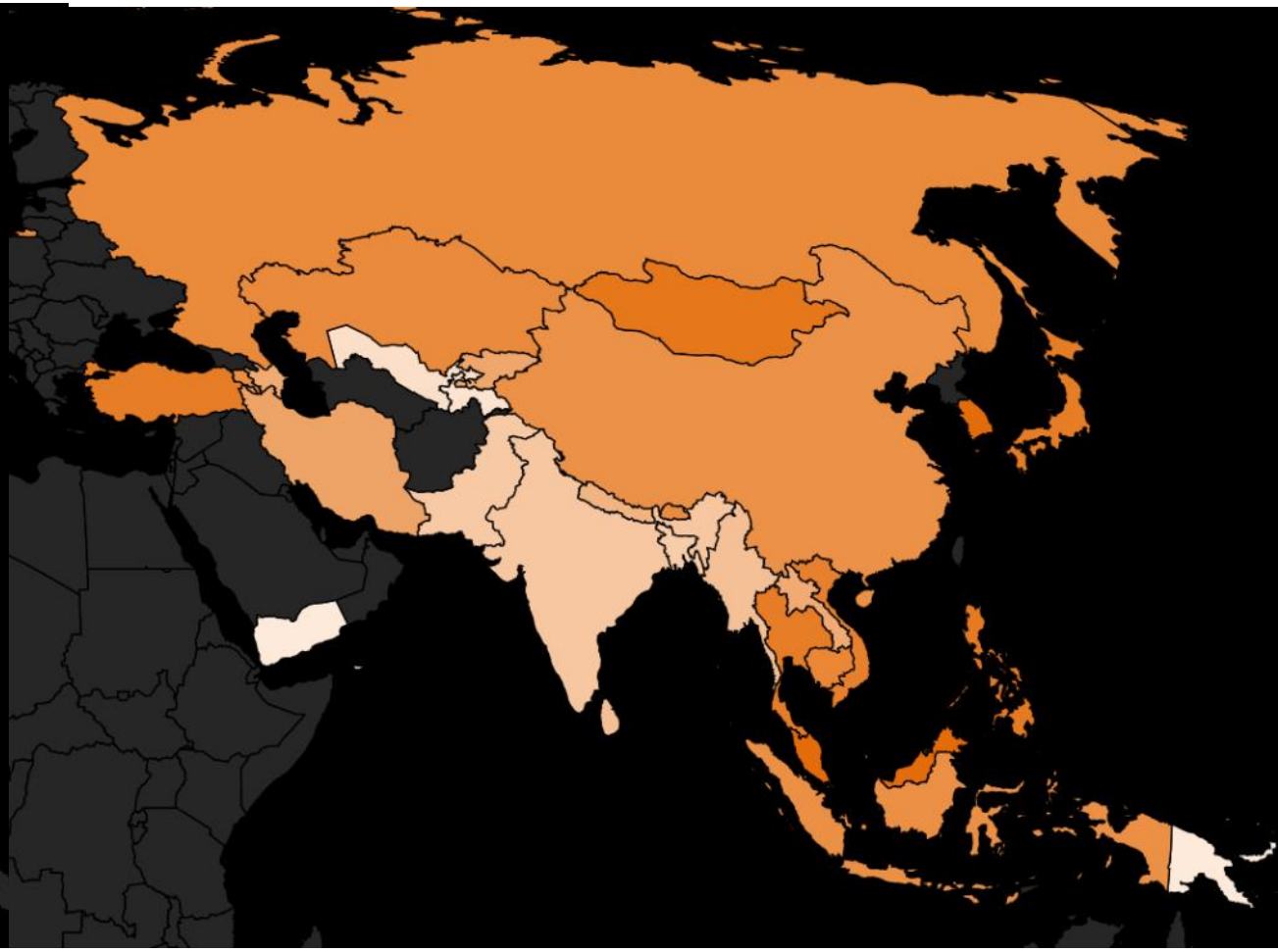
Source: Information and Communications in Japan White Paper 2022

アジアの携帯電話普及率、SNS利用率

携帯電話保有率は平均82%



SNS利用率は10%-90%以上で平均60%



（資料：https://datareportal.com/ 2022 stat等）

SNSを使った防災情報システム

タイLINEを用いた災害状況報告
(https://www.traffy.in.th/?page_id=3028)

