



United Nations
Climate Change

SANTIAGO
NETWORK 2023



Regional scoping workshops on loss & damage under the Santiago Network

SUMMARY AND SYNTHESIS

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20 MARCH 2024

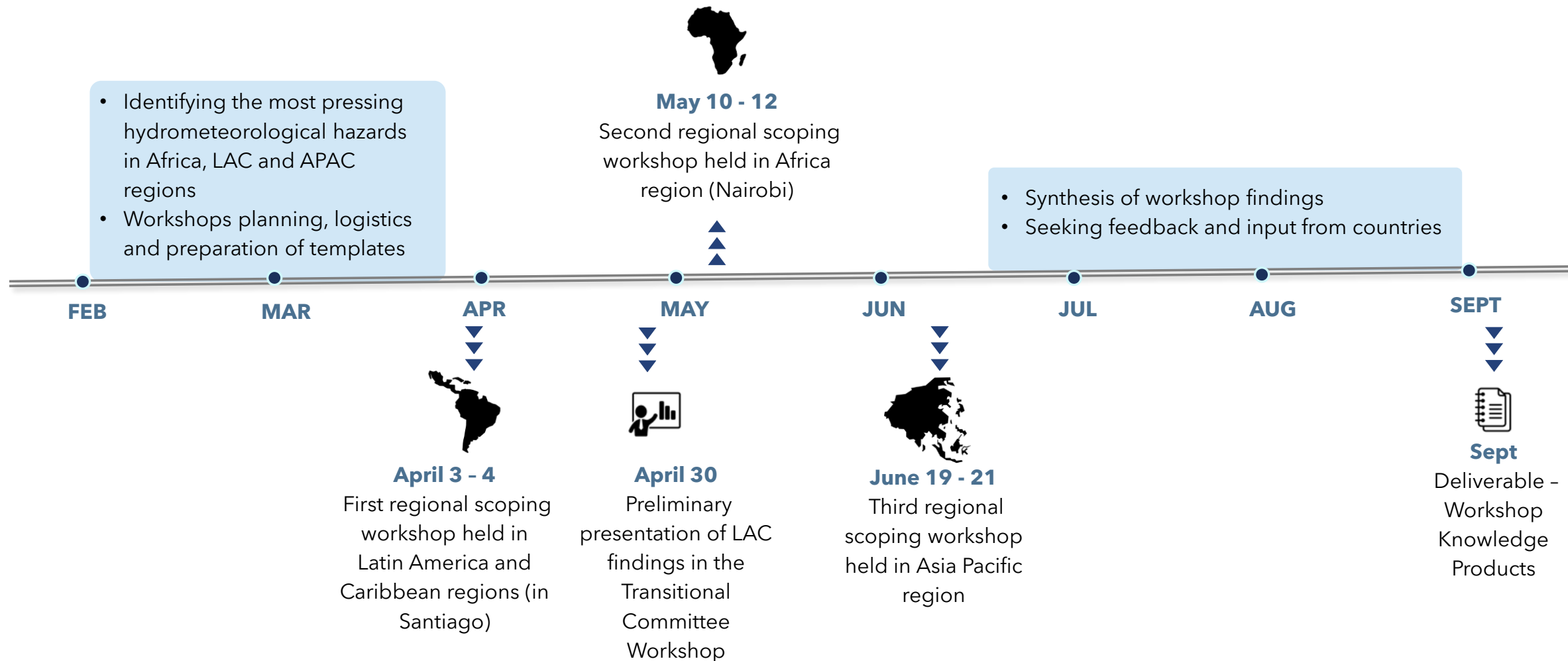


OVERVIEW

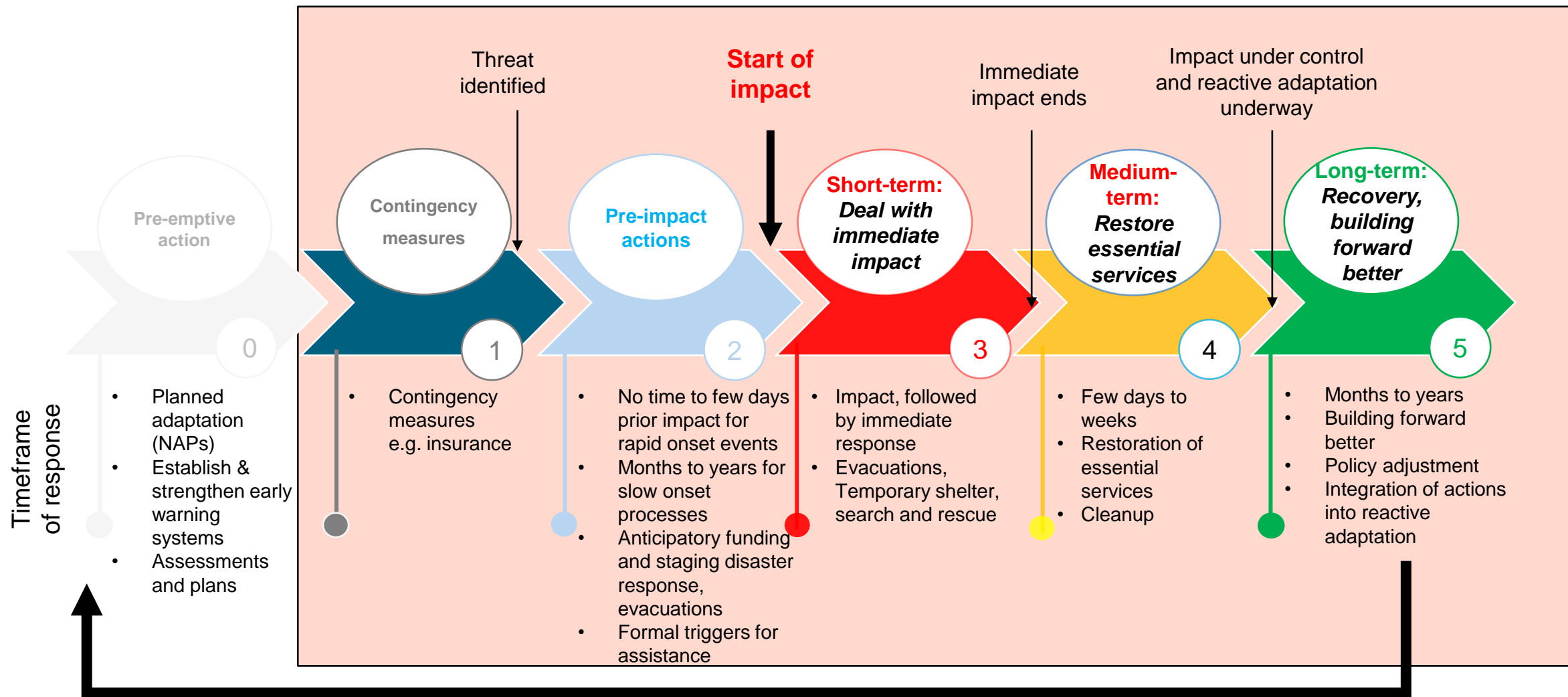
- **Introduction:** The Santiago Network for averting, minimizing and addressing loss and damage (Santiago Network) brought together relevant focal points from countries in the Latin America and Caribbean regions, Africa region and Asia Pacific region with expertise and direct involvement in dealing with the most pressing climatological hazards of the countries.
- **Mandate:** The workshop was held in pursuant to decision 12/CMA.4, para 15, whereby the UNFCCC secretariat is requested to continue providing support for developing countries that are particularly vulnerable to the adverse effects of climate change that may seek or wish to benefit from the technical assistance available from under the Santiago network, until a new the Santiago network secretariat is identified and becomes operational next year.
- **Objective:** The objective of the workshop was to engage countries in identifying and synthesizing information and insights on their experience in addressing major impacts of climate change, in particular major losses and damages resulting from hydro-meteorological hazards and extremes, as well as specific needs for technical assistance at different stages of responding and addressing the losses and damages.
- **TA for countries:** The outputs from the workshops will be used to better define and scope typical technical assistance needs of developing countries in the context of the Santiago network.



