RISK-INFORMED DEVELOPMENT

A Strategy Tool for Integrating Disaster Risk Reduction and Climate Change Adaptation into Development

Annex D:

Country Case Studies

Contents

Country Case Studies

1. Country Case Study: Ecuador's Mainstreaming Narrative 3
2. Country Case Study: Lebanon's Mainstreaming Chronicle 9
3. Country Case Study: Moldova's Mainstreaming Trajectory 14
4. Country Case Study: Cambodia's Mainstreaming Journey 19
5. Country Case Study: Bangladesh's Mainstreaming Experience 25
6. Country Case Study: Fiji's Mainstreaming Story 32

Country Case Studies

This standalone Annex accompanies the UNDP tool "*Risk-Informed Development: A Strategy Tool for Integrating Disaster Risk Reduction and Climate Change Adaptation into Development.*" The six case studies demonstrate the interlinkages between the mainstreaming spheres of action and the different entry points.

1. Country Case Study: Ecuador's Mainstreaming Narrative

A Snapshot of Ecuador's Risk Profile

Ecuador is a country exposed to a series of natural and anthropic hazards. Located in the Pacific Ring of Fire, it is a country of high seismic and volcanic risk, due to the high vulnerability of the population and the infrastructure. Extreme weather events have been increasing in recent years, such as droughts, forest fires, intense rains that cause floods, landslides, river overflows, and collapses. There are also frequent phenomena of industrial, anthropic, and biological origin that generate health risks and environmental damage in different areas of the country.

In Ecuador, the particularities of development determine different levels of exposure of the population to services and infrastructures, depending on their location and levels of vulnerability and institutional capacities, which are generating different risk scenarios. These risks are manifested even more in cities on the coastal and riverine zones of Esmeraldas and Teaone which are exposed to the impacts of climate change, El Niño, and other weather-related risks. The predicted climate change points to hotter and more humid conditions and stronger and more frequent El Niño. Sea level rise is an impending threat predicting to about three to six percent of the city to be temporarily or permanently underwater (Sierra et al., 2009).

Poverty creates difficult economic conditions and the lack of access to basic services makes the population more sensitive to suffering the impacts of disaster. Population growth and the expansion of strategic infrastructures in highly exposed areas, together with the environmental deterioration and weak urban planning have become determining factors for the increase of risk in many locations.

Under this scenario, the incorporation of actions that integrate Disaster Risk Reduction and Adaptation to Climate Change in development is an opportunity to build the resilience of the population and make development more risk informed.

Mainstreaming Initiatives

There are three key UNDP-supported initiatives that aim at strategically integrating disaster risk reduction and climate change adaptation into the development processes and policies in Ecuador.

Initiative 1: Guidelines for updating Local Government Development and Land Use Management Plans (known in Spanish by its acronym PDOT). The Guidelines include complementary technical tools on climate change adaptation and risk management. This started in 2019 and the application of the Guidelines and technical instruments continues. It was initiated at the subnational levels under the collaborative partnership of the Secretariat of National Planning, Ministry of Environment and Water, Service for Disaster Risk Management, Project National Adaptation Plan to Climate Change (PLANACC) supported by UNDP and other climate change projects.

Initiative 2: Climate change adaptation guidelines to manage the risks of disasters caused by hydrometeorological hazards that affect human settlements. It is an ongoing initiative that seeks to integrate climate change adaptation and disaster risk management in a technical instrument or guidelines. It is both a national and local level undertaking led by the Ministry of Environment and Water, Service for Disaster Risk Management, and the Project National Adaptation Plan to Climate Change (PLANACC) supported by UNDP.

Initiative 3: Reducing climate vulnerability and flood risk in coastal urban and semi-urban areas in cities in Latin America. It is a regional project of which Ecuador is one of the countries assisted. It is specifically implemented in the coastal city of Esmeraldas and the coastal city of Antofagasta and Taltal in Chile. This is funded by the Adaptation Fund and the Development Bank of Latin America (CAF) is its implementing agency. UNDP acts as the Executing Agency and the Ministry of Environment in both countries are the responsible entity from the Government side.

Description of Mainstreaming Entry Points

Ecuador's prominent mainstreaming narrative leans very heavily towards a combination of policy and organization entry points. These entry points range from the policy, strategies, and plans trajectory and weaves towards the four (4) organization entry points of coordination and responsibilities, capacity, procedures and tools, and programmes and projects.

In 2008, the Constitution of the Republic of Ecuador elevated disaster risk management to State policy, supported by a decentralized and deconcentrated system. The constitutional framework determines subsidiary decentralized management that indicates that each public or private entity, at the national and local level, is responsible for managing its risks. This implies that the entities develop their capacities, provide the respective resources, and are ready to articulate actions with other actors to reduce the risk in their respective territories or areas of competence. This was a key *policy entry point* - an important foundation upon which integrating risks into development were built as reflected in the ensuing guidelines, plans, strategies, and normative instruments.

The constitutional process that elevated disaster risk management to a State Policy has been accompanied by the respective strengthening of the institutional framework with the creation of a specific entity for Risk Management – the Service for Risk Management (SGR), this is an *organization entry point* that accompanied the *policy entry point* as abovementioned. The SGR steered the process, particularly the gradual incorporation of a comprehensive risk management approach that transcends emergency response by including also development planning, prevention, risk reduction, recovery, and knowledge management. This generated greater support capacities at the country level. This experience in Ecuador is a reaffirmation that integration of risk into policies or plans does not automatically make development risk-informed. It necessitated an accompanying institution or *organization* championing risk mainstreaming.

Another foundational and parallel *policy entry point* was the recognition of the legal rights to nature in its Constitution - a great first step for humanity towards a change of paradigm. The Ecuadorian Constitution includes a Chapter: Rights for Nature. Rather than treating nature as property under the law, Rights for Nature articles acknowledge that nature in all its life forms has the right to exist, persist, maintain and regenerate its vital cycles. And we – the people – have the legal authority to enforce these rights on behalf of ecosystems. The ecosystem itself can be named as the defendant.

Another parallel *organization entry point* was pursued in the climate change domain through the Under-Secretariat for Climate Change and a National Directorate for Adaptation to CC of the Ministry of Environment and Water. They led a series of initiatives such as Third National Communication on Climate Change or the implementation of the National Adaptation Plan (NAP) that has also contributed to the adaptation component of its NDC as a supporting partner of Ecuador's climate change adaptation (CCA) to adapt and minimize the possible impacts of greater future climate variability. Of all the processes mentioned, the course of integrating disaster risk reduction and climate change adaptation in development is at an initial stage mainly because of the different theoretical approaches, the schemes of governance at different levels, and the institutional dynamics as described above.

Building on the gains of the above *entry points*, the Government of Ecuador demonstrated the political will to proceed with policy-level action for the generation of participatory normative instruments that allowed for the integration of both DRR and CCA in the Local Government Development and Land Use Management Plans (PDOT by its acronym in Spanish). In practice, the integration of DRR and CCA occurred at the technical level, through the active collaboration

between representatives of the SGR and the Under-secretariat of Climate Change. This points specifically to *coordination and responsibilities* as an important sub-entry point of *organization* – through an inter-ministerial and inter-sectorial coordination platform which is an important starting point for discussion and dialogue on mainstreaming to take place.

Also, the work under the *organization entry point* went ahead by developing a set of PDOT Guidelines, which are *procedures and tools* in support of mainstreaming. The effort focused on the review, feedback, and consensus-building of the tools generated by each entity and on the technical terminology used in the so-called "Toolbox for the integration of climate change criteria into the PDOT". In particular, the part relating to climate hazards, the biophysical effects of these hazards and the respective impacts on natural and human systems prioritized by each local government. The tool development process served as a driver for integrated and/or joined-up DRR and CCA mainstreaming in Ecuador.

The NDC preparation process played as a *policy entry point*, specifically under the *policies, strategies, and plans* sub-entry point where it harnessed further the *organization sub-entry point* of *coordination and responsibilities*. This was exemplified by the SGR and the Sub-secretariat of Climate Change of the Ministry of the Environment and Water working jointly on the PDOT Guidelines.

The Nationally Determined Contributions (NDCs) formulation process, carried out between 2018 and 2019 paved the way for the DRR and CCA community to strengthen their relations. They then decided to carry on forward to work together on Guidelines to integrate climate change into development plans. The NDC formulation process also opened up support for a *knowledge entry point*, specifically the finalization of the greenhouse gas inventories for the years 2014, 2016, and 2018 under the 2006 IPCC methodology. As a result, Ecuador received non-reimbursable funding for the pilot programme for REDD+ Results-Based Payments of the Green Climate Fund, a *finance entry point*. This constitutes a monetary recognition for national achievements in terms of reducing forest carbon emissions after complying with all the requirements established by international conventions.

The crucial role of *programmes and projects*, another *organization entry point*, on mainstreaming DRR and CCA in development, such as the PLANACC project supported by UNDP, cannot be overemphasized enough. It helped turn policy and plans into practice by facilitating joint actions. In addition, it has provided an impulse for other joint initiatives such as the one outlined in initiative 2 on 'Climate change adaptation guidelines to manage the risks of disasters caused by hydrometeorological hazards that affect human settlements.' There was an agreement reached between the SGR and the PLANACC Project for a new normative instrument on incorporating climate change adaption into the management of disaster risk in the context of human settlements. Again, another stellar example of how the *organization entry points* of *programmes and projects* and *coordination and responsibilities* can set the stage for the *policy entry point* on *standards* under which the normative instrument or the climate change adaptation guidelines for human settlements may fall under. This is a very recent initiative though, with which it is expected to advance in the process of collaboration and synergy work, aimed at having public policy and technical instruments that ensure the timely and effective risk management of the impacts caused by climate and weather events.

Moreover, the ongoing regional initiative implemented in the Coastal City of Esmeraldas in Ecuador has capitalized on one of the *organization entry points*, that is - *programmes and projects*, as it involved risk-informing the project activities e.g., incorporating climate variable in protection works and green infrastructure. A key feature of the projects implemented in Esmeraldas is ensuring the active involvement of at-risk populations in the process. This is a very prominent *stakeholders entry point* that calls for the active participation and accountability of communities and the people so that all project activities have an actual impact in reducing vulnerabilities. Only with the participation of the population will risk-informed and sustainable development be fully realized. All these facilitated the integration of DRR and CCA as there is support from central, regional, and local governments to implement activities that reduce the vulnerability of communities and contribute to sustainable development. The willingness of the government at different levels allowed for the acquisition of resources from the Adaptation Fund for the implementation of the project, with support from CAF as the implementing entity and UNDP as the executing entity. This exemplified how the *organization entry points* reinforced the *finance entry point* of resource mobilization.

In essence, Ecuador's journey on mainstreaming DRR and CCA into development shows a heavy reliance on *policy* and *organization entry points* as elaborated above. Both *finance* and *stakeholders' entry points* have often played supporting and/or reinforcing roles to *policy* and *organization*. It is also worth noting that Ecuador had limited use and/or support for the *knowledge entry point*.