fire alarm

road accident report

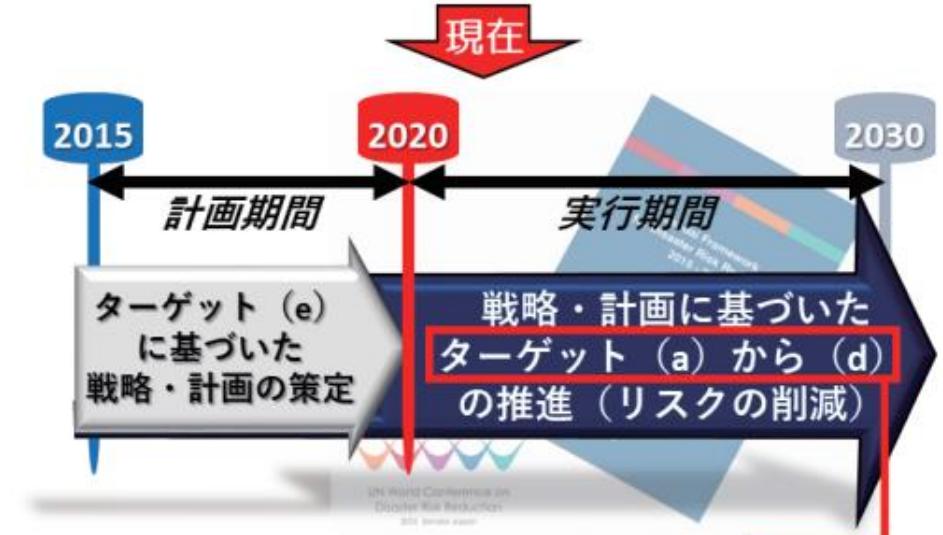
Drill in Ranau

Broadcast by Administrator and Situation Report by Participants

October 2023

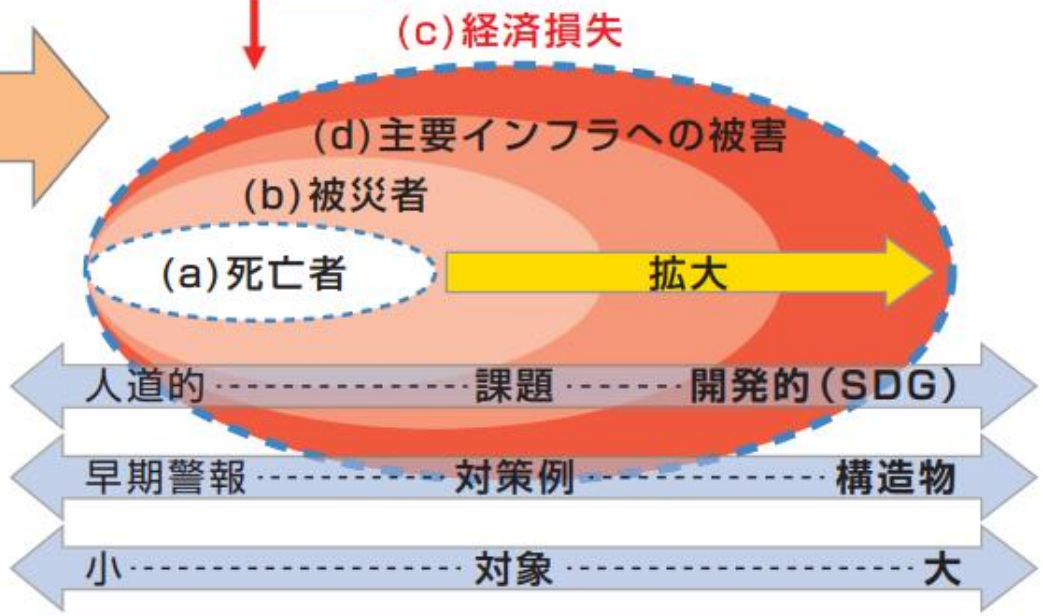
GeoThings Inc.
service@geothings.tw

仙台防災枠組推進のための防災計画づくり支援



仙台防災枠組は、グローバルターゲット(e)に基づいた国と地方の戦略を立てる2020年までの計画期間と、その戦略の実施を通じて他のターゲットを達成（=災害リスクの削減）する実施期間に分かれています。つまり、2021年以降は「災害リスク削減の実行」を着実に進めていくことが重要です。

特に資本集積地において、人的被害のみを減らす早期警報等の対策だけでは、災害による貧困の連鎖を断ち切れません。一方、経済被害を削減する事前防災投資を行えば、他のターゲットの達成にも繋がります。



出典：JICAの防災協力 災害に強い社会を人々に ―持続的な開発に向けた防災の挑戦―

Practical Method for Developing Local DRR Plans

Key terms & points

What is a local DRR strategy/plan?

Local DRR strategies/plans are developed by local governments together with national governments in line with the global and national legal framework. In order to prevent new and reduce existing disaster risks through investment, plans contains specific measures against disasters, along with goals in time-series, as well as budget arrangements. Most Community-based (Non-governmental) DRR plans are self-help and mutual-help DRR activities that supplement the local DRR plans. This definition follows the Sendai Framework and the UNDRR Terminology.

What are residual risks?

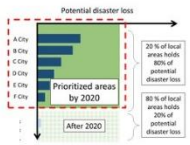
Residual risks are the remaining disaster risks caused by the design scale of structural measures, the progress of implementation, unexpected large-scale disaster, etc. Since it takes a certain time for measures to be implemented, residual risks are altered in accordance with their progress. Therefore, local DRR plans needs to consider and adapt to the changed conditions.

What are the roles of national and local governments as a public?