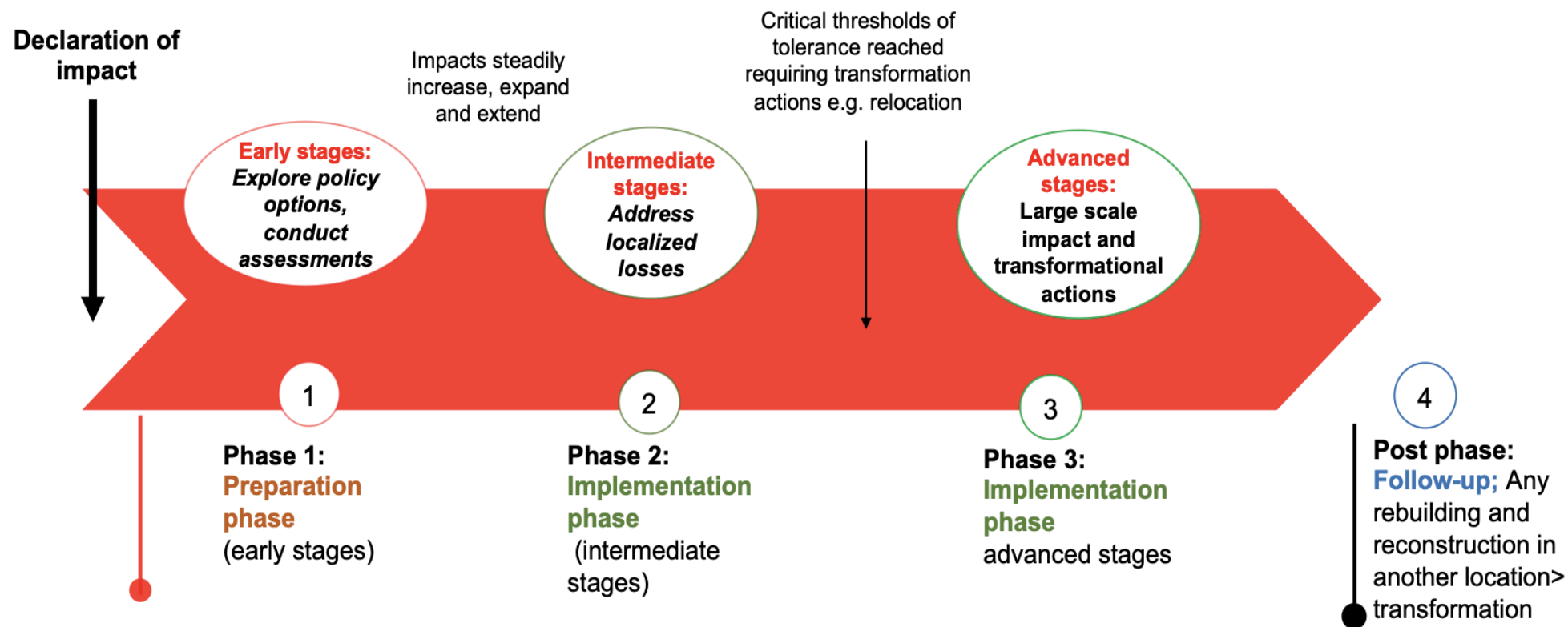
TIMELINE OF WORKSHOPS (2023)



Overall framing of spectrum of actions in responding to climate impacts **(for time-bound impacts)**



Spectrum of actions in responding to climate impacts (Permanent events: irreversible changes, e.g. SLR)