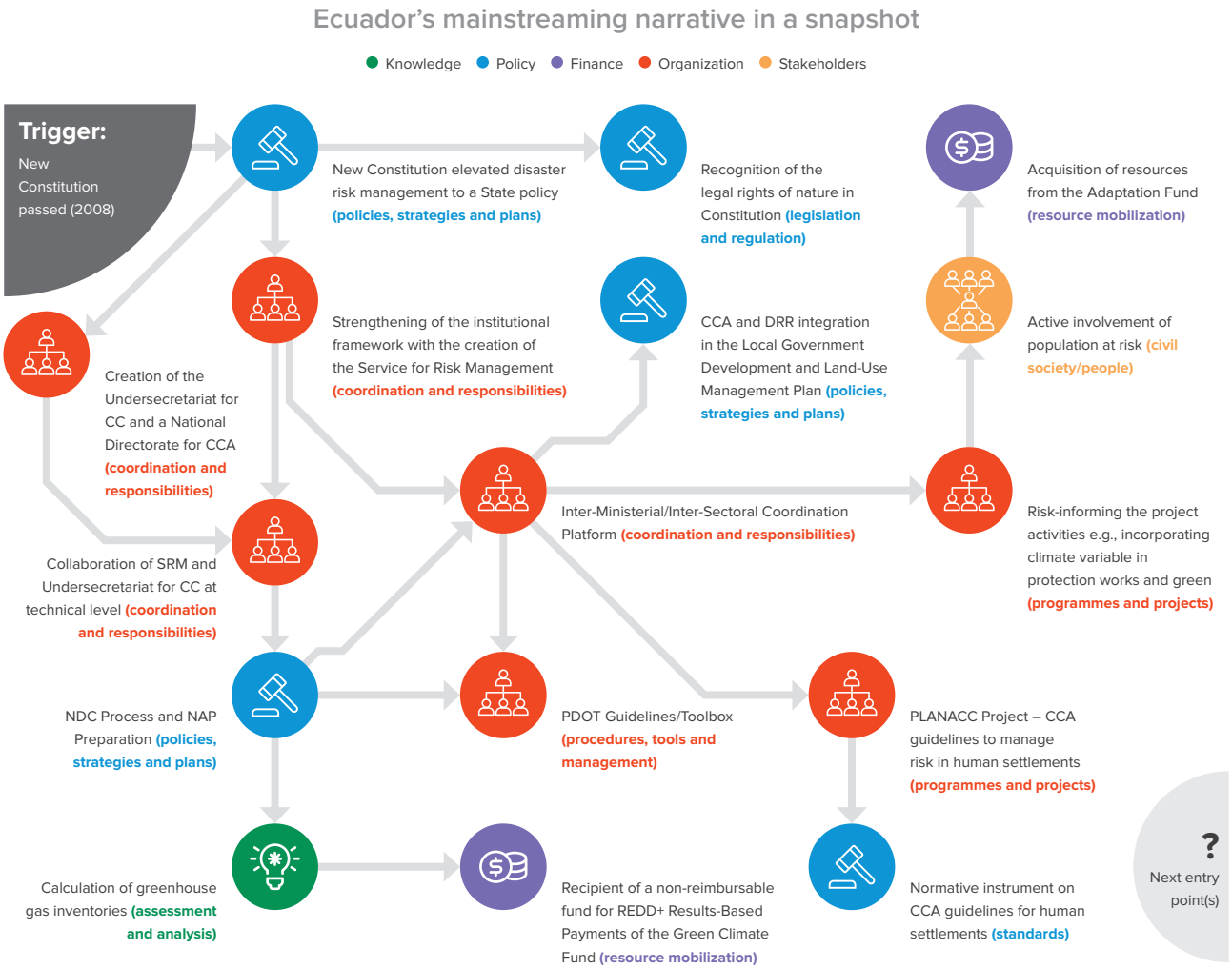
Mainstreaming Results

- Effective agreement for joint work in the formulation phase of the adaptation component of Ecuador's NDC and its respective Implementation Plan
- Ongoing synergy for the generation of a useful technical instrument for disaster risk management that integrates the climate change adaptation dimension
- The willingness of the different institutions involved in the project to work collaboratively on DRR and CCA.
- Capacities developed of different actors concerning the issue of green infrastructure as a mechanism for disaster risk reduction and adaptation to climate change

Challenges and Opportunities

Risk-informed development in Ecuador is no easy feat. While there are quite good indications of progression in mainstreaming of DRR and CCA in development, it remains a fragile process due to political factors, human development impacts of Covid-19, the fiscal crisis, among others. Specifically, political factors such as the 2021 national elections in Ecuador may impact the sustainability of the policy and organization entry points. The natural consequence of the change of political leadership is the re-organization of the ministerial cabinet. This alone could have far-reaching effects on the sustainability and continuity of policies and strategies. The momentum of the joined-up DRR and CCA actions emerging at a time of the election year in Ecuador may be curtailed if and when, for instance, the next ministerial leadership doesn't share the same vision as the incumbents. Optimistically, the election in Ecuador may also present an opportunity for this

process to improve a more green agenda in the post-pandemic context of the coming years. The lack of funding may also affect the trajectory of joined-up actions. Furthermore, there remains a lot to be done to overcome ideas and positions of "individual institutional 'siloed' action.



As already earlier pointed out, Ecuador has almost nothing of the knowledge entry point to speak of. While the policy and organization entry points may be slowed down by the upcoming election year and immediate periods of transition thereafter, it would be an opportunity to strengthen the knowledge entry points, specifically, on awareness and education and risk assessment and analysis to better inform the green infrastructure initiative, for instance. An opportunity also presents for strengthening the entry point on monitoring & evaluation, compliance and monitoring. For instance, to ensure compliance, enforcement, and implementation of guidelines for local government development and land management or the climate change adaptation guidelines for human settlements. On another note, it is also good for Ecuador to revisit the stakeholders' entry point of the private sector and civil society engagements. As it is now, Ecuador relies much on Government as the primary stakeholder. The private sector and even civil society are almost absent in the whole mainstreaming narrative.

2. Country Case Study: Lebanon's Mainstreaming Chronicle

Lebanon Risk: A Synoptic Vignette

Lebanon, a country of 5.9 million inhabitants known for its fragile stability, is exposed to a range of natural and manmade hazards, crises, and disasters that are often associated with human and socio-economic losses that have deterring effects on lives, livelihoods, and development. Throughout its past and recent history, Lebanon has witnessed many hazards and crises that reflect the importance and need of having strong disaster risk reduction strategies and mechanisms in place to safeguard lives, assets, and development gains. Based on the National Council for Scientific Research – Lebanon (CNRS-L), which is the scientific arm of the Lebanese Government, the major natural hazards that Lebanon is prone to include flooding, landslides, storms with accompanying floods, and forest fires.

Climate change is expected to increase the frequency of these disasters, with increases in drought, sea-level rise, storms' intensity, forest fires and pest outbreaks, heat stress as well as damaged infrastructure. Moreover, studies show that for particularly dry years, when total annual precipitation is low, overall GDP is estimated to have lost more than 60% compared to years when total precipitation reached its optimal.

This risk complexity is even more pronounced in Baalbek Hermel, one of the poorest regions in Lebanon with poverty levels reaching 66 percent and where half of the population is thought to be unemployed. The area is increasingly affected by floods caused by surface run-off water due to torrential rains, poor soil infiltration, and deteriorated vegetation cover. The area has witnessed more than 12 flashfloods between 1994 and 2018 resulting in death and damage to assets including dwellings, infrastructure, and agricultural lands. Climate change only comes to exacerbate the numerous existing socio-economic and environmental issues, especially that climate models show the Baakbek Hermel region as one of the most impacted regions in Lebanon. In June 2018, a severe flash flood event took place in the region. Torrential rain swept the Bekaa Valley in an unusual bout of stormy weather, causing massive damage to houses, destruction of assets mainly agricultural lands which are a critical source of livelihood for residents, infrastructure, roads, schools, and small commerces.

Mainstreaming Initiatives

Lebanon has some key initiatives on DRR and CCA mainstreaming into development to vouch for. These are either ongoing or planned initiatives and include as follows:

First is the Nationally Determined Contribution Support Programme NDCSP that commenced in 2017 and is expected to culminate this year 2020. It is an economy-wide and country-wide initiative that focuses on both DRR and CCA. It is implemented with the partnership of UNDP, EU, Germany, and Spain- Ministry of Environment.

Second is the Climate Smart Agriculture: Enhancing Adaptive Capacity of the Rural Communities in Lebanon (AgriCAL) implemented under a partnership of IFAD, Adaptation Fund, Ministry of Agriculture. This preceded the NDC initiative and was initiated in 2012. It has a sector-based focus on Agriculture and Fishery but also national level in scope.

Third is the Ministry of Agriculture Strategy 2020-2025 under a partnership of FAO and the Ministry of Agriculture. This is a very recent initiative started in 2020 stretching up to five years to 2025. It has a national level in scope and focuses on the Agriculture and Fishery sectors.

Fourth is the planned 'National Strategy for Disaster Risk management/reduction'. This is at its preparatory stage supported by UNDP in partnership with the Presidency of the Council of Ministers. It is designed for a 4-year duration, an economy-wide and nationwide initiative with a DRR and CCA focus, specifically on the strategy that focuses on understanding disaster risk and entails policies that are cross-cutting between DRR, SDG, and CCA.

Description of Mainstreaming Entry Points

Twenty-fifteen (2015) was a remarkable year for development for the world. In Lebanon, this embedded a very important overarching *policy sphere of action*, that is, the adoption and accession to the triple global framework of the 2030 Agenda, the Sendai Framework for Action, and Paris Agreement. To simultaneously manage disaster risk and strengthen climate change adaptation, Lebanon adopted these frameworks that explicitly highlighted cross-cutting linkages including strengthened resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; integrate climate change measures into national policies, strategies, and planning; improve education, awareness-raising and human and institutional capacities on climate change mitigation, adaptation, impact reduction, and early warning; promote mechanisms for raising capacity for effective climate change-related planning and management in less developed countries and small island developing States, including a focus on women, youth and local and marginalized communities.

The 2018 floods in the Baalbek Hermel region prompted Prime Minister Hariri to mobilize the Disaster Risk Management Unit of UNDP located at the Presidency of the Council of Ministers to coordinate the response and to take the needed measures for future events. This exemplifies *leadership and advocacy*, a key *policy sphere of action* – a demonstration of high-level commitment and leadership that is key in the mainstreaming process. Moreover, one of the official decisions and policies supporting the DRM work was Circular 3/2019 issued by the Prime Minister which officially mandates the DRM Unit as the entity that has been tasked to ensure cooperation and coordination among all public administrations, public institutions, councils, bodies, municipalities and the federation of municipalities in the field of disaster risk reduction. This leverages on the entry point of *political leadership and advocacy*, and acknowledges that Governments cannot singlehandedly address the complexities of risk management, hence the need to strengthen the involvement of critical actors. Lebanon then capitalized on *partnerships and networks*, a *stakeholders sphere of action* to realize this. The Prime Minister launched an initiative to shift from response to prevention

and mitigation to tackle the problem that was coordinated through the Disaster Risk Management Unit. The DRM Unit conducted a mapping of concerned stakeholders both from the national technical disaster risk reduction committee and from stakeholders directly concerned by the flooding such as local authorities.