The national government has the primary responsibility to maintain legal and institutional framework and take necessary actions such as budget allocation for implementing local DRR plans. The national government coordinate among related organizations and establish an implementation structure to support the local governments. Local governments have the responsibility to reduce local disaster risks for residents and communities. This includes studying, planning, designing, budget allocation, implementation, operation and maintenance, monitoring and evaluation of measures, etc. Local governments provide instructions and directions to stakeholders. Some examples are self-defense measures in the private sector, such as observance of building codes and business continuity plans, to identify what they can do on their own to reduce the risks.

Which areas to focus on until 2020?

Areas should be prioritized that have higher disaster risks, and require urgent and actual countermeasures. For example, if 20% of the local areas hold 80% of total disaster risk, local DRR plans should be urgently prepared in those areas rather than others.



What are ways to increase the number of local government with practical DRR plan?

National governments should monitor the process carefully to avoid simple replications of a template plan. Local characteristics are different such as urban and rural, socio-economic situations, types and distribution of hazards, land use, governance, finance, etc. A trial development of a local DRR plan in a specific area should provide experiences and lessons learned to establish a tailor made method. To disseminate useful knowledge to other areas effectively, the following items are important: selection criteria of trial sites with different conditions and characteristics, detailed tasks to develop local DRR plans, and optimization of the plan to a feasible budget size.

Japan International Cooperation Agency (JICA)
Global Environment Department, Disaster Risk Reduction Group
TEL: +81-3-5226-3172 E-mail: Oba.Takashi@jica.go.jp; Goto.Ko@jica.go.jp

ver.20190510

8 STEPS

Practical Method for Developing Local DRR Strategies/Plans

Toward the Achievement on the Global Target (e) of the Sendai Framework

What is the "8 steps" and who uses it?

The "8 steps" is the practical and feasible method to develop a local disaster risk reduction (DRR) strategy/plan with concrete measures for investment.

Very few developing countries had already completed local DRR plans, or even when they did, most plans only contained actions to "respond" to emergencies and risks, and not to "reduce" risks.

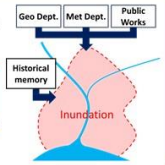
This "8 steps" enables leaders and planners of local governments especially in high risk areas, to formulate or improve their local DRR plans to promote investment and the steady implementation of measures to reduce residual risks.

8 steps for Developing a Local DRR Plan

STEP 1 Collecting local hazard information

- ✓ Refer to hazard information prepared by national or higher authorities.
- ✓ In case of insufficient hazard information, utilize historical disaster records instead, for efficiency in terms of time and budget.

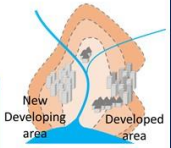
<Key Questions>
- ☐ *What types of hazards may exist?*
- ☐ *Where are these hazards located?*



STEP 2 Understanding local disaster risks

- ✓ Recognize existing risks and possible future risks which hinder development.
- ✓ Identify and prioritize risks which has large scale impact.
- ✓ Focus on reducing the prioritized risks until 2020 and the other risks after 2020.

<Key Questions>
- ☐ *Which areas are under risk, and why?*
- ☐ *Which areas might face risk in the future, and why?*
- ☐ *Which type of disaster is high in risk?*
- ☐ *What are the contents and progress of the city development plan?*
- ☐ *Where do people live?*
- ☐ *Which are the critical infrastructures and basic services facilities, and where are they located ?*



STEP 3 Confirming DRR plans by national and other authorities

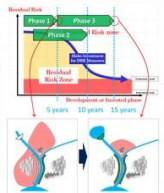
- ✓ Refer to urban plans and DRR plans developed by national governments, and confirm the main structural measures in each disaster types.

<Key Questions>
- ☐ *Is there any on-going projects to reduce the identified risk areas?*
- ☐ *Is there any plan for projects in near future to reduce the identified risk areas?*
- ☐ *Who are the concerned organizations for DRR?*

STEP 4 Identifying residual risks considering time-series

- ✓ Study implementation schedule of structural measures, because the measures take time to complete and show effectiveness in protecting risks.
- ✓ Identify the change in residual risks corresponding to time-series.

<Key Questions>
- ☐ *Which risks are to be reduced after completion of on-going and planned projects?*
- ☐ *How long will it take for those all projects to be completed?*
- ☐ *What are the remaining risks?*



STEP 5 Listing all necessary DRR measures by local governments

- ✓ List all necessary measures including both structural and non-structural measures to reduce residual risks.
- ✓ Refer other related plans such as land use developed by local governments, then to compile into a local DRR plan.

<Key Questions>
- ☐ *What kinds of measures will contribute to reduce risks?*
- ☐ *Are those measures categorized as short-term, midterm or long-term?*
- ☐ *Which level of the government can take case of those measures?*

STEP 6 Prioritizing DRR measures

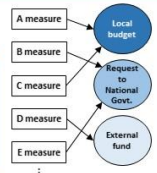
- ✓ Develop a shortlist to reduce residual risks in consideration of feasibility, cost-effectiveness, financial resources, etc.
- ✓ Seek the best balance of structural and non-structural measures.
- ✓ Obtain consensus with stakeholders and government endorsement of the developed plans.