Filling out the template: Example

EXPLANATORY NOTES	EXAMPLE: NIGERIA
Main event <i>Modulating event that produces one or more hazards</i>	Heavy precipitation
Hazard <i>Single hazardous event causing loss and damage</i>	Floods resulting from heavy precipitation
Description & context <i>Describe the event and its context</i>	<p>Since 20 June 2022, abundant rains are being recorded over localized areas in southern Nigeria, with total amount of rains exceeding 100mm per day so far. Floods have also started to be recorded in some parts of the area at risk, mainly in Northern localities and urban areas since the end of June 2022. Currently, more flash floods are recorded and general alerts are for the moment in yellow alert with close monitoring of meteorological experts issuing frequent alerts since July.</p>
1. Anticipatory Arrangement (Pre-Phase 1: before event declared including contingency measures such as insurance) <i>Anticipatory arrangements are those that trigger actions after event occurs (eg. payouts)</i>	<ul style="list-style-type: none"> • Flood mapping? • Public awareness campaigns? • Preparation and provision of emergency services like ambulances, search and rescue teams, evacuation centres? • Infrastructure improvement - maintaining drainage systems, improving road networks, reinforcing bridges • Social protection, cash transfers? • Forecast based finance solutions
2. Date event declared	<ul style="list-style-type: none"> • N days before event impact
1. Anticipatory Arrangement (Phase 1) <i>After event declared/announced, before event hits, more anticipatory actions are possible</i>	<ul style="list-style-type: none"> • Early warning systems • Regular communication with public to update the situation, evacuation plans, relief efforts through radio, television and social media
1. Anticipatory Arrangement (Phase 2)	<ul style="list-style-type: none"> • Day N-3 • Advance cash transfers • Evacuations • Procurement and provision of emergency supplies like food, water, blankets, medical supplies • Mobilization of emergency response team set up eg. medical personnel, volunteers,

Filling out the template: Example

EXPLANATORY NOTES	EXAMPLE: NIGERIA
1. Anticipatory Arrangement (Phase 3)	<ul style="list-style-type: none"> • Pre-positioning of relief materials • Assemblance of disaster preparedness kits
2. Start of actual event	Day 0 (N days after initial declaration)
2. Duration of the primary event	6 days
2. Overall duration of event and its related effects	[Weeks/months/year+]
3. Response (Phase 1) - Duration <i>Indicate the number of days for first phase of response. (Name the second phase as appropriate).</i>	0 - 7 days
3. Response (Phase 1) - Triggers <i>What triggers community, national and international action? (Name the second phase as appropriate).</i>	<ul style="list-style-type: none"> • [5] lives lost • National declaration of emergency/appeal for support • Loss of homes, crops, livestock • Shut down of electricity
3. Response (Phase 1) - Actions <i>What are the key actions for this first phase of the response? (Name the second phase as appropriate).</i>	<ul style="list-style-type: none"> • Search and rescue mobilized using boats, helicopters, specialized equipments • Emergency relief supplies distributed • Relief centers established
4. Response (Phase 2: name?) - Duration <i>Describe the duration of response for the second phase? (Name the second phase as appropriate).</i>	3 days - 3 weeks
4. Response (Phase 2: name?) - Triggers <i>What triggers a shift to a next phase of support/action? Name the second phase as appropriate. (Name the second phase as appropriate).</i>	Flood waters subsided

Filling out the template: Example

EXPLANATORY NOTES	EXAMPLE: NIGERIA
<p>4. Response (Phase 2) - Actions <i>What are the key actions for the second phase of response? (Name the second phase as appropriate).</i></p>	<ul style="list-style-type: none"> • Cash transfers for rebuilding livelihoods • Damage assessment conducted to quantify resources required • Cleanup and debris removal • Restoration of most basic services like roads, transport infrastructures, water services, electricity
<p>5. Response (Phase Other) - Duration <i>Are there other phases for Response? What is the duration? (Name the phase as appropriate).</i></p>	<p>1 – 5 years</p>
<p>5. Response (Phase Other) - Triggers <i>What is the trigger for this response phase? (Name the phase as appropriate).</i></p>	<p>Vegetation destroyed; livelihood restoration incomplete based on the evaluations and damage assessments</p>
<p>5. Response (Phase Other) - Actions <i>What are the actions for this response phase? Name the phase as appropriate.</i></p>	<ul style="list-style-type: none"> • Restoration of natural vegetation • Ongoing support to communities affected with healthcare services, counseling, financial support
<p>6. Recovery (Phase 1) - Duration <i>Shifting from immediate response to restoration and recovery efforts from the immediate to the long term. Describe the duration of recovery for the first phase of recovery. (Name the phase as appropriate).</i></p>	<p>Weeks to a 3 years</p>
<p>6. Recovery (Phase 1) - Triggers <i>What triggers action for recovery on the first phase?</i></p>	<ul style="list-style-type: none"> • Basic services restored • Life starting to come to normal
<p>6. Recovery (Phase 1) - Actions <i>What are the actions for this recovery phase?</i></p>	<ul style="list-style-type: none"> • Rebuilding critical infrastructures (bridges, schools, hospitals) • Livelihoods restructuring eg. technologies for farming, flood resistant crops • Plans for resilient rebuilding • Rebuilding homes • Review construction standards • Propose policy changes based on experience and lessons learned

Filling out the template: Example

EXPLANATORY NOTES	EXAMPLE: NIGERIA
<p>7. Recovery (Phase 2) - Duration Describe the duration of recovery for second phase. (Name the phase as appropriate).</p>	2 - 5 years
<p>7. Recovery (Phase 2) - Triggers What triggers action for the second phase of recovery? (Name the phase as appropriate).</p>	
<p>7. Recovery (Phase 2) - Actions What are the key actions for the second phase of recovery? (Name the phase as appropriate).</p>	<ul style="list-style-type: none"> • Revising disaster mitigation • Improved land-use policies • Reactive adaptation integrated into National Adaptation Plans measures to reduce risk of similar loss and damage • Infrastructure projects to reduce likelihood of flooding <p>*Note: Duration of recovery can be lengthier, taking many years to complete depending on extent of the damages and resources available for recovery.</p>
<p>8. Recovery (Phase Other) - Duration Are there other phases for Recovery? What is the duration? (Name the phase as appropriate)</p>	
<p>8. Recovery (Phase Other) - Triggers What triggers action for the this phase of recovery? (Name the phase as appropriate).</p>	
<p>8. Recovery (Phase Other) - Actions What are the key actions for this phase of recovery? (Name the phase as appropriate).</p>	



HAZARDS – RAPID ONSET EVENTS (AFRICA EXAMPLE)

