Policy Brief on Climate Change Loss and Damage in the Context of North Macedonia

Vasko Popovski, M.A.

2022

The document was prepared in the framework of the project "*Strengthening Institutional and Technical Macedonian Capacities to Enhance Transparency in the Framework of the Paris Agreement*" implemented with financial and technical support from GEF and UNDP.

Cover page photo: Photo Courtesy of UNDP https://tinyurl.com/5fzukuk4 (Potential flood damage in the urban part of Skopje)

ABBREVIATIONS

AOSIS	Alliance of Small Island States
BUR	Biennial Update Report
CBIT Project	"Strengthening institutional and technical Macedonian capacities to enhance transparency in the framework of the Paris Agreement" Project
CMC	Crisis Management Centre
CRED	Centre for Research on the Epidemiology of Disasters
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EM-DAT	Emergency Events Database
GIS	Geo-Information Systems
ICTs	Information and Communication Technologies
NDC	Nationally Determined Contribution
SDGs	Sustainable Development Goals
Sendai Framework	Sendai Framework for Disaster Risk Reduction 2015 - 2030
SNLD	Santiago Network on Loss and Damage
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
WMO	World Meteorological Organization

1. INTRODUCTION

Extreme weather events (e.g. storms, extreme temperatures, torrential floods, etc.) and slow-onset processes (e.g. droughts, etc.) are dominating the disaster profiles around the globe resulting in increased frequency and magnitude of impacts hardly affecting the resilience of societies and communities, exacerbating existing and creating new vulnerabilities and deepening the social inequalities. Both the developed and developing countries are exposed to the harmful impacts of climate change including their population, businesses, critical infrastructure and the natural environment. For example, out of the 7,348 disasters recorded worldwide by the EM-DAT for the period 2000 - 2019, 86% were resulting from hydrological, meteorological and climatological hazards i.e. floods, storms, extreme temperatures, and droughts.[1] Storms cost more than any other disaster type in terms of recorded economic damage (1.39 trillion USD), followed by floods (651 billion USD), and droughts (128 billion USD).[2] Their powerful magnitude can be seen in the case of Europe, where during the period of the last four decades, only 3% of the total disastrous events were caused by extreme events which were responsible for about 60% of the total financial damages.[3] Furthermore, given the climate change projections (temperature increase, shifting rainfall patterns and variability in precipitation, longer periods of high temperatures followed by droughts) it is expected the frequency of these extreme events to further increase and seriously affect the well-being of the population. Following this global pattern, North Macedonia is not an exemption and during the last two decades out of 12 disastrous events that took 72 lives, affected the population of approx. 1.3 million and the price tag of only eight of them were more than a half-billion USD[4]. Furthermore, the extensiveness of the 1993 drought, led to a total crop failure that was calculated and estimated at 7.6 per cent of the total national income.[5] In addition to these, many other, smaller in scale and magnitude events occur during the year, e.g. torrential rains, wind- and hail storms, extreme temperature periods, and others. Although these events are not the focus of interest, they continually erode the resilience texture of communities and citizens by draining their limited resources and capacities.

It is evident that climate change seriously threatens vulnerable societies and communities leading to more destructive impacts, as well as losses, that have taken place or might take place in the future, both economic and non-economic. The former ones are recognized as the loss of resources, goods and services that are commonly traded in markets and they can be *income-related* i.e. business operations, agricultural production and tourism and *physical assets* i.e. infrastructure and property. The latter refers to the remainder of the items that are not commonly traded in markets and they can be individual (life, health, human mobility), societal (territory, cultural heritage, indigenous knowledge and societal and cultural identity) and environmental (ecosystem services and biodiversity).[6] "In addition to that, the Intergovernmental Panel on Climate Change (IPCC), which is the UN's scientific body on climate change,

