



SANTIAGO
NETWORK 2023



**REGIONAL SCOPING WORKSHOP ON LOSS AND
DAMAGE UNDER THE SANTIAGO NETWORK:
LATIN AMERICA AND CARIBBEAN REGION**

ANALYSIS OF WORKSHOP DISCUSSIONS

30 April 2023

INTRODUCTION

Dates: 3rd and 4th April 2023

Where: Santiago, Chile

Participants: Experts dealing with the most pressing hydrometeorological hazards of the countries in the Latin America and Caribbean Region

Similar workshops planned for

- Africa and Asia and Pacific

Objectives

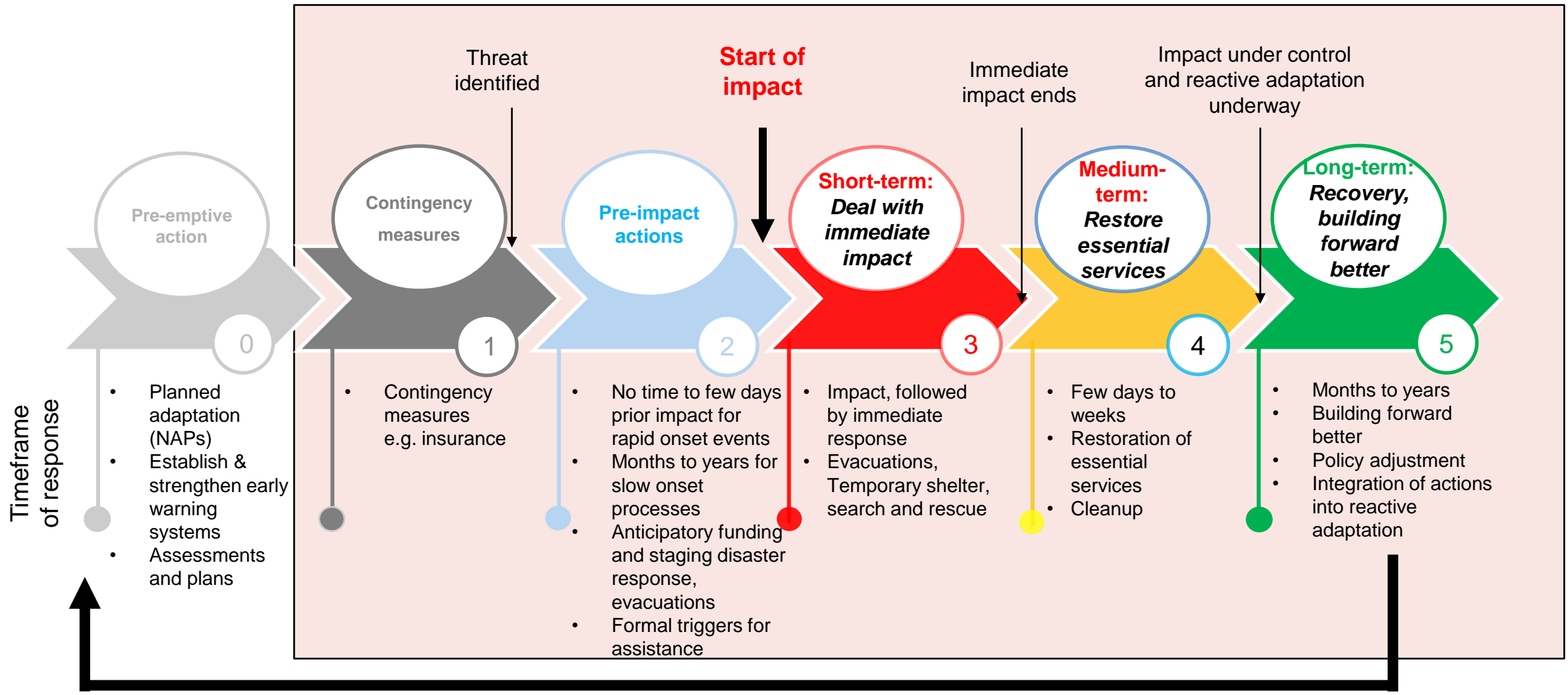
- Identifying and synthesizing country **experiences in addressing** major impacts of climate change, particularly, loss and damage resulting from hydro-meteorological hazards and extremes
- Identify specific needs for **technical assistance** at different stages of addressing loss and damage