1 SANDSTORM

ENGLISH / FRENCH

- EGYPT
- LIBYA
- NIGER
- CHAD
- MAURITANIA
- GAMBIA

2 LANDSLIDES

ENGLISH / FRENCH

- SIERRA LEONE
- UGANDA
- DRC



3 TROPICAL CYCLONE

ENGLISH

- MOZAMBIQUE
- MALAWI
- ZIMBABWE

FRENCH

- MADAGASCAR
- MAURITIUS
- COMOROS



4 DROUGHT

ENGLISH

- KENYA
- SOMALIA
- LESOTHO
- BOTSWANA
- ETHIOPIA
- NAMIBIA

FRENCH

- MALI
- MOROCCO
- SENEGAL
- TOGO



5 FLOODS

ENGLISH

- GHANA
- LIBERIA
- NIGERIA
- SOUTH AFRICA
- SOUTH SUDAN
- ZAMBIA

FRENCH

- CENTRAL AFRICAN REPUBLIC
- BENIN
- BURUNDI
- COTE D'IVOIRE
- EQUATORIAL GUINEA
- GABON
- GUINEA
- GUINEA-BISSOU



OTHER HAZARDS FOR CONSIDERATION

- LIGHTENING
- DISEASE outbreak (e.g. Anthrax)



HAZARDS – SLOW ONSET EVENTS (AFRICA EXAMPLE)

1 SEA LEVEL RISE

ENGLISH

- EGYPT
- EQUATORIAL GUINEA
- GUINEA-BISSAU
- LIBERIA
- MAURITIUS
- MOZAMBIQUE
- SIERRA LEONE



FRENCH

- COMOROS

2 INCREASING TEMPERATURES

ENGLISH

- BOTSWANA
- BURUNDI
- NIGERIA
- ZAMBIA
- ZIMBABWE



3 SALINIZATION

ENGLISH

- KENYA
- GAMBIA
- SOUTH AFRICA



FRENCH

- MALI
- MOROCCO
- SENEGAL
- CHAD

4 DESERTIFICATION

ENGLISH

- ETHIOPIA
- LIBYA
- SOMALIA
- SOUTH SUDAN
- BOTSWANA
- NAMIBIA



FRENCH

- BENIN
- COTE D'IVOIRE
- MAURITANIA
- NIGER

5 LAND & FOREST DEGRADATION

ENGLISH

- GHANA
- MALAWI
- ANGOLA
- UGANDA
- LESOTHO



FRENCH

- CENTRAL AFRICAN REPUBLIC
- GABON
- GUINEA
- MADAGASCAR
- TOGO

OTHER HAZARDS FOR CONSIDERATION

- GLACIAL RETREAT
- OCEAN ACIDIFICATION
- LOSS OF BIODIVERSITY



United Nations
Climate Change

A GLIMPSE OF THE WORKSHOPS






Floods

FLOODS: ANTICIPATORY ARRANGEMENTS

PRE-PHASE 1

INFRASTRUCTURE MEASURES

 REGULAR DESILTING OF DRAINS & REHABILITATION OF DRAINAGE SYSTEMS


 PREPARATION OF SANDBAGS

PUBLIC AWARENESS & PREPAREDNESS

 PUBLIC AWARENESS CAMPAIGNS ON FLOOD RISKS

 EMERGENCY BACKPACKS


SOCIAL PROTECTION MEASURES

 CASH TRANSFERS

 DISASTER MANAGEMENT FUNDS

CAPACITY BUILDING


 DISASTER MANAGEMENT TRAINING


 ESTABLISHMENT OF EARLY WARNING SYSTEMS

Trigger: Awareness of an impending flood disaster

TRIGGERS


PHASE 1

 **INSTITUTIONAL READINESS**
FORMATION OF DISASTER MANAGEMENT COMMITTEES & INCIDENT MANAGEMENT TEAMS

 **COORDINATION**
STAKEHOLDER MEETINGS TO DISCUSS, PLAN, AND PREPARE NECESSARY RESPONSE

 **COMMUNICATION**
PUBLIC COMMUNICATION VIA RADIO & TELEVISION

 **EARLY WARNING**
WARNINGS ON HEAVY RAIN


 **RESPONSE SUPPLIES**
PROCUREMENT OF SUPPLIES LIKE FOOD, MEDICINE & EMERGENCY ITEMS

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
TRIGGERS

PHASE 2

EARLY WARNING

 CONTINUED EARLY WARNING VIA RADIO/SMS

PLANNING & PREPAREDNESS

 IDENTIFICATION OF SAFE EVACUATION SITES


 PRE-EMPTIVE RELOCATION OF POPULATION

 ORGANIZATION OF SHELTERS & RELOCATION FACILITIES

 LOCAL DRR PLATFORMS ACTIVATED

 EMERGENCY RESPONSE TEAMS MOBILIZED


 RADIO COMMUNICATION SYSTEMS SET UP

 USE OF SANDBAGS TO PREVENT FLOODING

???

TRIGGERS

PHASE 3

 **EVACUATION ACTIVITIES**
OPERATIONALIZED THROUGH COORDINATION WITH RESCUE TEAMS, POLICE, AND CIVIL DEFENSE FORCES

 **RELOCATION** OF POPULATION

 **RELIEF SUPPORT** ACTIVATED, INCLUDING THE PROVISION OF FOOD, HOUSING, AND TEMPORARY CAMPS

 **ADVANCED CASH TRANSFER** (WHERE RELEVANT)

 **CONTINGENCY** EMERGENCY RESPONSE

ASIA PACIFIC: BHUTAN, LAO PDR, CAMBODIA, KAZAKHSTAN, THAILAND, SRI LANKA

LATIN AMERICA AND THE CARIBBEAN (LAC): BOLIVIA, COSTA RICA, ECUADOR, HAITI, PANAMA, PERU

AFRICA: BENIN, BURUNDI, CENTRAL AFRICAN REPUBLIC, NIGERIA, COTE D'IVOIRE, GABON, GHANA, GUINEA BISSAU, LIBERIA, NIGER, SOUTH AFRICA, SOUTH SUDAN, CHAD, TOGO, ZAMBIA

FLOODS: RESPONSE

duration of the event; : 2 days to 14 days
overall duration of effects: 3 months to several years

5 days to 2 weeks

PHASE 1 - RESPONSE



CONTINUED **EVACUATION** OF AFFECTED FAMILIES TO SAFER AREAS



SEARCH & RESCUE TEAMS DEPLOYED (WITH BOTH BASIC AND ADVANCED TOOLS LIKE DRONES)