To leave no one behind and building on a very crucial *stakeholders sphere of action* – the Government as primarily responsible for coordination, oversight, and ensuring that risk-informed plans and policies are implemented, a working group gathering all stakeholders was established including local authorities, field agencies, concerned ministries, and national actors. This was further reinforced by a *knowledge sphere of action*, specifically, *awareness-raising and education entry point* making the working group understand the climate and non-climate hazards and risk at stake, their impacts, and cross-cutting issues through the DRM Unit's introduction of a methodology to approach the problem based on best practices in the field joining both scientific and community-based approaches. With enhanced understanding and awareness, the working group aimed to discuss proposed DRR and CCA solutions and come up with common grounds and recommendations that can be implemented to mainstream, develop and put in place comprehensive mitigation, adaptation, and prevention plans to limit the impact of floods in the most vulnerable areas.

The methodology introduced by the DRM Unit highlighted, even more, the interlinkages of other important mainstreaming spheres of action such as *knowledge*, *organization*, and *policy*. First is understanding disaster risk, a knowledge entry point of *assessment and analysis*. Following several focus groups meetings conducted with stakeholders, the Prime Ministers' Office requested the National Council for Scientific Research – Lebanon (CNRS-L) which is the scientific body of the Lebanese Government, to conduct a detailed multi-hazard risk assessment for the flood-prone region of Baalbek-Hermel and specifically the village of Ras Baalbeck which was most impacted. The purpose of the risk assessment was to identify the intensity and geographic limitations of potential flooding and communities at risk based on different flooding scenarios. Detailed mapping of the region was conducted and a hydrological simulation was developed. The above results supported CNRS-L to assess the quantity of rainfall, debris, lands impacted, assessment of flood plains, ponds established, agricultural lands, retention walls, and causes of the flood.

The assessment provided a framework for flood risk measures including nature-based solutions. The study recommended two types of interventions to mitigate and prevent flooding to limit the impact of floods in the most vulnerable areas. The proposed interventions include conducting a study for the establishment of a dam at Em Kahled Point, while the second recommendation included the rehabilitation of the ponds and river flood plains. The report also included several recommendations that were used as the basis for the working group to discuss, adopt and come up with a common action plan. The *knowledge sphere of action*, specifically, the multi-hazard risk assessment, resulted in the development of a risk-informed *action plan*, a *policy sphere*, that includes risk reduction actions such as clearing of flood plains, conducting a further study on the establishment of the dam, and other nature-based solutions such as maintenance of ponds and planting trees. This also led to the development of some preparedness plans and measures – also a *policy sphere of action*.

Furthermore, the *knowledge sphere of action – risk assessment* entry point also led to an *organization sphere of action* of *coordination* and consensus across levels to set up a unified action plan. Following the assessment, a technical working group was established including concerned stakeholders: the Ministry of Energy and Water, Ministry of Public Works, Ministry of Agriculture, Council for Development and Reconstruction (CDR), Lebanon Human Rights Commission (HRC), Governor of Baalbek Hermel, Civil Defence, Directorate of Municipalities, CNRS-L, Lebanese Red Cross, Directorate of Litani River, UNDP and the concerned municipalities. The findings and recommendations of the risk assessment served as the basis for planning and the said action plan was later presented to the Prime Minister for adoption.

This interlinking and dynamic nature of the different mainstreaming entry points is further illustrated by the ensuing high-level adoption by the Prime Minister of the unified action plan. This is a *leadership and advocacy* sub-entry point under the policy component. The unified action plan was disseminated to concerned ministries, governorates, and agencies for adequate action. The Prime Minister's communique, a crucial *policy sphere of action*, requested the implementation of the recommended nature-based solutions such as planting trees, rehabilitation of critical infrastructure, cleaning mainstreams, along with setting up long-term risk reduction and mitigation plans. The letters were officially sent by the Prime Minister to concerned stakeholders in March 2019. The Prime Ministers' adoption highlights the shift from response to investing in prevention and mitigation and sets forth good governance and accountability among concerned sectors and entities. The Prime Minister's communique to the concerned ministries and agencies directed the implementation of the relevant activities within the action plan based on its mandate and from within its budget. It is worth noting that internationally mainstreaming DRR financing from within institutional budgets is recommended and not as a separate budget.

Gains in Mainstreaming and Ways Forward

Anecdotally, in the last two years since the implementation of a risk-informed unified action plan for response, mitigation, preparedness, and development, the Baalbek Hermel region has so far not been affected by the annual recurrent floods.

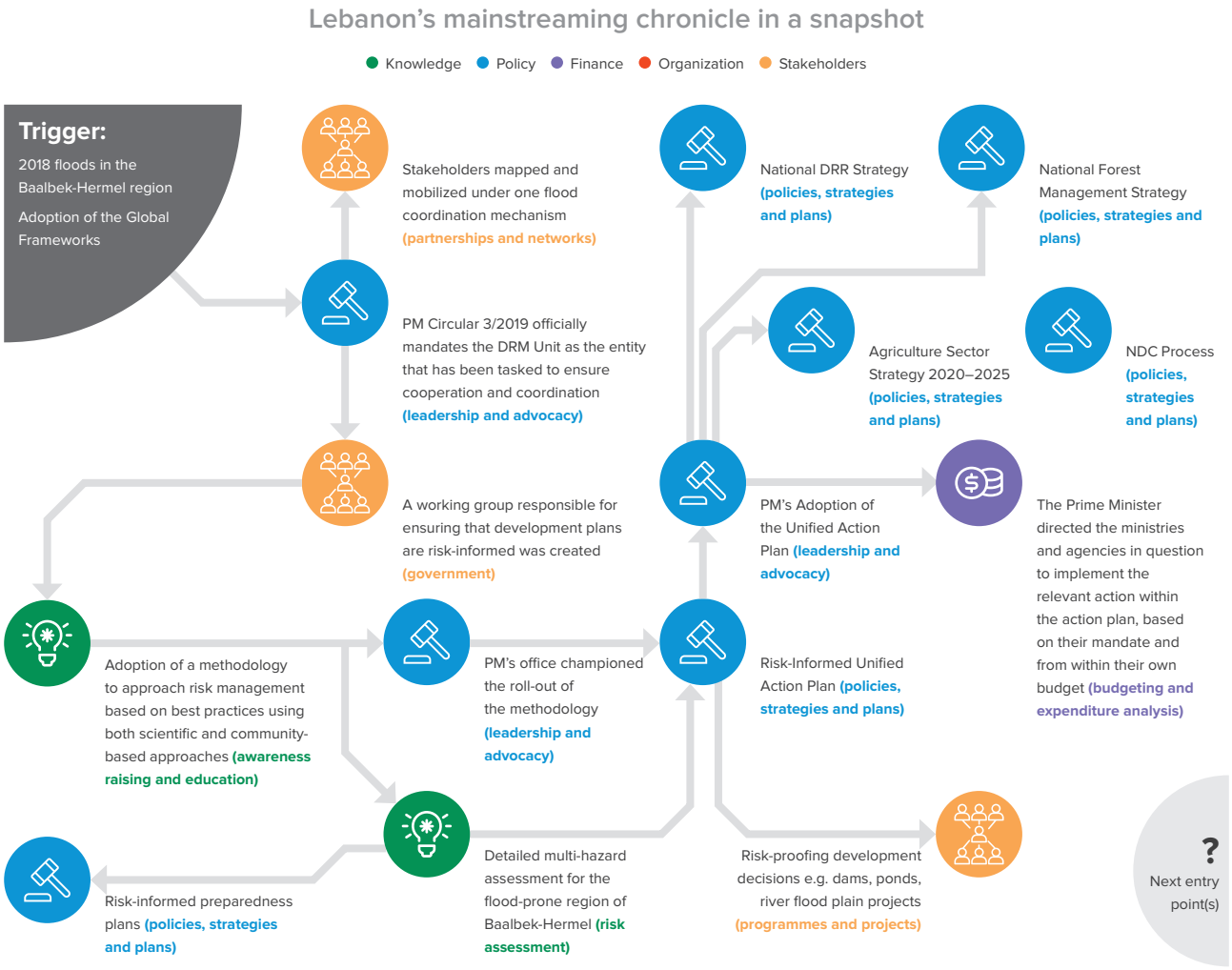
The combination of entry points of high-level leadership (*policy*) championing the initiative, and the conduct of multi-hazard risk assessments (*knowledge*) to inform the development of risk-informed action plan (*policy*), accompanied by the engagement of all critical actors at all levels of government (stakeholders) including partnerships with UNDP (*stakeholders*) and a functioning working group that steered the assessment and planning process (*organization*) resulted to the successful mainstreaming of CCA and DRR in development in Lebanon, particularly as demonstrated in the case of the Baalbek Hermel region.

Consequently, moving forward, Lebanon is embarking on strategic *policy and knowledge spheres of action* for mainstreaming DRR and CCA in various governmental plans and strategies. Notably, the recent Ministry of Agriculture Strategy 2020-2025 that included CCA and DRR across its 5 pillars is a concrete demonstration of how to cascade and push further forward the mainstreaming efforts. Building on the gains achieved as exemplified by the experience in the Baalbek Hermel region, a new *policy sphere of action* is taking shape in the new

Agriculture Sector Strategy which highlights the importance of adaptation and disaster preparedness under programme 4.1 “Increase climate change adaptation and encourage related private investment along the agrifood value chains” and programme 5.4 “Create enabling conditions for the development of agricultural insurance also to mitigate the impacts of natural disasters.”

The updating of Lebanon’s 2020 Nationally Determined Contributions (NDC) also served as an important platform for sustaining the momentum for mainstreaming as DRR is integrated as one of the seven (7) adaptation priorities of Lebanon, aiming at “Reducing disaster risk and minimizing damages by copying and adapting measures targeting natures hazards and extreme weather due to climate change”. This is done by conducting multi-hazard risk assessment (*knowledge*), updating/revisiting flood, fire and drought risk maps (*knowledge*), upgrading multi-hazard early warning platform and updating of the National Forest fire management strategy” (*policy*).

In addition, the ongoing preparation of the national DRR strategy includes key *policy spheres of action*. Examples include (a) setting *policies* to evaluate the linkages between disaster risk, sustainable development, poverty, and climate change and its adaptation; and (b) integrating CCA into specific DRR *strategy procedures* and actions such as reviewing data related to disaster loss as a result of climate change, linking the disaster loss database to actions related to poverty reduction, etc.