[1] UNDRR, CRED, EM-DAT. Human costs of disasters – An overview of the last 20 years 2000 – 2019.2022. p.10 https://www.undrr.org/publication/human-cost-disasters-overview-last-20-years-2000-2019
[2] Ibid. p.17
[3] https://www.dw.com/en/europe-weighs-death-and-destruction-from-extreme-weather/a-60645644
[4] Popovski, Vasko. *DRR Chapter for the 4th National Communication on Climate Change (Report)*. UNDP. 2021. p.5
[5] WMO. 2012. Strengthening Multi-Hazard Early Warning Systems and Risk Assessment in the Western Balkans and Turkey: Assessment of Capacities, Gaps and Needs. Geneva.
[6] https://unfccc.int/sites/default/files/resource/Online_Guide_feb_2020.pdf

has acknowledged that even if mitigation and adaptation can reduce warming to 1.5 °C there will still be losses and damages that will have a greater impact on the most vulnerable people, communities and countries, the majority of which are in the global South."[7]

Therefore, new approaches to reducing the disaster and climate risks are needed, varying from enhanced risk governance, systemic, multi-hazard, multi-risk and multi-sector assessment, anticipatory actions, sustainable risk financing, increased disaster prevention through structural and non-structural measures, better preparedness, timely response and resilient recovery. Consequently, as part of the measures and action to tackle these resilience challenges and address subsequent disaster losses and damages from extreme events systematically, the aspect of climate change loss and damage i.e. loss and damage from human-induced climate change appeared in the continuous climate resilience policy debates getting attention and gaining recognition within the framework of the international climate change negotiations mechanisms. "The idea of loss and damage reflects a growing recognition that not all climate change impacts can or will be avoided through reductions of greenhouse gas emissions (mitigation) or adjustments to climatic changes (adaptation): Some adverse impacts are already "locked-in" as a result of past, current and projected future emissions."[8]

2. *AIMS OF THIS POLICY BRIEF*

This Policy Brief aims to support the efforts for advancing the climate change loss and damage in the national development agenda through the understanding of the overall conceptual framework, its development pathway, and existing context regarding the disaster and climate resilience in North Macedonia with recommendations for the way forward in building the climate resilience of the society and the communities. In a consequent order, this brief aims to advocate for transformational change in understanding and applying this concept, including its mainstreaming within the policy development and planning in key sectors.

3. NEEDS FOR LOSS AND DAMAGE FRAMEWORK

The departing point in the climate change loss and damage journey is the terminological understanding of the concept. In that sense, it needs to be emphasized that this concept differs from the applied principle of damage and losses following disasters. The former is built upon the foundation of a comprehensive approach to reducing the adverse impacts of human-induced climate change within the whole cycle of disaster and climate risk reduction, while the latter refers primarily to the process of assessment of the damages and losses following a disastrous event and it is included within the former one. Evolutionary, the loss and damage concept appeared during the process of international climate negotiation as a result of the efforts to clarify how to address the losses and damages from climate change. *„While there is no official definition, loss and damage usually refer to the „residual effects" of climate change that cannot (or will not) be avoided through mitigation and adaptation*[9]" i.e. reducing

[7] https://www.lossanddamagecollaboration.org/whatislossanddamage
[8] Julia Kreienkamp and Dr Lisa Vanhala. Policy Brief. Climate Change Loss and Damage. UCL. 2017. p.1 https://www.ucl.ac.uk/global-governance/sites/global-governance/files/policy-brief-loss-and-damage.pdf
[9] Ibid. p.4.

greenhouse gas emissions. These impacts following the UNFCCC classification can result from *„extreme weather events* (floods, droughts, storm surges, cyclones, heatwaves) and *slow-onset climatic processes/events* (e.g. desertification, rising temperatures, salinization, loss of biodiversity, land and forest degradation, etc.).[10] Consequences of these types of disastrous events can be identified as damages e.g. infrastructure systems and facilities, households, physical assets, etc. that can be easily measured and expressed in financial values and consequences that cannot be measured and expressed in financial values e.g. human injuries, population needs, etc. In that sense, risks of climate-related impacts result from the interchange of the climate-related hazards with the exposure and vulnerability of human and natural systems and changes in the climate system left and socioeconomic process including adaptation and mitigation (right) are drivers of hazards, exposure and vulnerability.[11] This aspect results in the potential extent of the climate change losses and damages. With the existing projections for greater impacts, it is expected that also the losses and damages would significantly increase requiring comprehensive mitigation and adaptation.