Approach

- Unpack hazards based on phases of action before, during and after impact
- Re-pack actions into phases based on nature of hazard and actions to anticipate, respond and recover
- Main phases include:
 - (preemptive actions (planned adaptation))
 - For rapid onset events:
 - contingency planning (with funds accruing after impact)
 - Anticipatory action (a few days after a major hazard is forecast)
 - Short term response
 - Medium term – recovery
 - Long-term reactive adaptation (reconstruction, building-forward better)

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

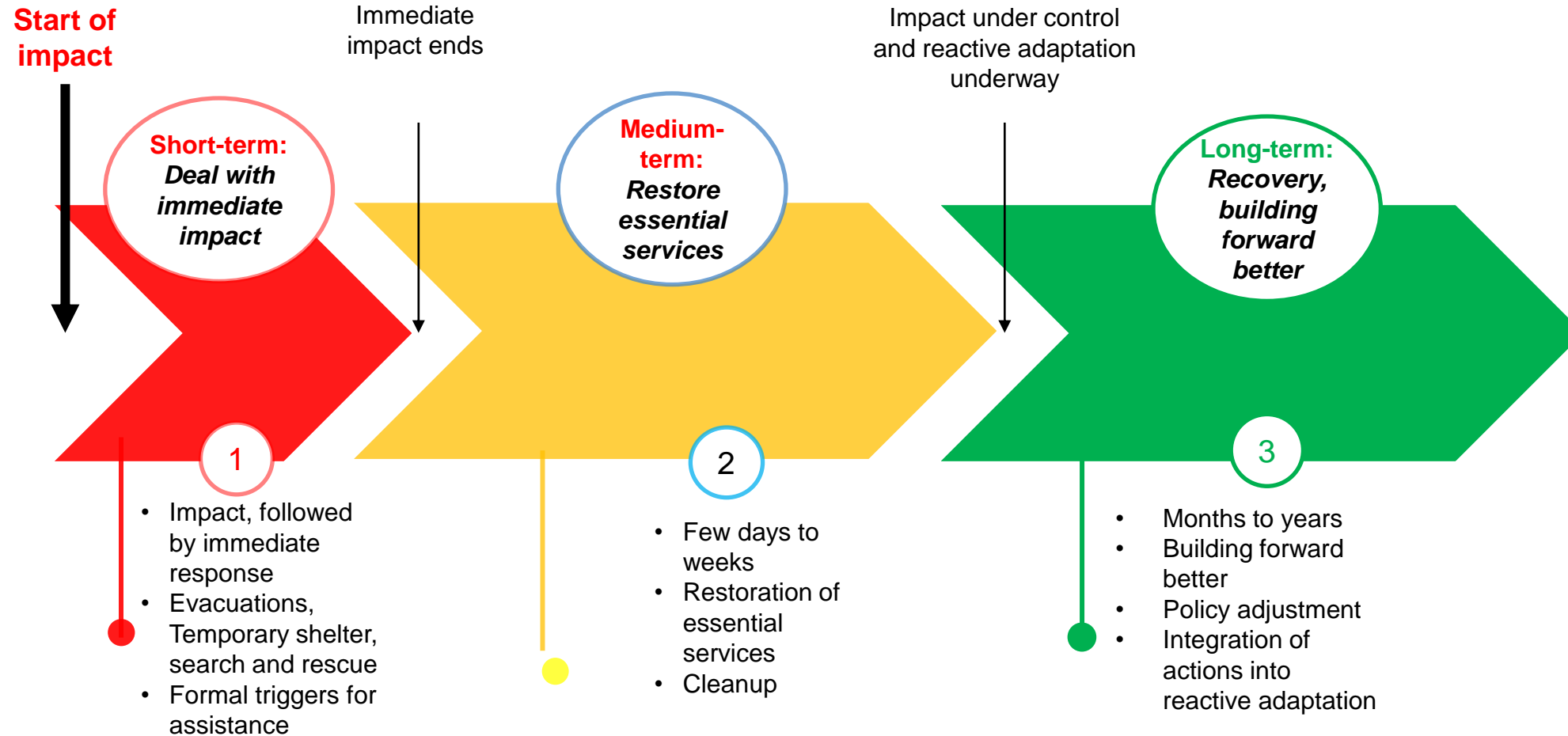


Approach

- The length of the response phase (red) varies based on duration of impact (short-lived, medium or long-term time-bound, or long-term permanent)
- The recovery and rebuilding phase may disappear in cases of permanent impacts e.g. SLR, loss of biodiversity
- The following slides show the different scenarios of events and impact based on nature of onset and length of impact