3. Country Case Study: Moldova's Mainstreaming Trajectory

Moldova's Risk Landscape

Moldova's economy, population, and environment are highly exposed and vulnerable to natural hazards and climate change as a result of the geographical location and its natural characteristics. The Republic of Moldova is prone to different kinds of natural hazards, including drought, floods, severe weather, earthquakes, and landslides. Average annual losses from hydrometeorological hazards comprise around three percent of GDP. They have a severe impact upon the rural population of Moldova, which makes up around 60% of the total population and depends largely upon agriculture for their livelihood. Overall annual losses from geophysical hazards account for 0.9% of GDP. These primarily threaten infrastructure, homes, and public buildings, especially in the capital city.

Climate variability has accelerated in the last few decades. Meteorological hazards, particularly drought and floods, have become more frequent and intense. Drought is a major risk, and catastrophic droughts impact the country every 7 years. Climate change could also potentially increase the frequency and magnitude of flooding. In 2008, floods from torrential rains caused 120 million USD in damage to houses, bridges, and roads and flooded 7,500 hectares of agricultural land.[1] While precipitation is expected to decrease by the 2040s, rainfall events are expected to be larger. Almost half of all Moldovan communities are located in flood-prone areas and approximately 45,000 ha (approximately 2% of agricultural land) have a history of being waterlogged.[2] In line with climate scenarios, in Moldova the average temperature is expected to increase by 2–3°C by 2050, resulting in more acute weather patterns and in increased frequency and magnitude of droughts, floods, and other events.

Mainstreaming Initiatives

In Moldova the following CC/DRR initiatives have been implemented up to date:

Initiative 1 is the Disaster and Climate Risk Reduction Project (Phase II) implemented in 2013-2016 at national and local levels. Its focus was on DRR - development of national and local disaster risk management capacities implemented in partnership with the Civil Protection and Emergency Situations Service and Ministry of Interior.

Initiative 2 is the National Adaptation Planning Process. The first iteration was implemented in partnership with the Ministry of Environment from 2013-2017 . It particularly dealt with the sectors on Health, Forestry, Transport, Energy, and Gender and implemented both at the national and local levels and focused on CCA- development of medium- and long-term capacities for planning and budgeting for climate change adaptation.

Initiative 3 is the Promotion of climate change and disaster risk reduction solutions in the water and civil protection sectors for enhanced rural resilience[4]. This was implemented in partnership with the General Inspectorate for Emergency

1 WHO. 2008. Floods in Moldova, Romania, and Ukraine; Ministry of Environment and Natural Resources. 2009. Second National Communication of the Republic of Moldova Under the UNFCCC.

2 World Bank. 2013. Reducing the vulnerability of Moldova's Agricultural Systems to Climate Change: Impact assessment and adaptation options. World Bank: Washington, DC

3 Fund support by Austrian Development Agency

4 Fund support by Austrian Development Agency

Situations from 2018 to 2021 and the focus was on CCA&DRR, increasing the resilience and adaptive capacities of rural communities to climate change and disasters.

Description of Mainstreaming Entry Points

Moldova's mainstreaming pathways began around the years 2009/2010. At that time, CCA and DRR mainstreaming were pursued independently of each other. It was only in 2018 that joined-up CCA and DRR mainstreaming was initiated. The ensuing narratives present these mainstreaming trajectories.

At the outset, the mainstreaming trail of the Republic of Moldova could be traced back to the 2009/2010 National Human Development Report where climate change was brought to the fore as a threat to human development and came up with a menu of adaptation options for Moldova. This was further reinforced in 2013 by the risk analysis offered by the Country's Third National Communication to the UNFCCC. Both entailed assessment and analysis entry points under the Knowledge sphere of action. These knowledge spheres of action led to the 2014 National Adaptation Strategy (NAS) – policies, strategy and plans entry point under the Policy sphere of action. The approved National Adaptation Strategy created space for Climate Change Adaptation (CCA) mainstreaming into sectors, notably the Transport and Logistics Strategy 2013-2022 and the Energy Strategy of the Republic of Moldova where recommendations for mainstreaming were put forward and laid the foundation for mainstreaming in the NAP2 process.

Subsequently, the NAP process proceeded with an Organization sphere of action, specifically the institutional capacity development – a capacity entry point - on climate change adaptation planning of different line ministries and agencies of the Republic of Moldova. This was done through thematic workshops, roundtables, and meetings organized for key sectoral stakeholders with special focus on Ministry level decision-makers and technical planners of Ministry of Health, Ministry of Transport and Road Infrastructure, Ministry of Environment, Ministry of Regional Development and Construction, and Ministry of Agriculture and Food Industry. As a consequence of both these policy and organization spheres of action, the Climate Change Coordination Mechanism (CCCM), a cross-sectoral multi-stakeholder coordination mechanism – Organization Sphere, coordination and responsibilities entry point – was put in place. This mechanism interlinks sectors during the planning and implementation of adaptation actions. In parallel, the policy and organization entry points also paved the way for another knowledge sphere of action, specifically the M&E, Compliance and Reporting entry point. This refers to the Monitoring and Evaluation (M&E) framework/system that is being developed and is linked to the coordination mechanism of the adaptation process. This will be finalized under NAP2. This would respond to the need of monitoring and evaluating the effectiveness of developed policies and implemented measures. Evolving alongside the coordination mechanism and the M&E system is the implementation of the Climate Budget Tagging (CBT) procedure and its incorporation into the M&E system – a budgeting & expenditure analysis entry point of the Finance sphere of action. A methodological guideline on climate tagging of the national public budget was developed including a guide on cost-benefit analysis – this is another organization sphere of action, specific procedures, tools, and management entry point. The Monitoring and Evaluation

(M&E) framework also facilitated the development of the Climate Change Adaptation Information System, an indicator-based monitoring and reporting system. It is an online portal and monitoring platform accessible via this link www.portal.clima.md initially developed under the 1st NAP process and will be further strengthened under the NAP2. This is another M&E, Compliance, and Reporting entry point from a knowledge sphere of action.

The NAP process also facilitated the mainstreaming of climate change adaptation into sectoral strategies e.g., health, forestry, and agriculture (Policy sphere of action - policies, strategy and plans entry point). These resulted in a number of guiding documents i.e., the Guide on Mainstreaming Climate Change into Moldova's Plans, Policies and Strategies, the Guide on mainstreaming climate change adaptation measures into transport and energy sectoral policies, a glossary of climate change adaptation terminology, and the methodological guide on the implementation of conservation agriculture in Moldova. These guidelines comprise the organization spheres of action, specifically through the procedures, tools, and management entry point.

CCA was also mainstreamed into six district-level development strategies, adaptation plans, and performance-based budgets (Policy sphere of action - policies, strategy and plans entry point). This was an approach to incorporate adaptation into the sub-national level planning, which improved the uptake and sustainability of the adaptation process at the local level. The latter exemplifies budgeting & expenditure analysis entry point, falling within the Finance sphere of action on mainstreaming. The CCA mainstreaming at the local level likewise saw the implementation of community-level adaptation pilot projects in the most vulnerable districts of Moldova (Organization sphere – programmes and projects entry point).

Moldova's mainstreaming trajectory also tackled a Stakeholder sphere of action, specifically the partnerships and networks entry point. This is through the partnerships established between the (a) State Hydrometeorological Service of the Republic of Moldova (SHSM) and the Central Institute for Meteorology and Geodynamics (ZAMG) and the (b) SHSM and EUMETNET – a network of 31 European National Meteorological Services based in Brussels, Belgium. This partnership supported the strengthening of SHSM institutional capacity and operation in line with WMO standards and to support SHSM in becoming a member of EUMETNET and METEOALARM community.

Also, in 2010 Moldova experienced catastrophic flooding which triggered the PDNA and the need to look more closely at the DRR issue. Taking further the flood response and recovery efforts, support to Disaster and Climate Risk Reduction was initiated. This was a key trigger for DRR mainstreaming in Moldova. It commenced with an organization sphere of action, specifically the institutional capacity assessment of disaster risk management in Moldova. This included capacity development activities for decision-makers and civil servants from all relevant line Ministries (most importantly Interior/Civil Protection and Emergency Situations Service, Regional Development and Construction, Environment, Agriculture and Food Industry, Finance, Economy, Health), Government and State Chancellery involved in the development and implementation of national and sector policies, strategies and plans, and planners (civil servants) and DRM stakeholders at the district and local level (capacity entry points). This capacity entry point further

led to coordination and responsibilities entry point *vis* the assumption of the full responsibility as the DRM coordination mechanism by the National Commission on Emergency Situations. The different capacity development interventions strengthened capacities of the Civil Protection and Emergency Situations Service (CPESS) in the areas of risk management, risk assessment, and project management which also facilitated a knowledge sphere of action, specifically the assessment and analysis entry point and also the adoption of the EU/EC Risk Assessment and Mapping Guidelines for Disaster Management (Organization – procedures, tools and management entry point). Both these knowledge and organization spheres of actions described above led to the elaboration of the Draft National Disaster Management Strategy and Action Plan, a key Policy sphere of action that entailed policies, strategy and plans entry point. Further, there was also a community risk management module elaborated. These guidelines have served as the basis for mainstreaming the disaster and climate risk reduction measures into the local development planning. This is a procedures, tools, and management entry point under the organization sphere of action. The integration of disaster and climate risk reduction at local development plans also harnessed the Finance sphere of action through the allocation of funds by the local public authorities to implement the DRR measures that have been prioritized in their local development strategies (budgeting and expenditure analysis entry point).

It was not until the year 2018 that a joined-up DRR and CCA mainstreaming gained ground in Moldova albeit at local levels. Building on risk assessment capacities (knowledge sphere), Moldova is better able to identify the emerging climate and disaster risks affecting the communities. This risk knowledge has informed the local development strategies on the required adaptation and disaster risk reduction measures to ensure risk-informed development. This also led to the development of the disaster and climate-sensitive policy frameworks at local levels (policies, strategy and plans entry point). The presence of the emergency situations authorities who championed CCA and DRR mainstreaming at the local level also facilitated risk-informed local development. This is a leadership and advocacy entry point under a Policy sphere.