<Key Questions>
- ☐ *Which measure is the most critical to reduce residual risks?*
- ☐ *Which are the next critical measures to reduce risks?*
- ☐ *How can these measures be actually implemented?*

STEP 7 Arranging budget allocation in necessary levels

- ✓ Identify responsible organization to bear the expenses of implementation. In case of lack of budget, actions are necessary to seek for internal or external funds.

<Key Questions>
- ☐ *Who are the concerned organizations?*
- ☐ *How should the concerned organizations share the expenses?*
- ☐ *What is the negotiation procedure among concerned organizations? (e.g. participate in councils to obtain approval by leaders, communicate with treasury, submit proposals to donors, etc.)*



STEP 8 Implementing DRR measures and reviewing periodically

- ✓ Periodically review and revise the plans including hazard information and national DRR plans, to adapt to changes in the situation.

<Key Questions>
- ☐ *What are the roles and responsibilities of each organization in implementation?*
- ☐ *How often should the plan be reviewed?*
- ☐ *Which items should be reviewed? (e.g. hazard info., national DRR plan, land use, and etc.)*
- ☐ *What will be the procedure for revision?*

8 steps:

STEP 1　ハザード情報の収集
STEP 2　リスクの理解
STEP 3　国家・関連機関の災害リスク削減計画の確認
STEP 4　残余リスクの把握
STEP 5　災害対策手法検討
STEP 6　災害対策手法優先順位付け
STEP 7　予算調整
STEP 8　計画実行・モニタリング・計画改訂

⇒ By compile these information, it becomes a local DRR plan to reduce disaster risks.

STEP 1

Target Hazard for the DRR Plan:

Hazard	

1) Write the worst/most frequent hazard in the city

2) List the major disasters situation by the target hazard and others in the city

Record of Major Disasters by the Target Hazard and Others in the Target City

Date (dd/mm/yyyy)	Type of Hazard	Affected Area	Damage Situation

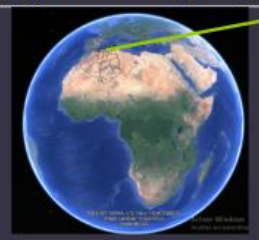
Hazard Map
Or Map of Disaster Affected Area

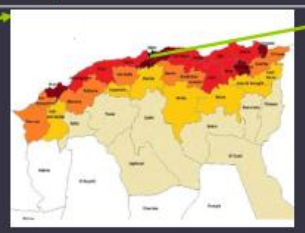
3) Identify the affected area by the major disasters

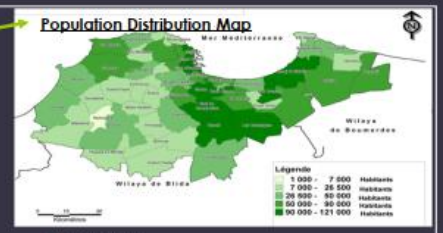
Photo of Target City

4) Paste photo of the disaster

STEP 0 Name of the Target City: ALGIERS







The province of Algiers is divided into 14 administrative districts, encompassing a total of 57 municipalities.

Population:

·Population (2018): 4,154,792 inhabitants, ·Annual Demographic Growth Rate (2008/1998): 1.60 %

Critical Infrastructures:

Schools:2330
Colleges/Universities:4 centers
Hospitals:35
Airports: 01
Ports:01
Sewage Treatment:98%
Water Supply:99%(5 597 km)
Urban electrification rate: 98.90%
City gas coverage rate: 79.05%.

Major Economy:

Algiers is an economic, cultural, and political hub in the Maghreb and Mediterranean region, serving as the gateway to African countries. The city hosts major economic facilities such as ports, airports, commercial hubs, industrial and activity zones, tourist areas, and logistics spaces. It is home national and international central administrations and diplomatic representations

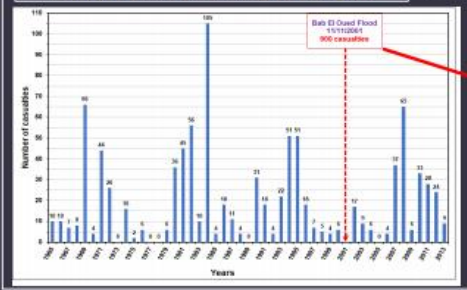
STEP 1 located of flood Area in Algiers

STEP 1 Hazard: Flood/Flash Flood

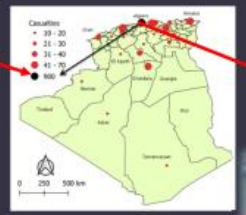
Target Hazard for the DRR Plan: Record of Major Disasters by the Target Hazard

Date (dd/mm/yyyy)	Type of Hazard	Affected Area	Damage Situation
9 -10 NOV 2001	Flash Flood	Bab el oued	900 "DEATHS, MISSING", 320 INJURED, 2800 residences, 1,000 vehicles, 3,000 telephone lines, several kilometers of the RN11 road, and the major collector of Ouled M'Kacel
7 NOV 2010	Urban Flood	Rue Hassiba-Ben-Bouali	30 DEATHS and 275 flooded houses and others
21 MAY 2013	River flooding and urban Flood	Oued Benimessous	1 DEATH AND 500 flooded houses and others