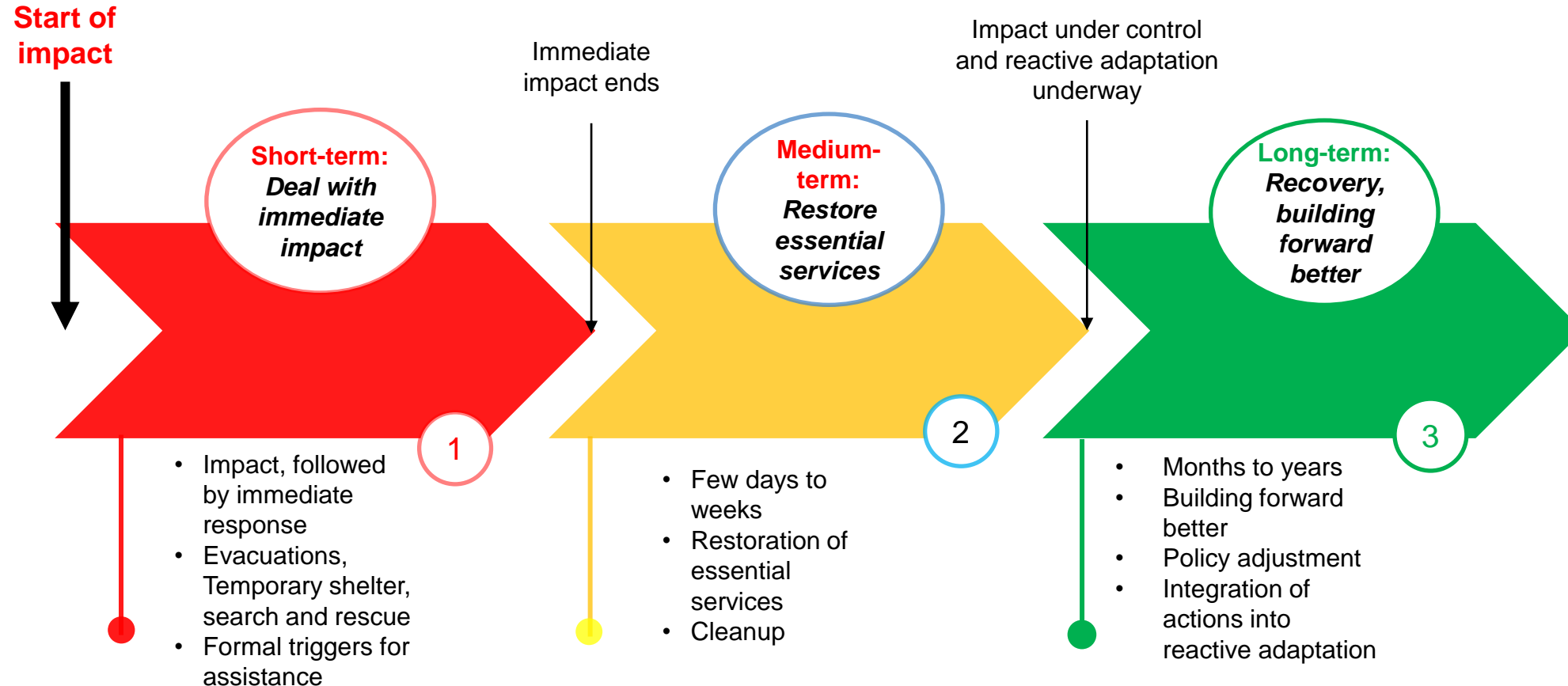
Spectrum of actions in responding to climate impacts

(short-lived events: **sudden or instant onset to several days, e.g. landslides, wildfire**)