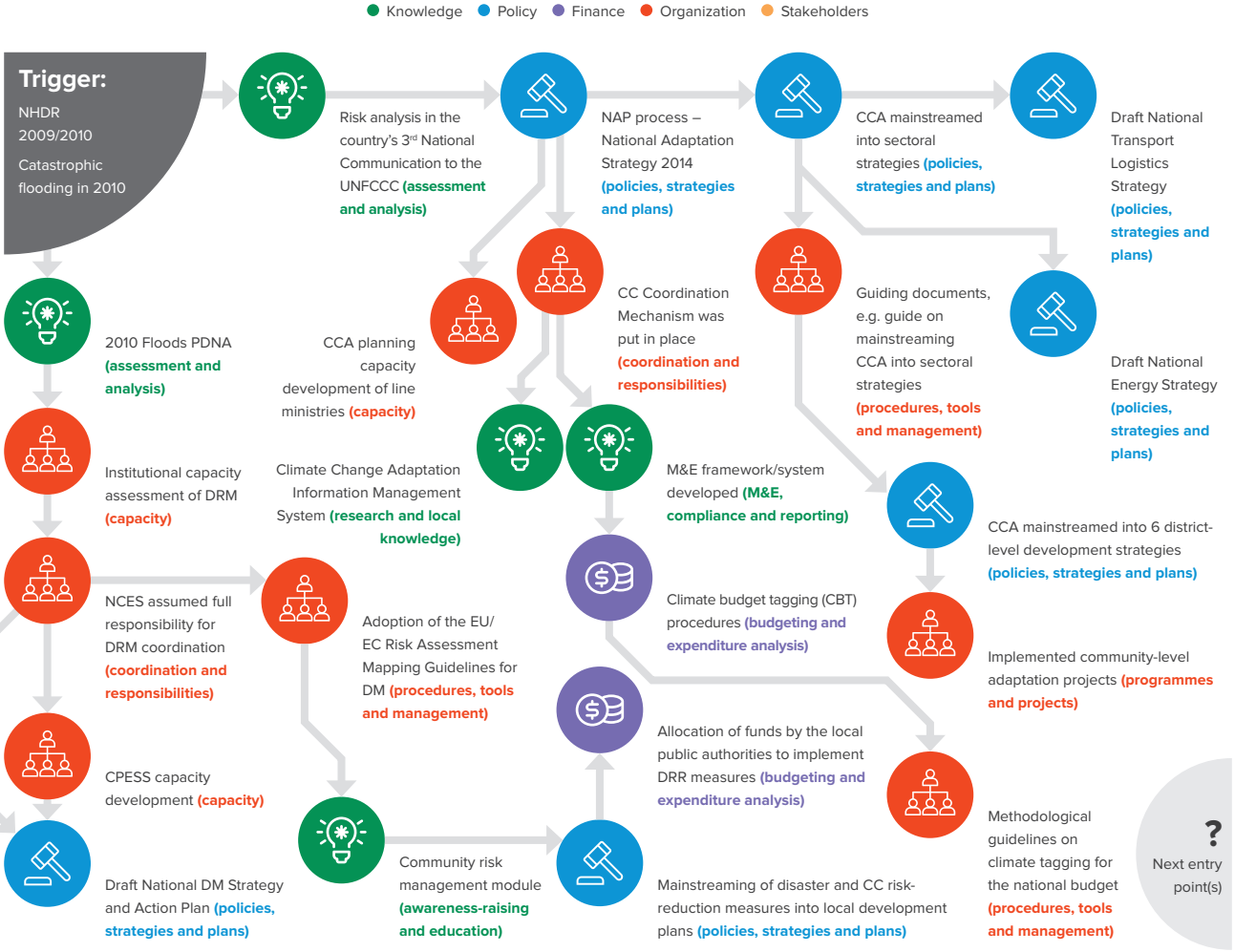
Challenges in Mainstreaming

- Need evidence-based analysis for building awareness on the CCA and DRR and subsequently mainstreaming into policy documents at all levels.
- Need to identify the right national/local stakeholders and partners in advocating on mainstreaming – UNDP needs to build alliances.
- Start with small steps to position in the area and have a forward-looking vision.

Forward Actions on Mainstreaming

Build on the momentum of having the NAP2 project in place and other DRR/CCA initiatives/policy documents under development, incorporate CCA/DRR priorities across all sectors and set the grounds for further investments and initiatives including, in particular, strengthen the positioning of UNDP in this area.

Moldova's mainstreaming trajectory in a snapshot



4. Country Case Study: Cambodia's Mainstreaming Journey

Cambodia's Risk Profile

Hydro-meteorological hazards are the types of risk that Cambodia faces. The 2020 World Risk Report ranked Cambodia as the 16th country in the world based on the compounding risk of exposure, vulnerability, susceptibility, lack of coping capacity, and lack of adaptive capacity. The report further states that the country is expected to be one of the most affected by climate change. Cambodia's Disaster Loss and Damage Information System (CamDi) lists flooding, drought, typhoons, and their related impacts as the factors causing loss of life as well as multi-sectoral losses and damages over the years.

Water levels in the Mekong River that enters the country from Laos and Great Tonlé Sap Lake in central Cambodia impact the extent of the flooding. Nearly 75% of the country's land is part of Tonlé Sap Lake's floodplain, with the lower Mekong River and Basaac River plain forming central wetlands. Flooding obstructs access to all types of services including healthcare and education. Typhoons and tropical storms in the Pacific usually lead to a heavy flood season in Cambodia. In the wet season, water from the Mekong River causes flooding. Cambodia has been affected by a series of severe floods, droughts, and storms. Severe flooding has hit Cambodia in the last two decades, and drought is recorded almost every year with major droughts hit in 2003 and 2004. Cambodia also experienced its worst drought in 50 years in 2015; severely affecting 2.5 million people across all provinces in the country.

In Cambodia, climate change-induced events have caused infrastructure damage, direct and indirect economic losses, risks to health, and loss of life. Damage caused by Typhoon Ketsana in 2009 resulted in a loss of $130 million. Flooding in 2011 affected 683,498 hectares of agricultural land, causing an estimated $451 million in damages and $174 million in losses across various sectors of the economy. Damage related to the October 2013 flooding, caused by heavy rain and the seasonal swell of the Mekong River, is estimated at $356 million, having affected 20 out of 24 provinces and 1.7 million people. 297,600 hectares of rice paddies were inundated, and more than 28,100 hectares of rice were immediately destroyed.

Historically, temperatures in Cambodia have increased and this trend is projected to continue with mean monthly temperatures increasing between 0.013oC and 0.036oC per year by 2099, depending on location, with higher rates at low latitudes. This projected increase in temperature could likely affect agricultural productivity in the country, which in the long run could impact food security. Furthermore, under future climate conditions (2025 and 2050), most of Cambodia's agricultural areas will be exposed to higher drought risks.

Mainstreaming Initiatives

In-country initiatives that focus on mainstreaming Climate Change and Disaster Risk Reduction have been included in broader climate change/disaster risk management projects, implemented by various development agencies. Below are some of the key initiatives that advocated the CC/DRR mainstreaming.

1. One of the first initiatives specifically mentioning 'DRR mainstreaming' was an advocacy and pilot project on DRR mainstreaming in the education sector in Cambodia, Lao PDR, and the Philippines in 2006. The project assisted the Ministry of Education, Youth, and Sports (MoEYS) in Cambodia to initiate mainstreaming of DRR into the secondary school curriculum. As per the start of the implementation period of this project, there was no educational program on integrating DRR into the school curriculum. The project developed DRR modules and tested them to be taught in pilot schools in two provinces.

2. The Cambodia Climate Change Alliance (CCCA) is a flagship climate change programme in Cambodia, implemented by UNDP and the National Council for Sustainable Development (NCSD). CCCA is a multi-donor initiative with a comprehensive and innovative approach to address CC in Cambodia. The CCCA aims at creating the enabling conditions required for Cambodia to respond to the challenges and opportunities posed by CC. The overall objective of CCCA is to strengthen the capacity of the National Climate Change Committee to fulfill its mandate to address climate change and to enable line ministries and CSOs to implement priority climate change actions. CCCA is an ongoing initiative and has been implemented in three phases (I: 2010-2014, II: 2014-2019, III: 2019-2023).

3. Mainstreaming Climate Resilience into Development Planning was implemented in 2013-2017, with finance from the ADB Strategic Climate Fund. It aimed at strengthening capacity to coordinate all Strategic Program for Climate Resilience (SPCR) investments and to mainstream CCA concerns into national and subnational planning, budgeting, and development. Ministry of Environment acted as the executing agency, with administrative oversight from the Ministry of Economic and Finance and the NCCC. Implementing agencies including the Ministry of Water Resources and Meteorology, the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Public Works and Transport, the Ministry of Rural Development, the Ministry of Planning, the Ministry of Interior, and the National Committee for Disaster Management.

4. The Asian Development Bank (ADB) Technical Assistance on Strengthening Coordination for Disaster Management (2016) produced a draft plan for mainstreaming DRR into eight (8) line ministries, i.e., Ministries of 1. Agriculture, Forestry, and Fisheries, 2. Health, 3. Water Resources and Meteorology, 4. Rural Development, 5. Interior, 6. Education, Youth and Sports, 7. Public Works and Transport and 8. Environment.

5. GIZ-Climate Finance Readiness programme (2015-2018), funded by German Federal Ministry for Economic Cooperation and Development, co-financed by USAID. The programme supported the National Council for Sustainable Development (NCSD) of the Royal Government of Cambodia to institutionalize Cambodia's National Adaptation Plan (NAP) focusing on the finance strategy. The objective was to strengthen the capacities of the General Secretariat of NCSD and

other institutions for the implementation of the NAP through a strong financing framework, through the following activities: Advising the NCSD on drawing up a finance strategy and an implementation plan for the NAP; Strengthening the capacity of sectoral ministries to integrate climate change considerations into sectoral planning and budget processes; Advising national institutions on access to national and international climate finance.

Description of Mainstreaming Entry Points

The year 2006 was a remarkable time for DRR and CCA mainstreaming in Cambodia. It was a year where Cambodia initiated several mainstreaming efforts mainly along the trajectory of policy spheres of action specifically through policies, strategy, and plans entry point. Amongst these is the first National Strategic Development Plan (NSDP) 2006-2010. NSDP is the overarching policy instrument of the Royal Government of Cambodia (RGC) and its blueprint for poverty reduction. It has brought together all key government policies, including economic development, education, health, agriculture, land use planning, environmental policies, and many others. Fast forward, the current NSDP 2019-2023 contains both the advocacy and guidelines of mainstreaming climate change into the sectoral plans and also paved the way for mainstreaming of climate change into national and sub-national plans – also a policy sphere and policies, strategy and plans entry point.

The National Adaptation Program of Action to Climate Change (NAPA) was also formulated in 2006. This is another policy, strategy and plans entry point falling under the policy sphere of action. As a natural consequence of the NAPA process, Cambodia embarked on organization spheres of action mainly on coordination and responsibilities entry points with the establishment of the National Climate Change Committee (NCCC) on a mandate to coordinate and monitor the implementation of the Government's policies, strategies, regulations, plans and programmes in response to climate change issues. The Prime Minister of Cambodia is the Honorary Chair of the NCCC. Further, a Climate Change Technical Team (CCTT) was established as an inter-ministerial body to provide technical support to the NCCC in fulfilling its mandate. The Climate Change Department (CCD) within the Ministry of Environment (MoE) serves as the secretariat for the NCCC and coordinates the activities of the CCTT.

Cambodia, in 2006, likewise initiated a knowledge sphere of action using awareness and education entry point with the integration of DRR into the secondary schools' curriculum. Teaching modules were developed, pilot tested, and rolled out in pilot schools in two provinces.