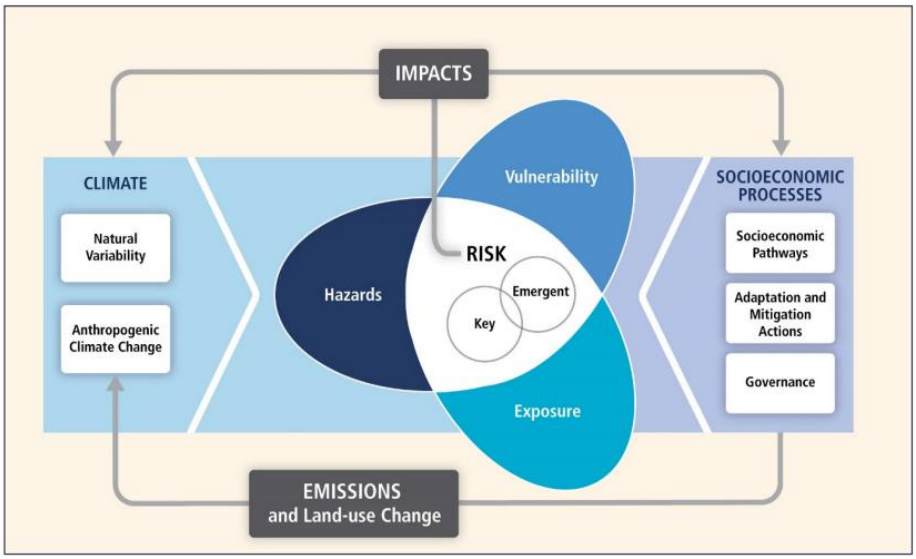


Figure 1 – Interaction of climate-related hazards with the vulnerability of human and natural systems direct the impacts and the scope of loss and damage[12]

As mentioned above, the loss and damage are resulting from the human-induced climate change and the magnitude of their impact is resulting from a whole palette of inter-related sectors and processes i.e. poor risk governance (both climate and disaster), insufficient mainstreaming of climate change adaptation and disaster risk management, urbanization rate, environmental degradation, existing capacities, etc. This means that the loss and damage similarly to the disaster risk management need *a whole society and whole the government approaches* where all national, regional and local authorities,

[10] https://unfccc.int/sites/default/files/resource/Online_Guide_feb_2020.pdf
[11] Intergovernmental Panel on Climate Change [IPCC] (2014) Climate Change 2014: Impacts, Adaptation, and Vulnerability. WGII_AR5_Fig 19-1, Summary for Policymakers p 3. https://tinyurl.com/584kttex
[12] Ibid. p.3

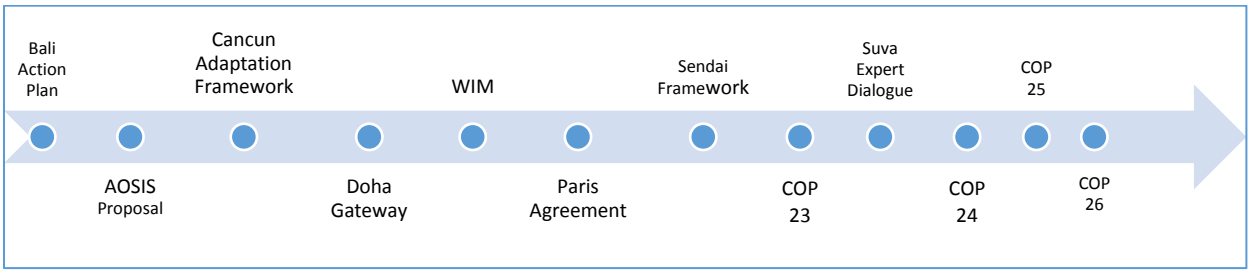
key ministries, assemblies, civil society organizations, private sector, academia and other climate and disaster risk reduction stakeholders will contribute in addressing these climate change impacts through their capacities and competencies, as well as jointly in multi-sector actions.

Although losses and damages affect all the countries and territories globally, they are disproportionally felt by the developing countries given their vulnerability to these natural hazards, limited capabilities of their systems, lack of resources, as well as poor resilience of the society and communities. Therefore, they are the most prominent actors advocating for their closer integration within the ongoing international climate negotiations and the relevant climate resilience frameworks on global, regional, national and local levels. In addition, with the establishment of the Warsaw International Mechanism, these efforts are channelled through it as a global platform for finding solutions, sharing information, and mobilizing financial resources for the prevention and mitigation of the adverse impacts of existing and new climate risks, especially in the vulnerable countries.