Historical data on floods in Algeria (1965-2013)

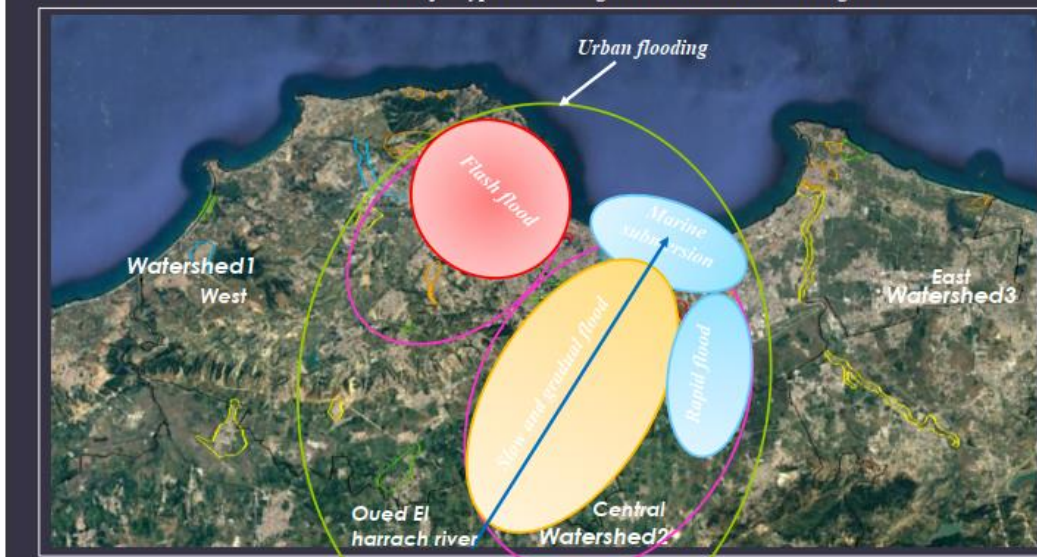


The casualties map of floods in Algeria



Inundation in 2001 in Algiers

STEP 1 The major types of flooding in central watershed of Algiers



STEP 2 Details of the Target Risk

Hazard	Frequency/ Scale (e.g. 1X/100 years)	Affected Area
FLOOD	263 mm over 18 hours ,Return period 200 years	BAB EL OUED IN WOTERSHEDS OUED KORRICH

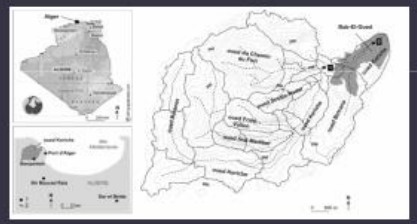
Estimation of Damage by the Hazard

(Example of Category)	Estimated Damage and Amount
People (Killed, injured, affected, evacuated, isolated)	900 "DEATHS, MISSING", 320 INJURED 10,000 families
Public Buildings	Most of the infrastructure has been destroyed or damaged, with 1,400,000 cubic meters of soil and debris carried to the lower parts of Bab El Oued. The main collectors and water evacuation structures are completely obstructed, causing significant damage to water supply, electricity, and gas networks, as well as to the postal and telecommunications systems. The potable water and sanitation network has been severely damaged, and CW 119 has sustained damage with erosion of the central median. Triolet market is completely submerged under water and mud. and 156 educational establishments and infrastructure damaged, with a total cost exceeding 5 billions Algerian dinars
Public Utilities (Electricity, water, gas, etc.)	The failure of the retention, drainage, and evacuation network, along with the obstruction of the urban collector and its tributaries due to undersizing its retention capacity.
Communication Facilities (Telephone, internet, etc.)	3,000 telephone lines
Private Buildings (Major factories, economic zones, etc.)	3721 damaged houses
vehicles	1,000

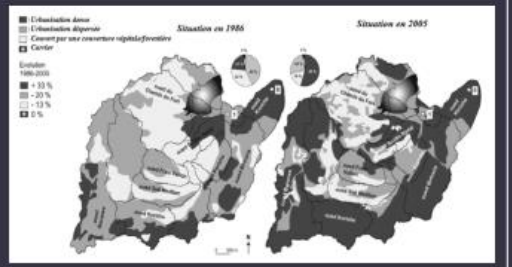
STEP 3 DRR Related Projects by the Relevant Organizations