The different policy spheres of action initiated in 2006 opened the space to more mainstreaming entry points in Cambodia, specifically related to policy and organization spheres of action. These subsequent policy instruments include the Strategic National Action Plan (SNAP) for Disaster Risk Reduction 2008–2013, which covers a number of climate change adaptation themes; the National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018; the National Green Growth Strategy and Roadmap for 2013-2030; and the Cambodia Climate Change Strategic Plan (CCCSP) 2014-2023 to provide a strategic framework for responding to climate change. It was the first comprehensive policy document

to respond to climate change issues to advance the development towards a low carbon, resilient, equitable, and sustainable society. It was intended to fill in policy gaps among national development, poverty reduction, and environmental sustainability by introducing linkages for supporting a harmonized approach. The framework was included to engage the public, civil societies, private sector, and other development stakeholders (stakeholders' sphere of action encompassing government, civil society, and private sector entry points). This Strategic Plan contains line ministries' sectoral climate change strategic plans to guide the integration of climate change into their sectoral planning.

To support the implementation of these policy instruments, Cambodia embarked on strengthening the organization spheres of action, specifically on coordination and responsibilities entry point. Beginning in 2015, Cambodia established the National Council for Sustainable Development (NCSD). This is a more institutionalized mechanism comprised of high-level representatives (Secretaries and Under-Secretaries of State) of the concerned government ministries and agencies, with the Prime Minister as its Honorary Chair and the Minister of Environment as its Chair. The Council membership has increased compared to the NCCC, covering a greater number of ministries and agencies, including provincial governors. In addition, the NCSD is technically supported by the Climate Change Technical Team with representation from all the member agencies of the NCSD. The Sectoral Climate Change Strategic Plans under the Cambodia Climate Change Strategic Plan for 2014 – 2023 signifies that focal points in each ministry exist as part of the inter-ministerial coordination mechanism. CC Working Group is also established and supported by the CCCA initiative.

Parallel to CCA mainstreaming, DRR has also started to gain traction largely along the policy sphere trajectory. The Law on Disaster Management was enacted in 2015 (policy), outlining disaster management mechanism (organization), disaster management framework (policy), and governance (organization), rights and obligations, and resources and funds (finance). The Law clearly states the necessity for mainstreaming DRR by incorporating DRR into sector-wise policies. The DM law recognizes NCDM as the headquarter of the Royal Government to lead, administer and coordinate all disaster management activities in Cambodia (organization). The NCDM is headed by the prime minister as president (policy-leadership and advocacy entry point), and it comprises 37 memberships from all line ministries and concerned agencies (hence NCDM as a secretariat). Consequently, the organization sphere of action and the coordination and responsibilities entry point including the stakeholders' sphere of action with government as the entry point were put to optimum use. The day-to-day operations of NCDM are governed by the Secretary-General. The Committee for Disaster Management (PCDM), District Committee for Disaster Management (DCDM), and Commune Committee for Disaster Management (CCDM) have been set up to lead disaster management at their respective levels. Village Disaster Management Group (VDMG) is also in place as the lowest level body for disaster management. In practice, all disaster risk reduction initiatives in Cambodia are well-coordinated by NCDM (organization sphere of action - coordination and responsibilities entry point). As an institution, NCDM, with its 37 members of line ministries was instrumental in mainstreaming DRR into development. Beyond the organization sphere, Cambodia also managed to involve civil society as a mainstreaming entry point at the implementation level. There exist the Joint Action Group for DRR in Cambodia (JAG-DRR). It is a non-formal group of civil society organizations working in Cambodia on DRR.

Members coordinate relevant activities and share information, knowledge, skills, and experience. Regardless of the name, JAG-DRR also discusses climate change issues and are engaged in the country-wide initiative of climate change adaptation and mitigation. In 2015, the members of the Joint Action Group respectfully urged the Royal Government of Cambodia to draft *Prakas*[5] (policy sphere of action) or other legal instruments that: (a) "Commit to integration and mainstreaming of DRR into sectoral plans at all levels, accounting for strategic links with climate change adaptation and sustainable development and (b) Commit to integration and mainstreaming of DRR into all relevant legislation to ensure overall coherence and effective implementation.

Building on its strength in engaging policy spheres of action in mainstreaming, Cambodia also developed the Cambodia Disaster Risk Reduction Framework 2019-2030 and its accompanying 5-year National Action Plan 2019-2023. It is the primary document that guides national efforts to achieve the country's long-term goals for disaster risk reduction, promotes the systematic management of hazards, and informs and guides the development of policies and programs of line ministries, development partners, and all other stakeholders. This framework specifically points to the embedded interlinkages between DRR and CCA as highlighted in its strategic objectives. The National Action Plan for DRR in Agriculture was also developed.

The recent (2020) Nationally Determined Contributions (NDC) process in Cambodia also highlighted the inclusion of DRR into the updated NDC in alignment with the UNFCCC's requirements. To include as follows: (1) develop and annually update national and subnational multi-hazard and climate risk assessments, including identification of most vulnerable communities; (2) national end-to-end Early Warning Systems with focus on effective dissemination to populations at risk; (3) implement community–based disaster and climate risk management programs; and (4) strengthen flood resiliency capacity of communities around Tonlé Sap (access to clean water, off-grid renewable energy, and waste management) - also a policy sphere and policies, strategy and plans entry point.

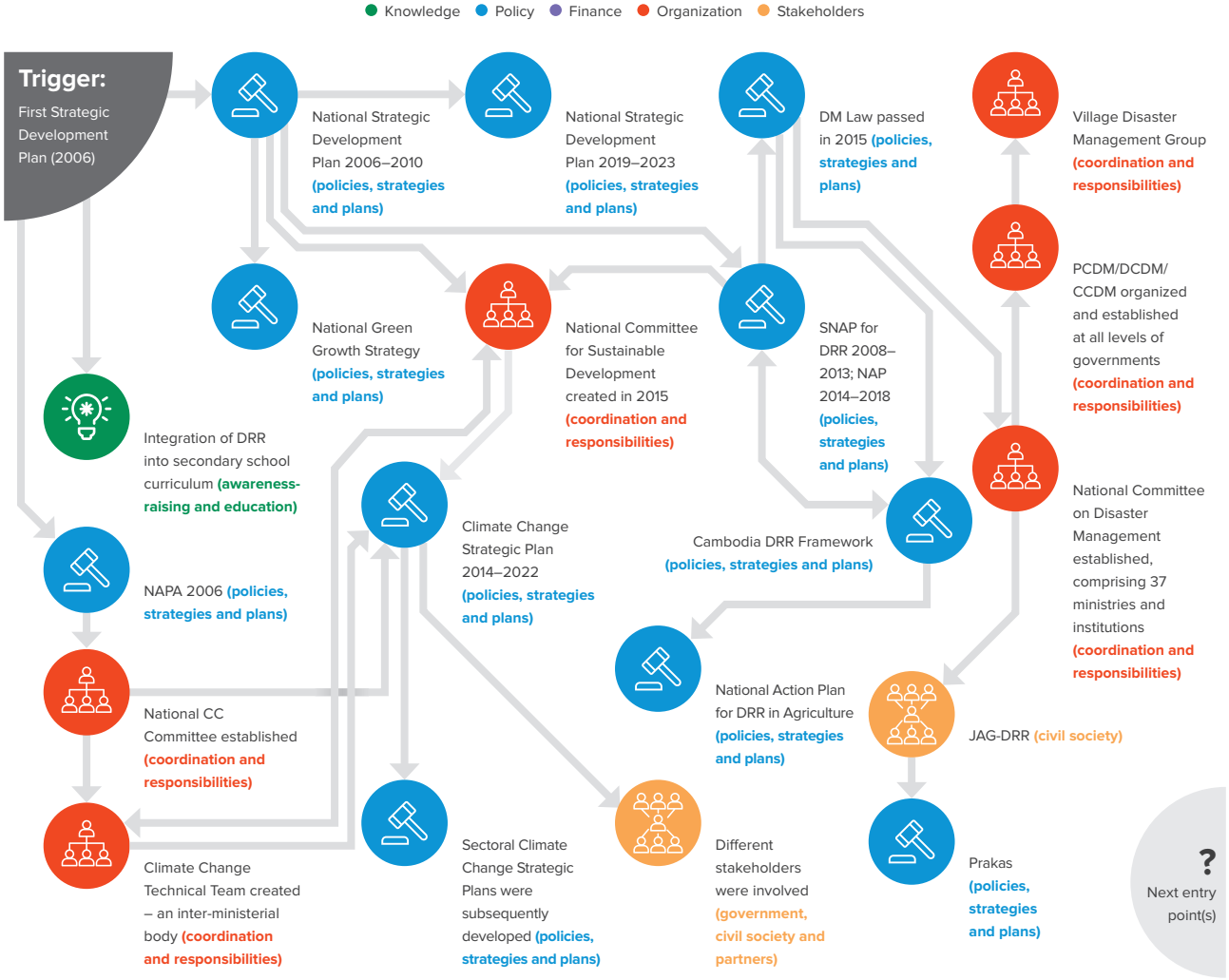
Challenges and Opportunities in Mainstreaming

Despite the strong entry point at the policy level, the efforts of mainstreaming DRR and CCA still face some challenges:

- Although the current 5-year national development plan addresses the importance of mainstreaming DRM and climate change in sector-wise development plans, there is no clear-cut indication of the integration of DRR and CCA in the NSDP.
- CCA and DRR are still treated as separate agendas. Having key components / DRR priorities under the DRR framework overlap with CCA and could be treated as an effort in mainstreaming DRR and CCA.
- There remains a lack of understanding of what entails mainstreaming DRR and CCA and how these efforts are integrated into the sectoral work by key line ministries.
- The current legal and regulatory frameworks on climate change and DRR are scattered in many legal documents; some of them are strongly overlapped, or at least they have common objectives. This is an advantage, which at the same time, poses challenges in measuring the effectiveness of their implementation.

5 A decision / proclamation signed by relevant ministry or in some cases inter-ministries

Cambodia's mainstreaming journey in a snapshot



Ultimately CCA and DRR mainstreaming has been included in the updated National Socioeconomic Development Plan (NSDP), and it is important to ensure that this guidance is implemented and supported at other spheres of policy and planning. This comes with further interventions, which include increasing awareness and understanding of climate resilience and disaster risk reduction synergies, encouraging systematic dialogue, information exchange, and joint working between climate change and disaster reduction bodies, focal points, and experts. Several other entry points for mainstreaming climate change exist in sector plans, policies, and operational activities at both national and sub-national. This needs to be done within the context of Cambodia's national development framework, cross-sectoral coordination, and democratic and decentralized local governance.