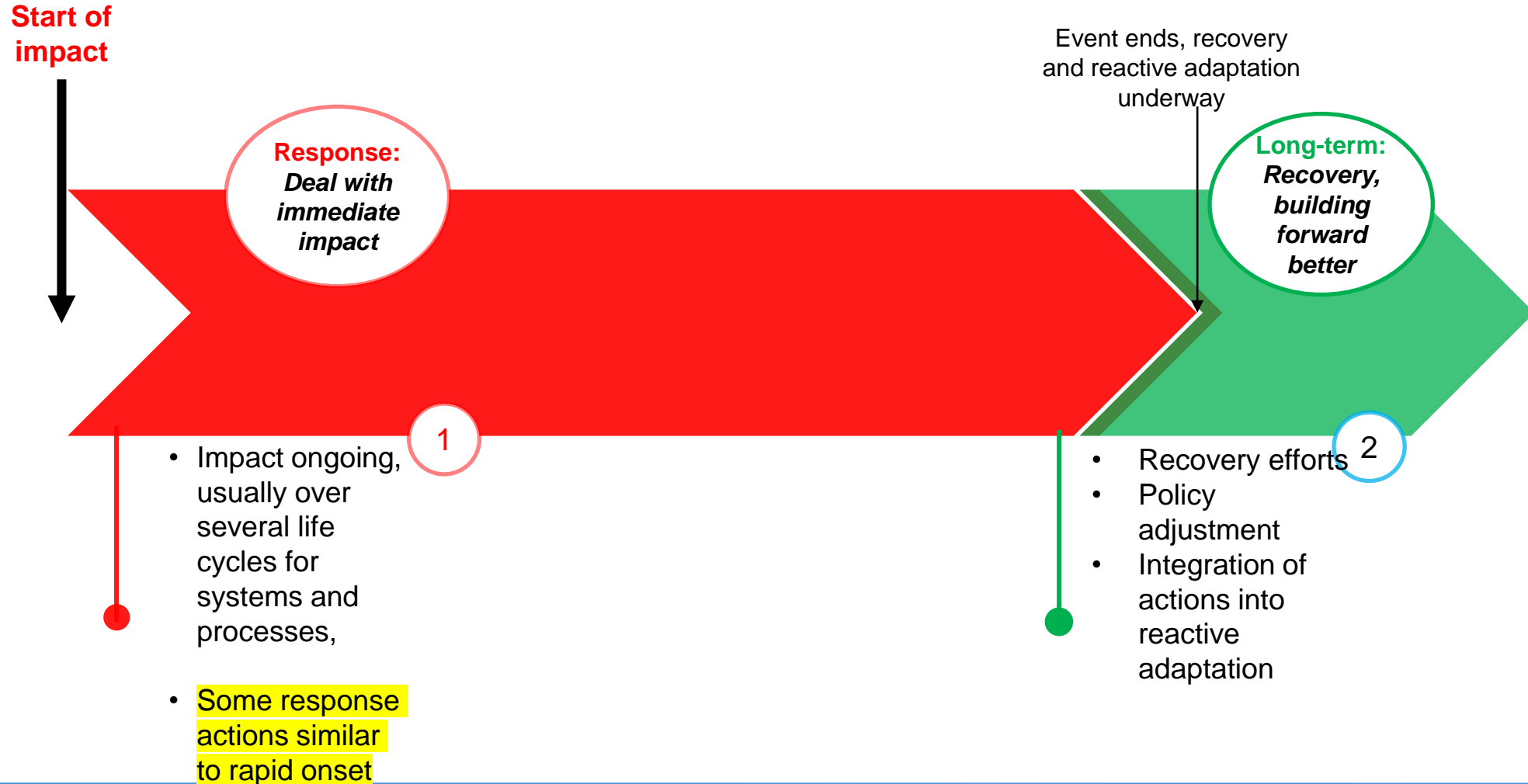


Spectrum of actions in responding to climate impacts

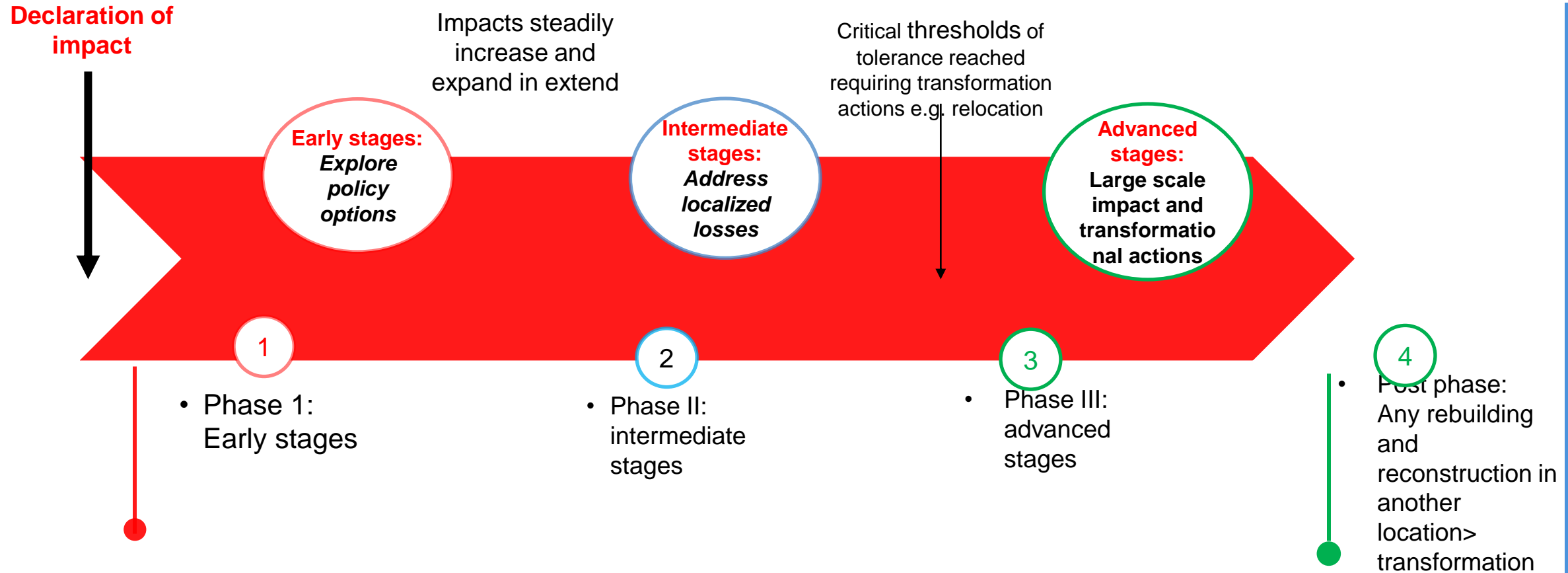
(short-lived events: rapid onset, hours to several days, e.g. tropical cyclones, flooding)



Spectrum of actions in responding to climate impacts (medium to long-lived events: months to several years, e.g. drought)



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



TROPICAL CYCLONES



DURATION OF EVENT: 6 hours – 1 day

Duration of effects: 5 days – 6 months

Synthesis from Dominican Republic, El Salvador, Honduras, Mexico, Panama, Saint Lucia, Trinidad & Tobago and Haiti

ANTICIPATORY ARRANGEMENTS (pre-phase 1)

- Continuous monitoring of risk atlas and communication with risk management departments (Civil Defense Office)
- Warnings from authorities with info on shelters, emergency numbers
- Parametric insurance, SRSP mechanisms, grants for damaged appliances, house repairs, agricultural losses
- Tours and identification of vulnerable population
- Education and trainings on forecasting, response for military personnel

ANTICIPATORY ARRANGEMENTS (phase 1, 2)

- Depending on threat, budget preparation is done with fund allocation through dedicated funds; food aid packages; humanitarian aid activated for food support, violence prevention, child care, info dissemination
- Activation of the relief phase of the existing risk management plans
- Relocation of population in flood risk areas
- Press conferences
- Cabinet exercises and drills

TRIGGERS FOR RESPONSE (48 hours - 2 weeks)

- Level 1: Local government reps receive reports from communities on extent of impacts
- Level 2: If event is forecasted to cause long-term impacts based on report of losses and damages, emergency declared. Eg. 9 lives lost, 3 missing in Mexico.
- Level 3: high impact, all hands on deck with request for help at international level

RESPONSE ACTION (Phase 1, 2)

- Search and rescue – saving lives is first priority
- Dispatch of emergency services, food, water, medicine
- Shelter for affected families in schools, hotels, churches, temporary shelters; damage assessment, provision of essential goods
- Aerial surveillance for initial damage assessment of infrastructures to ensure roads are stable for movement
- Sectoral damage assessments

RECOVERY ACTION (duration of recovery depends on level of damage)