CRITICAL SERVICES SUCH AS MEDICAL AID, FOOD, WATER, AND WASTE MANAGEMENT PROVIDED



RAPID ASSESSMENTS OF WATER NEEDS AND TREATMENT FACILITIES



COORDINATION WITH NGOS AND UN ENTITIES



DATA IS GATHERED TO GUIDE SUBSEQUENT RESPONSE AND RECOVERY EFFORTS

RECEDING OF FLOODWATER AND RETURN TO NORMAL CONDITIONS;

OCCURRENCE OF NEW OR RELATED DISASTERS LIKE LANDSLIDES FOLLOWING FLOODS OR REOCCURRENCE OF FLOODS;

CONTINUED LOSS OF HUMAN LIVES AND LACK OF PROPER SANITARY CONDITIONS, ELECTRICITY, WATER

2 weeks to 2 months

PHASE 2 - RESPONSE



CONTINUED PROVISION OF **TEMPORARY SHELTERS**



DISTRIBUTION OF IMMEDIATE RELIEF MATERIALS (like food, water, and sanitation facilities)



CLEANUP OPERATIONS LED BY CIVIL DEFENSE, AND EFFORTS TO **RESTORE ESSENTIAL SERVICES** (e.g. roads, water, and electricity).



HEALTHCARE SERVICES, INCLUDING TREATMENT FOR WATER-BORNE DISEASES



FINANCIAL SUPPORT FOR REBUILDING LIVELIHOODS



DAMAGE ASSESSMENTS CONDUCTED TO QUANTIFY FUTURE RESOURCE NEEDS

LIVELIHOOD RESTORATION INCOMPLETE

DAMAGE OF CRITICAL INFRASTRUCTURES

??

OTHER RESPONSE ACTIVITIES



IMMEDIATE RESTORATION OF PUBLIC INFRA. such as roads, bridges, and utilities



PUMPING WATER AND CLEANING FLOODED AREAS THROUGH THE **MOBILIZATION OF VOLUNTEER GROUPS**



ONGOING SUPPORT PROVIDED TO AFFECTED COMMUNITIES (healthcare services, counseling, and financial aid)



STRATEGIES FOR **POTENTIAL RELOCATION OF POPULATIONS** FROM HIGH-RISK AREAS



RESTORATION OF **NATURAL VEGETATION**

SIGNIFICANT LOSS OF LIFE, LIVESTOCK, INFRASTRUCTURE (including drinking water pipes, homes, commercial premises, vehicles, and home items);

INCREASE IN WATER LEVELS BEYOND A THRESHOLD

Response triggers depend on **TYPES OF FLOOD DISASTERS** activating local government or the national government

TRIGGERS

TRIGGERS

TRIGGERS

ASIA PACIFIC: BHUTAN, LAO PDR, CAMBODIA, KAZAKHSTAN, THAILAND, SRI LANKA

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FLOODS: RECOVERY

duration of the event; : 2 days to 14 days
overall duration of effects: 3 months to several years

1-5 years

PHASE 1



THOROUGH **DAMAGE ASSESSMENTS** CONDUCTED TO INFORM RECOVERY AND RECONSTRUCTION PLANS



REPAIR OF SEWERAGE AND DRAINAGE NETWORKS TO PREVENT FUTURE FLOODING



REVIEW AND ENFORCEMENT OF **CONSTRUCTION STANDARDS** TO ENSURE SAFE DISTANCES FROM RIVERS AND STREAMS



PROVISION OF RESOURCES LIKE **FLOOD-RESISTANT CROP TECHNOLOGIES**



ASSISTANCE IN FINDING **EMPLOYMENT OR INCOME-GENERATING ACTIVITIES**



CONTINUED **MONITORING AND SUPPORT FOR DISASTER VICTIMS** THROUGH REHOUSING, RECONSTRUCTION, AND COMPENSATION

???

3 - 8 years

PHASE 2



SHIFTS TO **LONG-TERM MEASURES** SUCH AS THE IDENTIFICATION AND ALLOCATION OF GOVERNMENT LAND FOR PERMANENT SETTLEMENT



PROVISION OF COMPENSATION AND LOANS FOR **RECONSTRUCTION**



IMPROVE **DRR STRATEGIES** - EMPHASIZING PREVENTION, AND TO INTEGRATE ADAPTATION MEASURES INTO MUNICIPAL DEVELOPMENT PLANS



INFRASTRUCTURE PROJECTS AIMED AT REDUCING THE LIKELIHOOD OF FUTURE FLOODING AND SEA-LEVEL RISE



CONTINGENCY PLANS ARE DEVELOPED AND REGULARLY UPDATED FOR EFFECTIVE RESPONSE TO POTENTIAL FUTURE DISASTERS.

WATER LEVEL SUBSIDED;

RESTORED ROAD CONNECTIVITY;

RETURN TO NORMALCY;

AFFECTED PEOPLE RETURN TO SAFE AREAS

TRIGGERS

TRIGGERS

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Drought

DROUGHT: ANTICIPATORY ARRANGEMENTS

duration of the event; : 4 months to several years
overall duration of effects: several months to a decade

PRE-PHASE 1



COMPREHENSIVE DROUGHT PLANS AND STRATEGIES

FORMULATED (including safeguarding water through desalination, advanced irrigation techniques & construction of dams)



ALERT LEVELS BASED ON WEATHER PATTERN

MONITORING ARE SET UP TO TRIGGER VARIOUS STAGES OF DROUGHT RESPONSE,



REGULAR ASSESSMENTS AND DATA COLLECTION ARE CONDUCTED TO **IDENTIFY FORESEEABLE RISKS**



FINANCIAL MEASURES LIKE INSURANCE FOR SMALLHOLDER FARMERS AND NATIONAL EMERGENCY FUNDS ARE ALSO ESTABLISHED



COMMUNITY AWARENESS THROUGH DISSEMINATION OF DATA



STRATEGIES FOR EARLY EMERGENCY RESPONSE

Usually triggered when rainfall levels fall under 40% during 3-month period

TRIGGERS

ASIA PACIFIC: KIRIBATI, MICRONESIA, NAURU, SRI LANKA, STATE OF PALESTINE

LATIN AMERICA AND THE CARIBBEAN (LAC): BRAZIL, CHILE, PARAGUAY, URUGUAY, BOLIVIA, ARGENTINA

AFRICA: ANGOLA, BOTSWANA, ETHIOPIA, KENYA, MALI, MOROCCO, NAMIBIA, SOMALIA

PHASE 1 - (PREVENTION phase)