N	Project Name	Organization in Charge	Project Area	Project Period	Outline of Project Activities (DRR Measures)
P1	Oued Ouchaih deviation	DH	Central watershed	Since 2015 until now, the operation has been ongoing. (06 Years)	The completion rate is 82%, and the operation is currently in the process of finalizing the work (a portion of the flow from the eastern part of the Central Watershed Basin is diverted for discharge into the Central Basin)
P2	river development works of oued el harrach	DH	Central watershed	Since 2012 until now, the operation has been ongoing.	The completion rate is 96%, and the operation is currently in the process of finalizing the work
P3	Implementation of water quality analysis systems and flood alert systems for Oued El Harrach	DH, SEAAL, CTH	Central watershed	Since 2017 until now, the operation has been ongoing	Integrated management through a remote data transmission and management system
P4	Rehabilitation and renewal works of sewer collectors	DH, SEAAL	3 watersheds	2001 until now	to improve the efficiency, functionality, and reliability of the sewer system, thereby reducing the risk of sewer overflows
P5	Flood Risk Prevention Plan (PPRI)	AGIRE	National level	Ongoing	action plan between 2020 and 2030 the national strategy for disaster risk prevention and management
P6	emergency plans for provinces, municipalities, and sensitive sites.	MI trough PAPC and CP	Local level	2021 to 2023	Develop guidelines for preparing emergency plans at the provincial and municipal levels, digital database organization, and the committees responsible for assessing sensitive sites
P7	Regular removal of debris from rivers and sanitation networks.	DH, DTP, SEAAL, PAPC	Local level	Annual measures	to improve the efficiency, functionality, and reliability of the sewer system, thereby reducing the risk of sewer/ rivers overflows
P8	Creating a national platform covering all risks	DGMDA+DNRM	NL+LL	Ongoing	Create a national database

STEP 2 Details of the Target Risk



Impact of Urbanization on Flooding Events in Algiers"

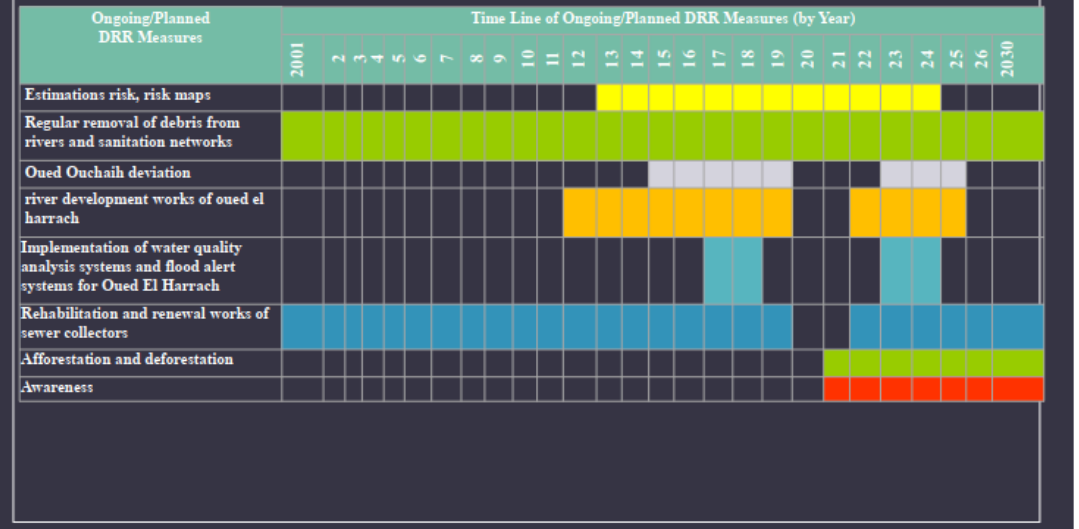


STEP 3

STEP 4

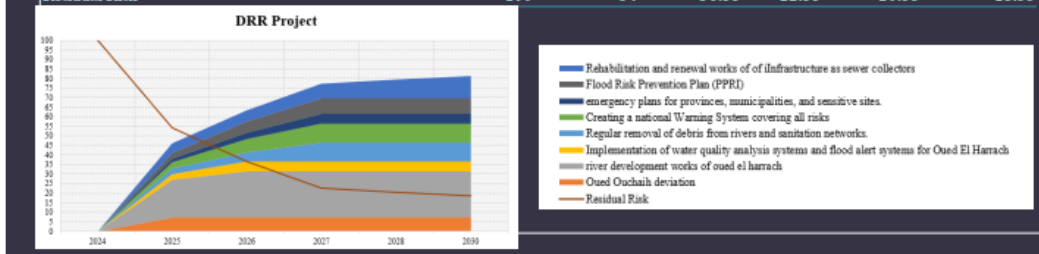
	Project Name	DRR Measures	Duration years	Start Date	End Date	Contribution Ratio to Reduce Disaster Risks
SP1	Oued Ouchaih deviation	The completion rate is 82%, and the operation is currently in the process of finalizing the work (a portion of the flow from the eastern part of the Central Watershed Basin is diverted for discharge into the Central Basin)	8	2015	2025	5
SP2	river development works of oued el harrach	The completion rate is 96%, and the operation is currently in the process of finalizing the work	10	2012	2025	Affect.area Cent.wsh 4089 Affect.area Riv harrach 1716 R.RISK 58,27% /1716 RATION 24,45
SP3	Implementation of water quality analysis systems and flood alert systems for Oued El Harrach	Integrated management through a remote data transmission and management system	3	2017	2025	3
SP4	Rehabilitation and renewal works of sewer collectors	to improve the efficiency, functionality, and reliability of the sewer system, thereby reducing the risk of sewer overflows	Annual Program Operations	2001	On going	3
NP5	Flood Risk Prevention Plan (PPRI)	AGIRE	10	2020	2030	5
NS6	emergency plans for provinces, municipalities, and sensitive sites.	Develop guidelines for preparing emergency plans at the provincial and municipal levels, digital database organization, and the committees responsible for assessing sensitive sites	2	2021	2023	3
NS7	Regular removal of debris from rivers and sanitation networks.	to improve the efficiency, functionality, and reliability of the sewer system, thereby reducing the risk of sewer/ rivers overflows	Annual Program Operations	2001	On going	5
NS8	Creating a national platform covering all risks	Create a national database	4	2021	On going	0,5