- Recovery triggered based on damage assessment reports and submission of evidence of the impact
- Prioritize transport infrastructure rebuilding
- Emergency funds can be used for recovery, which is usually 1% of national budget
- Special projects for livelihood recovery with economic incentives, cooperation, etc. with procurement of contractors, supplies and goods to build back

TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- Support with risk management tools development and methodologies for resilient building construction and infrastructures
- Support with development of products that guide on how to target funding to most vulnerable
- Support for local level assessments along with tools and guides to assist operating in a data-poor environment (eg. old census)
- Best practice sharing on legislation

Gaps

- Transmission of scientific and technical information as citizens don't know how to translate info to action.
- Communication of hazard-related information needs to be enhanced especially at community levels
- Localized risk assessments as most assessments are manifested at national levels.
- Evidence-based relocation
- Recovery and reconstruction are usually not complete as country lacks essential services

Needs

- Improved coordination between ministries and agencies on how relocation should be approached and where it could be done
- Improved trust in science and reduce the uncertainty with forecasts eg. the difference between probability and prediction is not always understood
- Need for local government involvement
- Improved understanding of assets
- Technologies and AI use
- Enhancement and enforcement of building codes

FLOODS

Synthesis of Bolivia, Costa Rica, Ecuador, Haiti, Peru, Panama



DURATION OF EVENT: Weeks

DURATION OF EFFECTS OF THE EVENT: Months

ANTICIPATORY ARRANGEMENTS

- Most of the countries mentioned that there is no insurance/ preparatory/ anticipation funds for floods. There is evacuation if necessary. Only Peru mentioned about payment of bonus of USD 134 following Cyclone Yaku.
- In Peru, National Emergency Operations Center is activated in Phase 3 of anticipatory arrangement to respond with evacuation, rescue food, temporary camps
- Most countries have general risk management guidelines and monitoring to issue early warning alerts, but no rescue protocols for livestock and farm animals

RESPONSE ACTION

Phase 1 – triggered after infrastructure damages and declaration of emergency. 2 – 5 days after disaster

- Depending on severity, there are L&D evaluation, search and rescue, supply provisions, clearing of affected areas, removal of garbage, shelter provision.
- Most countries main response is from national civil protection system and national police. Haiti is an exception with NGOs and UN intervening in Phase 1.

Phase 2 – 5 days to 3 months.

- Phase 2 is focused on reestablishment of key essential services like electricity, water pipes, roads, homes and cleaning sewerage
- Focus for other phases include restoration of natural vegetation

RECOVERY ACTION

Phase 1. Duration: 1 – 2 years

- Rebuild the affected houses based on territorial plans and construction standards, maintenance of sewers, protection of rivers and streams,

Phase 2. Duration: 2 – 5 years

- Improvement of DRR strategies, capacity building and sensitization

TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- Staffing at ministries and capacities for coordination
- Instruments and tools to evaluate the intensity of the events
- Capacity development, climate and finance literacy
- Tangible projects for implementation
- Early warning needs to include other indicators than just climate components.

Gaps

- Relocation support is missing in most countries (except Costa Rica)
- Special challenges with indigenous population
- Anticipatory action plans and contingency plans are missing in Bolivia
- Proper evacuation plans

Needs

- Involvement of private sector and finance sectors for insurance
- Context and sector specific insurance (eg. urban vs rural)
- Inclusion of indigenous knowledge in pre-action plans
- Coordination between different levels at the government
- Gender mainstreaming and gender-related payments

SEA LEVEL RISE

DURATION OF PROCESS: long-term

Duration of effects: Incremental, permanent

Group consisting of St Lucia, Belize, Trinidad & Tobago

TRIGGERS FOR DIFFERENT LEVELS OF ACTION (over years to decades)

- Level 1: Localized impacts associated with coastal erosion and flooding, saltwater intrusion threatening freshwater resources, inundation of low-lying coastal areas to the displacement of communities, loss of potable water sources, and the loss of agricultural land
- Level 2: More widespread impacts requiring scaled up responses
- Level 3: high impact, requiring relocation

RESPONSE ACTION (Phase 1)

- Actions for associated impacts such as to address coastal erosion, flooding, etc.
- Legal frameworks to consider options for the future when impacts severe and transformational actions needed including large-scale relocations, e.g. – identifying suitable relocation sites, securing land rights, providing adequate infrastructure, housing, education, healthcare, etc.