HEIGHTENED MONITORING OF PRECIPITATION LEVELS, RIVER LEVELS, AND WATER RESERVES, OFTEN LEADING TO THE DECLARATION OF EMERGENCIES BASED ON DATA VALIDATION AND ASSESSMENTS



COORDINATION AND DECISION-MAKING BODIES LIKE EMERGENCY WATER COMMITTEES AND NATIONAL DISASTER RISK MANAGEMENT COMMITTEES ARE ESTABLISHED



PUBLIC AWARENESS BOOSTED WITH MEASURES LIKE WATER RATIONING



EMERGENCY RESOURCES LIKE FOOD AID AND MEDICATION ARE READIED THROUGH THE TRIGGERING OF **RESCUE ORGANIZATION PLANS.**

Usually activated when the 12-month rainfall index falls below 25%

TRIGGERS

PHASE 2 - (WATCH phase)



SECTOR-SPECIFIC DATA ON DROUGHT IMPACTS IS REGULARLY COLLATED BY DROUGHT COMMITTEES, WHICH THEN TRIGGERS **PUBLIC AWARENESS CAMPAIGNS FOR WATER CONSERVATION**



CALCULATIONS OF POTENTIAL LOSS AND DAMAGE FOR STAKEHOLDERS LIKE SMALL FARMERS, TO INFORM COMPENSATION SCHEMES OR INSURANCE PAYOUTS.



CONTINUOUS MONITORING OF WATER SALINITY LEVELS AND NEEDS ASSESSMENTS ARE ALSO CONDUCTED TO IDENTIFY AREAS REQUIRING WATER SUPPORT.

If the water salinity falls under 1000 micro Siemen per cm, then Alert level 3 is triggered (Kiribati)

TRIGGERS

PHASE 3 - (WARNING phase)



CONTINUED PUBLIC AND COMMUNITY AWARENESS THROUGH DISTRICT COUNCILS AND NGOS.



IMMEDIATE RELIEF MEASURES ARE ACTIVATED, INCLUDING GOVERNMENT-SUPPLIED WATER FOR COMMUNITY DRINKING AND CONSUMPTION,



CONTINGENCY FUNDS, SUCH AS THE HASSAN II FUND IN AFRICA, ARE ACTIVATED TO ENSURE THAT FINANCIAL RESOURCES ARE READILY AVAILABLE TO TACKLE DROUGHT-RELATED CHALLENGES

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DROUGHT: RESPONSE & RECOVERY

duration of the event; : 4 months to several years
overall duration of effects: several months to a decade

3 months

PHASE 1 - RESPONSE



SEVERITY OF DROUGHT COMMUNICATED TO COMMUNITIES AND EDUCATION ON WATER TREATMENT METHODS LIKE BOILING AND RAINWATER HARVESTING



INITIAL RAPID ASSESSMENTS CONDUCTED TO DETERMINE COMMUNITY NEEDS



ACTION PLAN DEVELOPED BASED ON THE RISK AND DURATION OF THE DROUGHT



EMERGENCY RESPONSES ARE ACTIVATED, INCLUDING THE PROVISION OF CLEAN WATER



ECONOMIC SUPPORT THROUGH CROP INSURANCE SYSTEMS, ALONG WITH THE INSTALLATION OF WATER PURIFICATION PLANTS AND RATIONING

Triggered based on the initial rapid assessments

6 months to 3 years

PHASE 2 - RESPONSE



CONTINUOUS ALERTS AND COMMUNICATION SENT TO AFFECTED COMMUNITIES EMPHASIZING WATER CONSERVATION AND EFFICIENT USAGE



COLLABORATION WITH NGOS FOR DELIVERY OF RELIEF ITEMS & SUBSIDIES AND AGRICULTURAL INPUTS FOR FARMERS



WATER QUALITY TESTING IS CONDUCTED TO ENSURE THAT INTERVENTIONS REMAIN EFFECTIVE

Triggered when Drought Alert levels 3 is lifted and downgraded to alert levels 2 & level 1

???

PHASE 1 - RECOVERY



CONTINUED **IMPLEMENTATION AND VIGILANT MONITORING** OF DROUGHT RESPONSE MEASURES



EVALUATIONS CONDUCTED WITH COMMUNITIES, ESPECIALLY THOSE WHO ARE VULNERABLE, TO BETTER ASSESS THEIR NEEDS



ADAPTIVE MEASURES ARE IMPLEMENTED, INCLUDING THE DISTRIBUTION OF CLIMATE-RESILIENT SEEDS AND CAPACITY BUILDING ON WATER-CONSERVING AGRICULTURAL METHODS

Triggered when rainfall is normal or above normal levels

???

PHASE 2 - RECOVERY



COMPREHENSIVE POST-DISASTER ASSESSMENT CONDUCTED FOCUSING ON ECONOMIC, SOCIAL, AND ENVIRONMENTAL ASPECTS



FINDINGS INTEGRATED INTO PLANNING OR POLICY TO ADDRESS IDENTIFIED GAPS



COMMUNITY PLANS ARE UPDATED, INCLUDING THE DROUGHT MANAGEMENT RESPONSE MATRIX FOR EARLY WARNING AND ACTION



FOCUS ON **IDENTIFYING AND ADDRESSING RISKS** TO ENSURE LONG-TERM RESILIENCE

TRIGGERS

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TRIGGERS

TRIGGERS

TRIGGERS



Landslides

LANDSLIDES: ANTICIPATORY ARRANGEMENTS

PRE-PHASE 1



ESTABLISHMENT OF LOCAL, DISTRICT, AND NATIONAL COMMITTEES AND AD HOC TASK FORCES FOR RISK REDUCTION AND QUICK RESPONSE MANAGEMENT.



CASE STUDIES AND ASSESSMENTS CONDUCTED TO **IDENTIFY HIGH-RISK AREAS** & DEVELOP SLIP MAPS AND ALERT MECHANISMS



FINANCIAL AND INFRASTRUCTURE MEASURES PUT IN PLACE, INCLUDING THE ESTABLISHMENT OF CONTINGENCY & CALAMITY FUNDS



CAPACITY-BUILDING EFFORTS FOR LOCAL GOVERNMENTS IN RISK MANAGEMENT AND EARLY WARNING SYSTEMS

??????