STEP 5 and 6 — Time Line of Ongoing/Planned DRR Measures (by Year)



STEP 4

DRR Project	2024	2025	2026	2027	2028	2030
Oued Ouchaih deviation	0	7	7	7	7	7
river development works of oued el harrach	0	20	24.45	24.45	24.45	24.45
Implementation of water quality analysis systems and flood alert systems for Oued El Harrach	0	3	5	5	5	5
Rehabilitation and renewal works of of iInfrastructure as sewer collectors	0	5	6	8	10	12
Flood Risk Prevention Plan (PPRI)	0	3	6	8	8	8
emergency plans for provinces, municipalities, and sensitive sites.	0	2	3	5	5	5
Regular removal of debris from rivers and sanitation networks.	0	3	5	10	10	10
Creating a national Warning System covering all risks	0	3	7	10	10	10
Reduced Risk	0	46	63.45	77.45	79.45	81.45
Residual Risk	100	54	36.55	22.55	20.55	18.55



STEP 5 and 6 — DRR Measures to be requested to and implemented at local and National Level (if any)

STEP 7 Budget Arrangement for DRR Measures to be conducted by Local Government

Priority	DRR Measures	Estimated Cost (Dinars)	Executing Organization	Financing Source and Contribution Rate (%)					
				Local Gov	%	National Gov	%	External Fund	%
1	Estimations risk, risk maps	5 Billions	N/L	PAPC	40	DGT+ALL MINISTRY	50	JICA WB	10
2	The construction of retention basins.	40 Billions	L	DH, CTH, PAPC	70	MH, AGIRE, ANRH	30		
2	The construction of a dam at the upstream of the El Harrach river.	100 Billions	N/L	DH, CTH, PAPC	0	MH, ANBT, ANRH	100		
2	The construction of sabo dams at the upstream, specifically in the central and western regions.	80 Billions	N/L	DH, CTH, PAPC	0	MH, ANBT, ANRH	100		
3	Mapping evacuation points along with available roads and pathways to facilitate decision-making in case of a disaster.	2 Billions	L	PCW, RMDN ,PCL PAPC	100	/	0		0
4	Integrate detailed mapping of all risks into Organization of Rescue Plans.	10 Billions	L	DLRM,PAPC,PCL,PCW, RMDN	90	MDN,MI	10		0
5	Establishing regional centers for real-time management.	40 Billions	L	DH,AGIRE,ABH	20	MH,CTH	80		
6	Simulating river and sewage network operations while considering the effects of climate change.	5 Billions	N	ONA,ANRH, ABH	0	AGIRE ANRH ONM	90	JICA FAO	10
	The installation of necessary equipment for an early warning center such as rain gauges and water level monitoring stations	30 Billions	N/L		0		90	JICA WB	10
3	Constructing additional sites for storing reserves	100 Billions	L	PAPC, DHS	45	MI, MHS	50		5
7	Review and update reserves regularly based on evolving needs and risks.	2 Billions	L	RMDN,CPA, PCW	90	MI,MDN	10		
1	Afforestation and deforestation deforestation (international cooperation and partnerships to combat deforestation)	2 Billions		LFD,PAPC	40	CDF, MI	50	JICA WB	10
1	Practical guide at the national level +Technical staff training	2 Billions	N	/		MSR,MH , MTP, PC	90	JICA	10
1	Awareness (School Programs with civil protection)	2 Billions	L	PAPC,PC,DE	90	ME,PAPC,LPC,PCW	/	JICA WB	10