5. Country Case Study: Bangladesh's Mainstreaming Experience

Bangladesh's Risk Profile

Bangladesh, with its proven success from the last five decades of investment in managing disasters, has embarked into a new generation of managing disaster risk and is at an important crossroad where it has set its ambition to become a developed country by 2041. Bangladesh has emerged itself as a disaster champion through community resilience, volunteerism, the Early Warning System, community-based decision-making process, government commitment, a vibrant NGO sector and an appreciable legal and institutional framework[6]. These attributes have resulted in food security, reduced mortality, major gains in improving the socio-economic conditions of people's lives in recent years with positive economic trends, accelerating growth, making growth pro-poor, and improving the indicators of social progress. However, the journey from a relief-oriented culture towards a disaster resilient nation was not comprehensive and full of risk-blind infrastructure development, resulting in uneven progress in risk-informed development at the national and local government level.

The disaster risk context of Bangladesh is quite dynamic with its geographic positioning. Ranking sixth out of the countries most affected by extreme weather events between 1995 and 2014[7], Bangladesh has been identified as one of the countries most at risk from the negative impacts of climate change. This diagnosis is supported by studies projecting increases in incidence and intensity of extreme weather events and hazards such as flood, cyclone, soil salinization, rising sea levels, and riverbank erosion[8]. These emerging risks present major challenges to the continued human development, poverty reduction, and economic growth of the country. It also presents challenges to the lives, livelihoods, and health of its people – especially the poorest, most marginalized, and vulnerable communities who are the hardest hit by disasters.

The country is also under great seismic risk. A 2009 risk assessment highlighted that in the event of an earthquake greater than 7 on the Richter scale, significant damage would be caused to an estimated 376,000 structures in Dhaka, Chittagong, and Sylhet - causing a devastating death toll and producing 96 tons of debris. With the urban private sector being the major driver of national economic growth, protracted disruption of production due to the shock of a major earthquake would have a significant, long-lasting negative impact on national economic growth and poverty reduction. On the other hand, the readiness of the country with earthquake response and first responders as well as recovery plan is highly insignificant. These are issues which cannot be managed solely through improving existing national systems for disaster risk management but must also be addressed by building resilience against natural hazard and climate-induced shocks and stresses in all sectors.

The country's economy, due to the changing risk context as discussed above, is at risk of growing loss and damage due to disaster events and climate stresses. The country is losing a large amount of its gross domestic product (GDP) each year due to these events, risk blind development over the years, and poor maintenance

6 Disaster management in Bangladesh: Reducing vulnerabilities." The Daily Star. March 10, 2016. Accessed February 10 , 2021. https://www.thedailystar.net/op-ed/politics/disaster-management-bangladesh-reducing-vulnerabilities-788653.

7 Global Climate Risk Index (2016). ChartsBin.com, viewed December 2016. Available online at: http://chartsbin.com/view/38628

8 World Bank (2010a). Economics of adaptation to climate change: Bangladesh. Available online at: http://documents.worldbank.org/curated/en/841911468331803769/pdf/702660v10ESW0P0IC000EACC0Bangladesh.pdf

of the infrastructure - making the economy more vulnerable and unpredictable. The impact of natural hazards in the country has significant implications for public finance: increasing expenditure and simultaneously reducing domestic revenue. Therefore, considering the growing economy and changing risk context, Bangladesh has now adopted an approach towards risk-informed development and investment to make its development effective and sustainable.

Mainstreaming Initiatives

- Comprehensive Disaster Management Programme (CDMP) I funded by GoB, UNDP, UK-DFID, EC from 2004–2009. UNDP was the executing Agency and the Ministry of Food and Disaster Management was the implementing agency.
- Comprehensive Disaster Management Programme (CDMP) II from 2010-2014. Development Partners include DFID, EU, Norway, Sida, AusAID, GoB, and UNDP. The implementing partner was the Ministry of Disaster Management and Relief.
- National Resilience Programme (NRP) with a project duration from 2017-2021. UNOPS was the donor and the Planning Commission was its implementing agency.
- 'Inclusive Budgeting and Financing for Climate Resilience (IBFCR)[9]' Project from 2014-2021. This is funded by Deutsche Gesellschaft Für Internationale Zusammenarbeit, Department for International Development (Dfid) and UNDP. The Ministry of Finance is the implementing agency.
- Local Government Initiatives on Climate Change (LoGIC) project for the period 2016-2021, a multi-donor action funded by EU, Swedish International Development Agency (SIDA). It is implemented by UNDP and UNCDF and executed by LGD of the Ministry of Local Government. Other partners: Rural Development and Cooperatives (MoLGRD&C)

Description of Mainstreaming Entry Points

A springboard for DRR and CCA mainstreaming in Bangladesh was ushered through an organization sphere of action, specifically mainstreaming through programmes and projects entry point via the CDMP-I project of UNDP that laid the foundation for mainstreaming initiatives in the country and later by the successor CDMP II, including the NRP, IBFCR and LoGIC projects.

The CDMP I project opened windows for a coordination and responsibilities entry point as evidenced by the establishment and operation of the Climate Change Cell at the Department of Environment (DoE) in 2004 which further led to rolling out of capacity entry point as climate change focal points were established throughout the government departments to broadly mainstream climate change issues. In the same manner, the capacity entry point had propelled increased capacities that enhanced leadership and core business functions of the then Ministry of Food and Disaster Management which was later reorganized into two separate ministries – the Ministry of Food (MoF) and the Ministry of Disaster Management and Relief (MoDMR).

The programmes and projects entry point via the CDMP-I project further led to other mainstreaming entry points and spheres of action during the period 2004-

9 The Inclusive Budgeting and Financing for Climate Resilience (IBFCR) project of UNDP intended to foster a sustainable basis for identifying, maximising and managing sources and application of funds for financing climate-resilient actions.

2009. This included a knowledge sphere of action, for instance, research and local knowledge entry point as shown by the functional Disaster Management Information Centre (DMIC) and assessment and analysis entry point with the Community Risk Assessment (CRA) programme put in place. The latter moreover resulted in policy, finance, organization, and stakeholder spheres of action as illustrated by the CRA process risk-informing the Risk Reduction Action Plans of communities or RRAPs (which is a policy, strategy and plans entry point). With the RRAPs developed, communities are eligible to apply for financing through an established fund with contributions from the government and donors (considered as a resource mobilization entry point) and once financing is approved, local level disaster management committees (a coordination and responsibilities entry point) with assistance from government and national/international non-government organizations (civil society and government entry points) implemented the disaster risk reduction activities[10]. The foregoing is one concrete illustration of how the different mainstreaming spheres of action and entry points are interlinked and had reinforced one another.

The same programmes and projects entry point via the CDMP also paved the way for another organization sphere of action, specifically capacity entry point as officials from the national to the local levels have received disaster management training. The project likewise established collaborations and training partnerships that enhanced the technical capacities of government officials. The government also engaged Bangladeshi universities in the development of disaster management curricula[11]. This later led to the professionalization of disaster management with universities offering full-time degrees and diploma courses in disaster management (an awareness and education entry point). Besides the knowledge sphere of action also extended to the Bangladesh Public Administration Training Centre that introduced new DRR and CCA content in its regular foundation course for new recruits to the civil service and in courses for senior officials. 6,712 professionals across the government increased their knowledge and skills on disaster risk reduction and climate change adaptations through participation in different training and orientation sessions. There was also the inclusion of CCA issues in the curricula of 35 textbooks from classes 3 to 12 through the National Curriculum and Textbook Board – resulting in 22 million students having knowledge of DRR & CCA issues. DRR and CCA have been mainstreamed in the national curriculum. The incorporation of DRR & CCA contents in textbooks and learning material has resulted in enhanced knowledge and a behavior shift in children.

Relative to the abovementioned capacity entry point initiated from national to local levels, the LDRRF[12], a prominent part of CDMP II project, spreading across all 40 disaster-prone districts and also in many urban areas of Bangladesh, provided an opportunity for communities, Disaster Management Communities (DMCs) and officials to learn about DRR and CCA 'on-the-job'. It demonstrated a multi-hazard approach to risk reduction at the community level, activated the government's DRR capacity in rural areas and successfully delivered a number of micro-projects etc. It benefitted as many as three million people and has also generated replicable models for integrating DRR with the livelihoods of communities.

The Local Government Initiatives on Climate Change (LoGIC) project meanwhile also supported the improved and inclusive local level planning (policy sphere) and a strengthened financing mechanism for community-based climate change

10 Luxbacher, K., Inside Stories on climate compatible development, CDKN, December 2011.

11 Ibid.

12 The Local Disaster Risk Reduction Fund (LDRRF) is a funding mechanism established jointly by Government and the donors in the Comprehensive Disaster Management Programme (CDMP) to provide resources and financial supports for the most vulnerable communities in the form of grants to broaden and strengthen their coping capacities against disaster and climate change.

adaptation solutions through local government. The key results would include community resilience fund (finance sphere) operationalized to finance climate-vulnerable community, enhanced CCA-DRR financing at the local level, climate change capacity development (organization sphere) of LGIs, households, and other local stakeholders, established financing mechanism for implementing climate change adaptation measures and evidence-based contribution to further improvements in relevant policies, etc.

The CDMP (programmes and projects entry point) also steered the policy sphere of action particularly policies, strategy and plans entry point with its influence on the elaboration of the country's legal framework on disaster risk reduction including the National Plan for Disaster Management 2006-2010 and the incorporation of CCA and DRR into the country's Poverty Reduction Strategy and Climate Change Action Plan[13]. The policy sphere of action further advanced Bangladesh mainstreaming pathways through policies, strategy and plans entry point such as the one facilitated by CDMP II when it advocated and provided technical assistance in policy review. This included drafting sections that incorporated DRR and CCA in policies such as the National Agriculture Policy, National Agriculture Extension Policy, National Livestock Policy, National Poultry Policy, and National Fisheries Policy. The incorporation of DRR and CCA into the agriculture extension, fisheries and livestock policies were further given teeth via the preparation of the departmental "DRR-CCA Mainstreaming Guideline", an organization sphere of action specifically through the procedures, tools, and management entry point.

The series of policy spheres of actions and corresponding mainstreaming entry points have opened corridors for organization sphere of action specifically through the capacity [entry point] development of the Planning Commission in mainstreaming and institutionalizing DRR in national development planning through implementation of projects with 14 government departments/ministries. This has driven the incorporation of DRR and CCA risk analysis in the revised Development Project Proforma/Proposal (DPP) format which is an assessment and analysis entry point under the knowledge sphere of action. It likewise involved a capacity entry point with the training of 210 planning professionals on the "Disaster and Climate Change Inclusive Development Project" in partnership with the General Economics Division (GED) of the Planning Commission. This was a transformative step making the appraisal of all new development projects risk-informed i.e., to consider and plan the management of climate and disaster risks when planning for development outcomes.

Moreover, through the NRP, there was also a capacity entry point initiated through the capacity development on disaster and climate risk-informed planning and project development, targeting planning professionals of key sectors at the macro-level (i.e., project appraisal and formulation stage, and budgeting) of key sectors. From this borne a knowledge sphere of action i.e., assessment and analysis entry point with the development of the Disaster Impact Assessment (DIA) tool and guideline - a mainstreaming tool to integrate knowledge and information about the disaster and climate-related events, trends, forecasts, and projections introduced into the development planning process of Bangladesh to minimize loss and damage caused by disasters.