TRIGGERS

PHASE 1



COORDINATION SYSTEMS ESTABLISHED INVOLVING RELEVANT ACTORS AND INSTITUTIONS RESPONSIBLE FOR RISK ASSESSMENT, DATA GENERATION, AND ALERT ACTIVATION.



ALERTS ISSUED BASED ON BOTH WEATHER FORECASTS AND GEOLOGICAL AND HYDROLOGICAL RISK MAPS.



LOGISTICS PREPAREDNESS PLANS DEVELOPED TO DISTRIBUTE ESSENTIAL SUPPLIES TO THE AFFECTED POPULATION, INCLUDING PRE-POSITIONING OF FOOD, EQUIPMENT, AND MONETARY RESOURCES

Monitor rainfall amounts and once it surpasses certain thresholds. Generally, after 100mm of rain, risk of landslide is announced

TRIGGERS

PHASE 2



EVACUATION PLANS IMPLEMENTED AT THE MUNICIPAL LEVEL, TAKING INTO ACCOUNT ALERT & THREAT LEVELS IN RISK AREAS.



COMMUNICATION SYSTEMS ESTABLISHED FOR TIMELY AND ACCURATE INFORMATION DISSEMINATION, INCLUDING ALERTS AND EVACUATION INSTRUCTIONS.



EMERGENCY RESPONSE PROTOCOLS ACTIVATED, WITH PRE-POSITIONED RESOURCES LIKE FOOD, WATER, AND MEDICINE, AND SOCIAL PROTECTION PROGRAMS LIKE ADVANCE CASH TRANSFERS ARE INITIATED WHERE RELEVANT.



COORDINATION WITH NGOS AND HUMANITARIAN ORGANIZATIONS EMPHASIZED FOR EFFECTIVE LOGISTICS MANAGEMENT

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TRIGGERS

PHASE 3



PROVINCIAL-LEVEL FORECASTS FOR WEATHER CONDITIONS, INCLUDING RAINFALL AND FLOODS DISSEMINATED.



ALERTS COMMUNICATED TO PEOPLE IN RISK AREAS THROUGH SMS AND BROADCAST TOOLS LIKE WHATSAPP.



MOBILIZATION AND EVACUATION INITIATED IN COORDINATION BETWEEN CIVIL POPULATION ACTORS AND ARMED FORCES AT THE MUNICIPAL LEVEL, **MOVING INDIVIDUALS FROM AT-RISK AREAS TO DESIGNATED SHELTERS** BASED ON THE THREAT LEVEL INDICATED BY THE ALERTS AND FORECASTS.

ASIA PACIFIC: NEPAL, TIMOR LESTE

LATIN AMERICA AND THE CARIBBEAN (LAC): CHILE, COLOMBIA, DOMINICAN REPUBLIC, ECUADOR, BRAZIL

AFRICA: BURUNDI, DEMOCRATIC REPUBLIC OF CONGO, ETHIOPIA, SIERRA LEONE, UGANDA


Heatwave





HEATWAVE

???


PRE-PHASE 1

 **RELEASE OF SEASONAL CLIMATE FORECAST** REPORTS AND THE DEVELOPMENT OF GUIDELINES AND MANUALS FOR EMERGENCY PREPARATION

 **INSTITUTIONAL READINESS ESTABLISHED**, WITH ROLES LIKE CHIEF HEAT OFFICERS APPOINTED IN VULNERABLE CITIES.

 **PUBLIC INFORMATION DISSEMINATED** WIDELY THROUGH VARIOUS MEDIA, FOCUSING ON HEATWAVE GUIDELINES AND DISEASE PREVENTION.

 **AGRICULTURAL AND INFRASTRUCTURE PLANNING** BASED ON SEASONAL FORECASTS, WATER SCARCITY WARNINGS


 **PREPARATION OF EMERGENCY FUNDING** TO SUPPORT RISK AWARENESS, RESPONSE, AND RISK REDUCTION


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TRIGGERS

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ANTICIPATORY ARRANGEMENTS

 **OFFICIAL PROJECTED START DATES AND IMPACTS ANNOUNCED** BY RELEVANT DEPARTMENTS AND MINISTRIES

 **ESSENTIAL EMERGENCY SUPPLIES** LIKE FOOD AND WATER PREPARED, WITH INSTALLATIONS OF TANKS IN VULNERABLE COMMUNITIES AND PLANS FOR EMERGENCY SUPPLY DELIVERY.

 ESTABLISHMENT OF **EARLY WARNING SYSTEMS AND COMMUNITY HEALTH CENTERS**

 **TRAINING** ON MANAGING WILDFIRE OUTBREAKS AND ENSURING TIMELY CROP SUPPLIES

 **NATIONAL-LOCAL COORDINATION** ACTIVATED TO CONVEY DECISIONS AND WARNINGS FROM THE NATIONAL TO THE LOCAL LEVEL, ENSURING A COMPREHENSIVE AND COORDINATED APPROACH.


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TRIGGERS


RESPONSE PHASE

 **ESSENTIAL SUPPLIES** LIKE FOOD AND MEDICAL AID PROVIDED TO IMPACTED AREAS

 **CONTINUOUS MONITORING** OF DISEASE TRANSMISSIONS AND HEALTH OUTCOMES.

 **SPECIAL HEALTHCARE SERVICES** DEPLOYED TO ADDRESS DEHYDRATION, MALNUTRITION, AND OTHER SEVERE HEALTH IMPACTS LIKE HEAT STROKE.

 **RESOURCES MOBILIZED** TO ENSURE ACCESS TO BASIC SUPPLIES AND TRANSPORT


 **PUBLIC GUIDANCE** IS PROVIDED TO MITIGATE THE HEATWAVE'S EFFECTS


 **PLANS AND BUDGETS** PREPARED IN ANTICIPATION OF RECOVERY EFFORTS, FOCUSING ON RESTORING SERVICES AND REHABILITATING IMPACTED AREAS


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TRIGGERS

RECOVERY PHASE

 **TARGETED CASH TRANSFERS** USED TO RESTORE AND REBUILD LIVELIHOODS THAT HAVE BEEN IMPACTED.

 **CLEANUP AND RECOVERY EFFORTS** INITIATED, PARTICULARLY IN AREAS WHERE LAND DEGRADATION AND DROUGHT IMPACTS HAVE MATERIALIZED.