STEP 8 Implementing DRR measures and reviewing periodically

Monitoring, Evaluation, and Review Process for DRR Plans

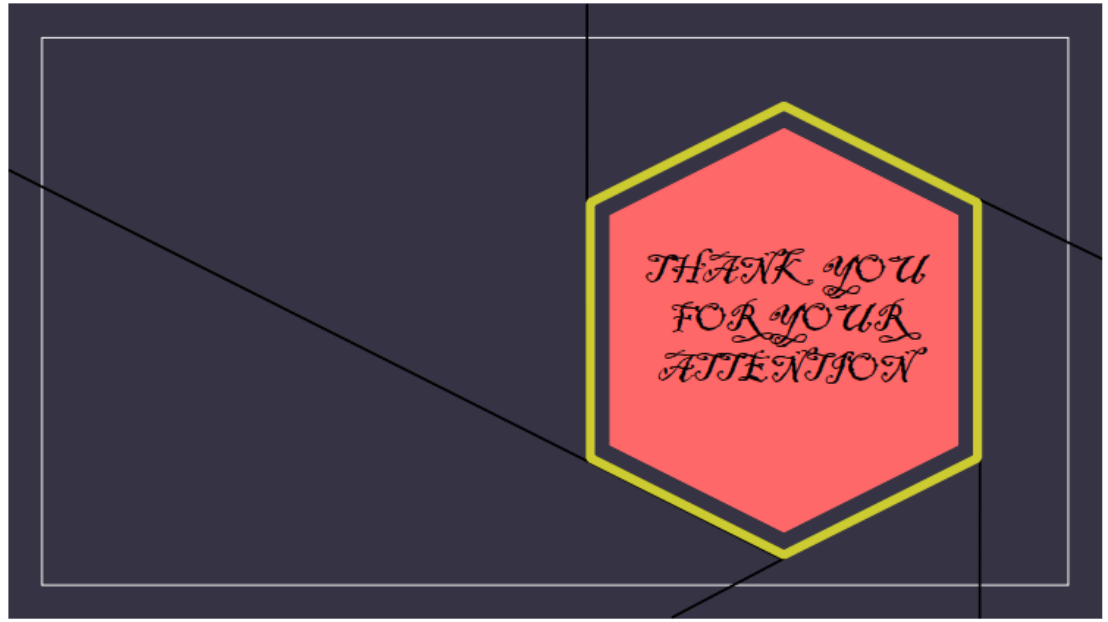
	Organizations in Charge (ex. committee)	Period (ex. 1/3 year)	Process and Details
Implementation Coordination of Each Measure	•local government • Local Delegation for Major Risks	Annually	In each Prefecture, the local government and the Local Delegation for Major Risks are responsible for coordinating, implementing, and updating measures. The Local Delegation for Major Risks operates through the local government of municipalities
Progress Monitoring of Each Measure	•Regional offices under the Ministry of Hydraulics, such as ONA, AGIRE, CTH,ANRH •Intersectoral commissions at local level •Local Delegation for Major Risks •technical commissions at the local level •governors of administrative districts •local government	3 month	Regional offices collaborates with Intersectoral commissions at local level . Intersectoral commissions at local level coordinated with technical services at the municipal level. This commission is overseen by the Local Delegation for Major Risks In each ministry, meaning for each sector, there is a specialized commission aligned with Regional offices and the offices under the same authority at the prefecture level. And for each representative of the ministries at the prefecture level, they coordinate with the different governors of administrative districts, as there is a representative from each sector in every administrative district.
Evaluation of the DRR Plan	•National Delegation of Major •Risk Intersectoral commissions national and local level •Local Delegation for Major Risks •Local Civil Protection •technical committees for different sectors at the prefecture level •local government •Regional offices under the Ministry of Hydraulics, such as ONA, AGIRE, and ANRH	6 month	The National Delegation for Major Risks and intersectoral commissions at the national level coordinate with the regional offices responsible for evaluation. These regional offices conduct evaluations through collaboration with the 58 Prefecture governments via the Local Delegation for Major Risks and Local Civil Protection. Additionally, they collaborate with technical committees for different sectors at the prefecture level through municipal technical services and various technical committees for different sectors at the prefecture level.
Review and Revision of the DRR Plan	•Intersectoral commissions at national level •National and local Delegation of Major risks •National and Local Civil Protection •local governments	Annually	Intersectoral commissions at the national level are responsible for reviewing and revising the Disaster Risk Reduction (DRR) Plan. They collaborate with the National and Local Delegations of Major Risks, as well as national and local Civil Protection

NB.For each sector there are Regional offices and offices at the prefecture level. Therefore, the intersectoral committees encompass stakeholders from various sectors at the local level and The intersectoral commission includes representatives from various ministries

STEP 7

Laws/Regulations/Rules/Policies/Strategies on DRR Budget Allocation

Law/regulation, etc.	Outlines
Flood Prevention and Risk Management Strategy 2020	865 sites have been classified at the national level, including hazard, vulnerability, and risk classification, and an approximate global budget necessary to carry out the required global projects over 10 years until 2030 for each province has been defined for the 58 provinces in Algeria
Executive Decree No. 19-59 dated February 2, 2019	detailing the preparation and management of emergency plans Develop guidelines for preparing emergency plans at the provincial and municipal levels, digital database organization, and the formation of committees responsible for assessing sensitive sites
Preparation of the National Strategy for Disaster Prevention and Risk Reduction	'The strategy is currently being developed.
The revision of Law 04-20	2004 ,initially centered on disaster management, aimed to clarify disaster management. However, this year 2024 , the revision was made, shifting the focus from disaster management to disaster risk management.




thank you
danke
謝謝
ngiyabonga
شكراً جزيلاً
рахмат
teşekkür ederim
спасибо
gracias
dank je
tapadh leat
bedankt
dziękuję
obrigado
hvala
mauruuru
go raibh maith agat
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