Along with these policy spheres of action and entry points, there was also support to the Finance Division of the Ministry of Finance to mainstream climate change dimensions to public financial management systems in Bangladesh – a finance

13 Ibid.

sphere of action through budgeting and expenditure analysis entry points. For disaggregating climate finance from the national annual budget, a robust climate public finance tracking methodology has been developed by IBFCR project. This methodology has been embedded by Government in the Integrated Budget and Accounting System (iBAS++) - an IT platform used for preparing national budget and accounts. The budget framework of 20 ministries was made climate-sensitive. In addition, Bangladesh likewise developed the Climate Fiscal Framework (CFF). It provided principles and tools for climate fiscal policymaking (CFP), helping to identify the demand and supply sides of climate fiscal funds (expenditures vis-à-vis revenue or finance, respectively), and to ensure that CFP is transparent and sustainable in the longer term.[14] Meanwhile, even before this support by IBFCR project, it already pioneered a strong combination of policy and finance spheres of action in mainstreaming via the enactment of the Climate Change Trust Fund Act of 2010 and the establishment of the Climate Change Trust Fund (CCTF) with the budget allocation of US$ 100 million for 2009-2010 and US$ 100 million for 2010-2011 from Government's own resources.

Key Achievements

The key achievements of UNDP's effort in mainstreaming DRR and CCA are as follow:

- DRR and CCA being embedded in the 6th Five Year Plan and the government's 'Vision 2021'
- Incorporation of DRR and CCA risk analysis in revised DPP format of the Planning Commission which will be used to screen all development projects
- Integration of DRR into the Bangladesh Climate Change Strategy and Action Plan (2009) led by the Ministry of Environment
- Work on flood warning through FFWC/BMD to increase warnings from three to five days
- Civil servants are more equipped with CCA and DRR knowledge through the inclusion of DRR and CCA courses and the use of a handbook for the training of planning professionals from different ministries who prepare the project documents
- Incorporation of CCA and DRR issues in the National Plan for Disaster Management 2010-2015 and drafted Disaster Management Framework for 2015-20 - a Government-wide framework and tool for the effective integration of disaster management planning, programming, and integrating risk reduction and resilience approach across agencies and sectors.
- Increased lead time from 3 days to 5 days in flood forecasting potentially saving lives, livelihoods, and assets of 88 million people in major river basins;
- The budget framework of 20 ministries was made climate-sensitive through the climate change dimension getting mainstreamed into within policymaking and public financial management systems along with the incorporation of a robust climate public finance tracking methodology into the Integrated Budget and Accounting System (iBAS++)
- Development of the Climate Fiscal Framework (CFF) that provides principles and tools for climate fiscal policy-making (CFP), helping to identify the demand and supply sides of climate fiscal funds (expenditures vis-à-vis revenue or finance, respectively), and to ensure that CFP is transparent and sustainable in the longer term.

14 http://nda.erd.gov.bd/en/c/publication/bangladesh-climate-fiscal-framework-cff-2014

Figure 7: Snapshot of Bangladesh's mainstreaming process

- 6,712 professionals across the government increased their knowledge and skills on disaster risk reduction and climate change adaptations through participation in different training and orientation sessions;
- 22 million students have access to specific DRR & CCA information with the incorporation of DRR-CCA issues in the curricula of 35 textbooks from classes 3 to 12 through National Curriculum and Textbook Board;
- Local-level planning and a strengthened financing mechanism for community-based climate change adaptation solutions through local government.

Challenges and Opportunities in Mainstreaming

The challenges and opportunities for mainstreaming DRR and CCA are described below:

Challenges

- Commitment and funding required to make the existing infrastructure climate-proof for disaster risk reduction
- Private sector remaining risk blind – amplifying the risk of increased economic loss
- The approach is still not transdisciplinary
- Institutionalization has not occurred in the manner required/attempted
- Government is knowledgeable in managing growth, not managing disaster risk

Opportunities

- Engagement and investment of public sector for DRR and CCA mainstreaming
- Institutionalization DRRA and CCA issues
- More research on climate-induced risk, adaptation, and disaster risk reduction

6. Country Case Study: Fiji's Mainstreaming Story

Fiji and its Risks

Fiji is an archipelago state, consisting of 332 islands of mostly volcanic origin, of which 110 are inhabited permanently. Over the past two decades, the country has experienced around 106 disasters, of which the majority were recognized as climate-related events (cyclone, floods, and storm surges). The average asset losses due to floods, cyclones and storm surges are estimated at more than F$500 million per year, representing more than 5 percent of Fiji's GDP.

In recent years, Fiji has experienced rarer events. For instance, in 2016 Tropical Cyclone (TC) Winston, which was declared the most devastating cyclone of the Southern Hemisphere, made landfall. This cyclone caused damages amounting to F$2 billion, leaving more than 43, 000 people homeless and affecting two-thirds of the total population. The cost of climate-induced disasters is expected to increase two-fold by 2050. This is driven by socio-economic trends—such as increasing urbanization and concentrations of development along coastlines and climate change. In addition, other parallel impacts of climate change, such as sea-level rise, ocean acidification, increased risk of flood, or the spread of vector-borne diseases into new areas, may also affect development outcomes and options.

To address the increasing risks posed by climate change and natural hazards, the Government of Fiji (GoF) has been working together with regional organizations and development partners on risk-informing development initiatives. A key example is the village of Nasolo, in Bua, Fiji. Home to around 700 people. Unfortunately, for decades the villagers faced difficulties in accessing their agricultural land, and essential services such as medical facilities as the existing road conditions were considered hazardous. The community members raised these concerns through the community development planning process and the Northern Commissioner's Office committed funding under the Fiji Government's capital project grants to cut a new farm access road for the community.

Mainstreaming Initiatives

There are two key initiatives that aim at strategically integrating disaster risk reduction and climate change adaptation into the development processes and policies in Fiji.

Initiative 1: The Pacific Risk Resilience Programme (PRRP), 2012-2018 with the United Nations Development Programme Pacific Centre (UNDP PC) as the implementing partner and the Live and Learn Environment Education (LLEE) as the responsible party. It was funded by the Australian Government.

Initiative 2: The Governance for Resilient Development in the Pacific or Gov4Res Program initiated in January 2020 with support from the Governments of Australia, New Zealand, South Korea, and Sweden.

Description of Mainstreaming Entry Points (Fiji Mainstreaming Story)

Fiji's mainstreaming story is best illustrated by its experience of the process at the sub-national level, specifically in the country's Northern Division. The impetus was a policy sphere of action, specifically through a leadership and advocacy entry point as exemplified by the Commissioner of the Northern Division who championed risk-informing development. The Commissioner led the oversight of this innovation and continued to influence the way development takes shape at the local levels. Leading the way towards mainstreaming DRR and CCA, the Northern Division Commissioner's Office embarked on a range of organization spheres of action, foremost through a capacity entry point when it established a full-time Senior Government post dedicated to climate change and disaster risk management at the Northern Commission. Moreover, it capitalized on coordination and responsibilities entry point when it strengthened local partnerships by ensuring that the CCDRM Officers collaborated with local government and partners. The evolving process went further with another capacity entry point via the training of community development plan facilitators around themes such as safety, unity and social inclusion, tapping on the expertise of the Ministry of Women, Children and Poverty Alleviation, a stakeholder sphere of action via government entry point.

This chain of processes that focused on institutional strengthening and capacity development of the Northern Division led to the development and adoption of the Risk Screening Guidelines, another organization sphere of action ushered mainly by procedures, tools, and management entry point that further resulted to finance spheres of action vis the risk screening of divisional development projects (risk-informing investments entry point) and including budget allocation for the risk-screened projects such as the Farm Access Road Construction project in Nasolo Village (a budget and expenditure entry point). The use of the risk screening guidelines was cascaded to divisional levels, specifically when the Commissioner mandated the CCDRM Officers to trial risk screening the approval process for selected public sector investment projects in the Northern Division, a finance sphere of action through the risk-informing investments entry point.

The risk screening guidelines also paved the way for risk considerations in the Project Management Cycle (an organization sphere of action - programmes and projects entry point) and the private sector's involvement was pursued in the Northern Division, specifically in implementing risk-proofed projects (a stakeholder sphere of action via private sector entry point).

In the Northern Division, the Commissioner's Office is now incorporating risk into other public sector projects, such as government stations, health and evacuation centers. Lessons learned from trialing the integration of risk management measures into the Nasolo road project are also being used to inform larger projects, such as the Seaqaqa township development.

Following training of Divisional Planners from across Fiji (a capacity entry point), which included the Nasolo project example, the Ministry of Rural and Maritime Development (MRMD) formally adopted risk screening into its standard operating procedure (SOP), a procedure, tools and management entry point. Having risk screening as a mandatory part of the planning process ensures that it is institutionalized and ongoing. The Ministry of Economy (MoE) has also revised the

Public Sector Investment Programme (PSIP) template to include risk management, a risk-informing investment entry point. In 2020, another organization sphere of action specifically through coordination and responsibilities entry point, the MoE agreed to embed four resilient development positions within the Ministry, two with the Budget and Planning Division and two with a newly established Project Development Unit (PDU). The Budget and Planning Division focal points will be responsible for integrating resilience measures in the budget and planning process, and the PDU staff will ensure that projects proposed by the unit are cognizant of current and future risks.

Mainstreaming Results

- During a series of heavy rainfall events in April 2018, the Nasolo farm road stood up to the test as it was designed to consider landslip risk. The community was able to continue access to its newly established farmlands and their incomes underwent minimal disruption.
- A risk-informed approach ensures greater economic opportunities. The year-round access to the farmland has meant that the kava and dalo (taro) growers have been able to sign contracts with exporters, who ship the Nasolo community's produce to Suva, Fiji's capital.
- Nasolo farm roads project is one of the first risk screened capital projects to have undergone the full project implementation cycle in the Northern Division. Each phase of the project implementation cycle presents an opportunity to address risks to and from a project before they happen.
- Considerable savings made for the future. For example, if a landslide were to affect the farm road, this would disrupt access to farmland and significantly reduce the community's income. It would also cost the Fiji Government significant amounts of money to repair the road.
- Given risk management measures were incorporated into the contractor's instructions, the contractor's capacity to understand the rationale behind the risk-informed roads were increased and implemented. Involving the private sector in risk management is essential as they implement a high proportion of public investments.

Challenges

Risk-informing development is not as simple as it sounds. Over the years, significant efforts have been made towards mainstreaming DRR and CCA in development; however, progress has been rather lagged due to the limited understanding of risk-informed development (RID). The Gov4Res team has been working in partnership with MoE and MRMDDM to champion discussions on RID, particularly as Fiji continues to experience more devastating natural hazards.

Fiji's mainstreaming story in a snapshot

For more information, please contact:

United Nations Development Programme
One United Nations Plaza
New York, NY 10017
Email: info@undp.org

www.undp.org