 **RESTORATION OF PUBLIC SERVICES** AND THE REINSTATEMENT OF SOCIAL AMENITIES WHERE FEASIBLE, TO BRING COMMUNITIES BACK TO A STATE OF NORMALCY

ASIA PACIFIC: THAILAND, CAMBODIA, PALESTINE

AFRICA: BOTSWANA, ETHIOPIA, NIGERIA, ZAMBIA, ZIMBABWE



Sea Level Rise

SEA LEVEL RISE

SCOPING & ASSESSMENT

Triggers: Projected SLR, increased water levels, damages in crops, livestock, fisheries, waterlogged conditions, loss of territory

1. Conduct comprehensive climate vulnerability and risk assessment, hazard mapping
2. Continuously monitor sea level height changes
3. Assess the technical feasibility of Hard adaptation measures and soft measures, Raising buildings, planting salt tolerant crops, insurance, early warning systems, Land reclamation, Planned relocation of settlements (option being planned and advanced only in a few countries), impact of sea water intrusion to groundwater and freshwater ecosystem
4. Review of spatial planning - limit expansion of high-risk areas for settlement and economic activities.

PLANNING & PREPARATION

Triggers: Results from risk and vulnerability assessments indicate significant potential impacts that warrant protective and adaptation policies, legislations

1. Strengthen institutional capacities, preparing financial plans, disaster risk screening tools
2. Integrate SLR scenarios and ocean related issues into policies, future planning decisions
3. Expand hydrometeorological observation networks and strengthen climate information services
4. Build community resilience through sensitization of communities, explore alternative livelihood options
5. Establish and improve early warning systems
6. Determine relocation policies and strategies and establish legal frameworks and guidelines
7. Identify suitable relocation sites
8. Identify and implement methods to secure cultural values.
9. Allocate funding and resources to trust funds for relocation.
10. Initiate programmes such as coral reef resiliency programmes
11. Initiate projects for building seawalls, groynes, wave breakwaters and associated programmes to explore higher ground feasibility.
12. Set-up social protection and climate risk-insurance schemes
13. Initiate water desalination treatment to support freshwater availability and freshwater ecosystem.

ADAPTATION IMPLEMENTATION

Triggers: Floods and inundation starting to cause loss of territory, loss of cultural sites, SLR threatens coastal ecosystems, decreased agricultural production, porous and salty soils, decrease of fish stocks

1. Improve early warning and monitoring systems.
2. Strengthen building code plans, raising house elevation, flood-proofing homes, improving drainage systems.
3. Implement soft adaptation measures - e.g., beach nourishment, dunes.
4. Implement hard adaptation measures - e.g., dikes, seawalls, storm surge barriers, sandbags, groynes,
5. Apply nature-based solutions - e.g., mangrove, saltmarshes, vetiver grass plantations
6. Barricade areas identified as unsafe through escarpment or physical infrastructures.
7. Construct heightened dikes or freshwater retention ponds to halt salinity ingress due to storm surges.
8. Climate resilient crops and of saline tolerant seeds.
9. Initiate land reclamation strategies - e.g., ground raising, reclamation through polders,

Triggers: Protection measures unable to keep up with rate of sea level rise; coastal ecosystems and mangroves are threatened

1. Continuously update adaptation plan
2. Initiate adaptive social protection schemes
3. Repair, improve, construct and rehabilitate coastal polders, sea dikes or embankments considering sea-level rise and extreme storm surge height under varying climate change scenarios.
4. Implement fortification of hard and soft coastal sea walls.

RETREAT

Triggers: Continued sea level rise that overwhelms adaptation measures and the measures like sea walls are not feasible. Critical impact on human lives, property, and ecosystems; loss of territories

1. Explore alternative future options - e.g., advance or relocate.
2. Sensitize communities on relocation and rehabilitation.
3. Relocate severely impacted communities to higher grounds and explore livelihood opportunities for relocated population.
4. Activate planned relocation process in countries where plans exist - Land rehabilitation and proposed future development according to the masterplans.
5. Explore livelihood opportunities for the relocated population.



MONITORING & EVALUATION

1. Continuous monitoring of SLR, salinity, high tide with effective modern systems at regional levels.
2. Strengthen capacities of the MET to continuously monitor long term impacts of SLR.
3. Continuous monitoring ensuring national strategies align with the economic development.
4. Ensure long term climate proofing approaches to infrastructure a national development efforts.

CONCLUSION

- Continuation of this work with further analysis and partnership contributions could refine the technical assistance scope for developing countries within the Santiago Network context.
- Validating the input from the countries from a climate lens
- Sequencing of actions for each stage of anticipatory arrangements, response and recovery phases of all 13 hazards
- Detailing information on triggers
- In-depth analysis of hazards such as heatwaves, wildfires, and slow-onset events, areas where participating countries may not have provided extensive details.



United Nations
Climate Change

SANTIAGO
NETWORK 2023



Regional scoping workshops on loss & damage under the Santiago Network

ANNEX



THE PROCESS

- The regional scoping workshop sessions were organized into rounds of breakout groups, with participants from each country grouped according to the most pressing slow and rapid onset hydro-metrological hazards and extremes in their respective countries (participants were given the opportunity to self-select).
- Interactive sessions were held to gather information about the impacts of climatic hazards and how countries respond to these hazards over time. This included short, medium, and long-term stages of evolution of support through a country-specific mapping exercise followed by collaborative dialogue including countries and relevant agency stakeholders.
- Participants were provided with a guided template to gather detailed, descriptive, and sequential accounts of post-impact response actions, focusing on:
 - Loss and damage resulting from specific hazard and extreme events (e.g. drought, tropical cyclone);
 - Broad phases of response (e.g. anticipatory arrangements, response, recovery, and other phases and sub-phases);
 - Gaps in response actions and capacity;
 - Technical assistance needs for averting, minimizing and addressing loss and damage.
- Over the three-day period of the workshops, country participants provided their respective inputs. The first day focused on **rapid onset events**, the second day on **slow onset events**, and the final day on detailed loss and damage **case studies**.
- Plenary sessions took place between breakout group rounds to provide country participants and facilitators with the opportunity to provide feedback and further co-creation.