LONGTERM ACTION (Transformational actions to permanent impacts)

- Planned relocation – within national boundaries
- Planned relocation – internationally

TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- Support with risk management tools development and methodologies for resilient building construction and infrastructures
- Support with development of products that guide on how to target funding to most vulnerable
- Support for local level assessments along with tools and guides to assist operating in a data-poor environment (eg. old census)
- Best practice sharing on legislation

Gaps

- Lack of detailed studies on the impact of sea level rise regarding groundwater infiltration, salinisation of arable land, effects on wildlife, livelihoods, coastal infrastructure.
- Lack of economic appraisals of adaptation options

Needs

- Need for EWS taking into account sea level rise
- Need for proper insurance with the right triggers,
- Need for forward looking land zoning regulations
- Need of enforced legislation
- Need to change of agricultural practices
- Need to carry out systematic climate risk assessment
- Need to align investments

LANDSLIDES



Synthesis of Chile, Colombia, Dominican Republic, Ecuador, Brazil

ANTICIPATORY ARRANGEMENTS

- **Pre-Phase 1:** Social protection systems with specific subsidies, but proposed schemes are generic with no specification of events. For example, they do not include the issues of sliding.
- **Phase 1:** National and subnational maps to determine areas most susceptible to landslides; Actor-coordination systems to assess the risks, generate data and activate alerts; slopes are also marked.
- **Phase 2:** Alerts and siren systems activated depending on chances of rain and based on geological and hydrological risk mapping. Warning is created by combining information about risk zones and rain alerts. SMS messages sent to people in risk areas although alerts are primarily for rain. Risk of landslides announced after 100mm of rain.

RESPONSE ACTION **difficult to establish emergency start date as landslides occur after other events (flood)*

Phase 1: 18 days response period

- Rapid response is focused on saving lives. Personnel are mobilized from federal levels to local levels for planning of the resources.
- Rebuilding of electrical and water stations
- Damage assessments and needs analysis conducted with first response actions

Phase 2: 90 days response period.

- Reestablishment of public services like sewage, telecommunications, health services, delivery of food, water, etc. Second phase is called Stabilization in Colombia.
- Construction of temporary accommodation, removal of debris, provision of WASH services, reconstruction of roads, preparation of risk zoning maps

RECOVERY ACTION

- Depending on level of damages, recovery actions get activated- no thresholds, or specific triggers
- Absence of a management plan hinders the transition from response actions to rehabilitation efforts. As a result, the response phase is prolonged, and there is confusion about when to move on to recovery or rehabilitation phases.

TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- Specific characterization of risk areas, inclusion of climatic variables in land use planning.
- More precise information on the relationship between rainy seasons and landslides to have better bases for EWS and risk scenarios at the local level

Gaps

- Due to its short and rapid occurrence time, difficult to issue alerts
There is no prior management system, only a post-event response system.
- Lack of preventive plans and evacuation plans for landslides.
Management plans do not have clear risk management guidelines, particularly in landslide issues, which does not allow establishing clear triggers
- Challenge in planning recovery actions to reduce risks in areas with a history of settlements at high landslide risk, where poverty and vulnerability factors are prevalent
- Most of the risk maps are obsolete
- Little confidence of inhabitants in risk areas on alerts due to lack of training and guidance

Needs

- Necessary to strengthen territorial instances to better manage areas susceptible to landslides and link landslide events with existing early warning systems against floods.
- Necessary to institutionalize the knowledge on landslides
- Financial sustainability strategy given how distribution of emergency funds have been ad-hoc and concentrated at central levels.

ANTICIPATORY ARRANGEMENTS (pre-phase 1)

- Federal Civil Defense Authority and Agricultural Emergency Monitoring offices present in countries. They developed online drought monitoring systems, online courses
- Water strategies, National Emergency Laws in place
- Agrarian and Safety insurance for smallholder farmers present (problem is the amount is minimal)
- Special Drought Fund in Chile / National Emergency Fund in Paraguay

ANTICIPATORY ARRANGEMENTS (phase 1)

- Water planning with scenarios of water scarcity. Then adopt plans for integrated water management
- Agricultural loans can be renegotiated with government guarantees
- Improve shelter and shade conditions for livestock

TRIGGERS FOR RESPONSE

- Emergency events usually declared by law in coordination with Emergency Secretariat
- Loss in water availability; biodiversity and livelihoods
- Board of Water declares Water Scarcity declaration at municipal levels

RESPONSE ACTION

- Determine the risk, duration of the drought, amount of help needed and develop an action plan
- Water tank trucks linked with GIS system
- Communicate to the communities and stakeholders

RECOVERY ACTION

- Recovery linked to long-term actions and NAPs are primary tools to help with recovery
- Annual capacitation program through online courses
- Some countries had no recovery phase for drought contemplated in plans



TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- Development of drought plans, with prevention and post-event care actions
- Technical consultation to generate synergies for the adaptation of territories and reduction of L&D within the framework of Escazu agreement
- Dialogues with vulnerable groups to identify necessary support
- Land tenure with business plans that support resilience
- GPS monitoring software for tank trucks
- Mechanisms and action to restore life zones after drought
- Inventory of quality resources and how the resources reach to the most vulnerable

Gaps

- Definition of parameters and criteria to declare drought
- Protocols for emergency declaration
- The way risk is communicated to the most vulnerable
- When information gets translated to reports and alerts, it doesn't reach the vulnerable people on time
- Lack of alignment in media and language of communities
- Smallholders and indigenous communities usually don't participate in payouts and don't have access to private financial mechanisms

Needs

- Develop local indicators, bioindicators and adapt traditional and local knowledge
- Improve climate services for communication with small producers
- EWS that reaches most vulnerable
- Improved access to loans, production insurance
- Improvements in shelter and shade measures, pastures, livestock diets, etc.
- Quantification of water reserves
- Adapt to existing methodologies of ECLAC, WFP, etc.

KEY TAKEAWAYS

- Response to drought needs to be assessed and managed differently with a methodology that considers impacts already registered and climate projections
- Difficult to identify differences between response and recovery so more clarity needed

WILDFIRES

Synthesis of Argentina, Chile, Paraguay



DURATION OF EVENT: Weeks

DURATION OF EFFECTS OF THE EVENT: Months

ANTICIPATORY ARRANGEMENTS (pre-phase 1)

- Fire management systems, risk prevention systems and services
- Prevention campaigns for rural areas and forests
- Early Warning Systems with coordinated alerts on forest fire occurrences
- Forest Fires Monitoring tools
- Creation of Emergency Council (in Paraguay) made up of Armed Forces, police, public institutions, governments, municipalities

RESPONSE ACTION

Phase 1

- **3 levels of emergencies (Chile):** first level when local government is able to face it with its resources; second level is known as a “*disaster*” when regional committee is formed and resources are released from the region. When the region cannot cope, a “*catastrophe*” is declared
- Response begins at local and provincial levels and if unmanageable, assistance requested at national levels.
- Most immediate response is through fire brigades of municipalities where fires occur
- In Paraguay, when there is a national emergency declaration a national response team is formed: the “Emergency Council” and funds and resources from different institutions are allocated, as well as humanitarian aid. For example, in 2019, humanitarian aid was received from USAID, mainly for the purchase of equipment

Phase 2

- After an area has suffered a fire, strict regulations on the use of land in that area. For example, in the event of a fire in native forests, it is not allowed, for 60 years, to make land use changes
- Preliminary reconstruction plans with actions in habitability, psychosocial support, productive reactivation, infrastructure resilience, etc.

TECHNICAL ASSISTANCE NEEDS, GAPS AND SUPPORT

Support

- REDD Funding for the strengthening of a national monitoring systems of fire
- Inappropriate human capacities – For example, firefighters who are meant to fight small-scale fires are fighting forest fires. Need to increase the resources too

Gaps

- Adaptation Communication has a strategic objective dedicated to promoting species resistant to fire, but no means to implement this action.
- Lack of risk transfer mechanisms
- Develop long-term monitoring models
- Lack of recovery strategy and resources to support recovery

Needs

- Improved preparation in relation to cleaning of areas to avoid ignition
- Improved processes for evacuation
- Need to work with private sector who own forests and other plantations as ministries are working to only recover areas that belong to state

Next steps

- Further analyze information collected in LAC region together with information from upcoming workshops in Africa and Asia/Pacific
- Reconstruct phases of action and subsequent technical assistance needs
- Extra profiles available in the slide deck

Thank you

Information will be updated on Santiago network page at

<http://unfccc.int/Santiago-network>