And finally, the further integration of the loss and damage into the climate action efforts is a precondition of a resilient development of the countries and territories globally. So, a set of policies, measures and actions need to be formulated and implemented, which can range from effective *ex-post* support mechanisms and financial and transformational solutions to unavoidable losses and damages, stimulation of greater mitigation and adaptation efforts, comprehensive risk management, sustainable and innovative financing, community participation, to enhanced knowledge and risk awareness.[13] Some of the actions formulated to be implemented on the national and local levels derive from this essential palette of integrative solutions.

4. HISTORY OF CLIMATE CHANGE LOSS AND DAMAGE

The climate change loss and damage are embedded in the UNFCCC framework i.e. decisions made or programmes adopted during the COPs, reflected in the IPCC's reports, whether their disastrous effects are integrated into the Sendai Framework. Their historical development pathway is presented in the text below.



[13] Based upon the following source: Byrnes R and Surminski S (2019) *Addressing the impacts of climate change through an effective Warsaw International Mechanism on Loss and Damage: Submission to the second review of the Warsaw International Mechanism on Loss and Damage under the UNFCCC*. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science. p.4-5. https://tinyurl.com/zdbhpamh

Figure 2 – Phases of the development of the loss and damage concept

- The ***Bali Action Plan*** was adopted at COP-13 in Bali, Indonesia and for the first time the loss and damage were included in the adopted decision in the adaptation section i.e. „Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change.“[14]
- During the COP-14 held in 2018 in Poznan, Poland the ***AOSIS group of countries proposed*** the development of a loss and damage mechanism consisting of three streams: an insurance component to respond to the risks associated with extreme weather events; a rehabilitation and compensation component to address slow-onset impacts; and a risk management component.[15]
- The COP-16 held in 2010 in Cancun, Mexico pushed forward the loss and damage concept higher on the agenda with the development of a work programme under the „***Cancun Adaptation Framework***“ which was structured around the following areas: strengthening the international cooperation, assessing the risks associated with loss and damage; investigating approaches to address loss and damage; and clarifying the role of the Convention in implementing these approaches.[16]
- Despite the growing pressure from the developing countries in the stronger integration of the loss and damage aspects, the COP-18 held in 2012 in Doha, Qatar, led to the development of the ***„Doha Gateway“*** final decision where rehabilitation was mentioned as an element of future action on loss and damage.[17]
- A breakthrough was achieved in 2013 at the COP-19 held in Warsaw, Poland with the establishment of the ***Warsaw International Mechanism on Loss and Damage (WIM)*** as a dedicated policy mechanism for climate change loss and damage which is established within the adaptation framework.[18] As the most important structure within the loss and damage area, more information on its objective, pillars and structure is presented below in the text.
- Even though there is no direct reference to the climate change loss and data, the ***Sendai Framework***[19] aims to achieve a “*substantial reduction of disaster risk and losses in lives, livelihoods and health and the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries*.” Consequently, it embeds the reduction of the disaster loses and damages within the structure of its main objectives i.e. reduction of the economic loss to the global GDP by 2030, or substantial reduction of the disaster damages to the critical infrastructure and disruption of the basic services until 2030
- ***Paris Agreement*** was adopted at COP-21 held in Paris, France in 2015. Its Article 8, recognizes the “*importance of averting, minimizing and addressing loss and damage*”[20] adding the loss and damage as one of the pillars of the UNFCCC alongside the mitigation and adaptation. The overarching areas of cooperation and facilitation to enhance understanding, action and support are the following areas: emergency preparedness; low onset events; comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance solutions; early warning systems’ events

[14] https://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf
[15] https://unfccc.int/files/kyoto_protocol/application/pdf/aosisinsurance061208.pdf
[16] https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=4
[17] https://unfccc.int/resource/docs/2012/cop18/eng/l04r01.pdf
[18] https://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf
[19] https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf
[20] https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

that may involve irreversible and permanent loss and damage; non-economic losses; and resilience of communities, livelihoods and ecosystems.[21] This Agreement was the last one adopted during the historic year for sustainable development – 2015 and accordingly, these areas of cooperation and facilitation correlate with the Sendai Framework priorities and SDGs goals and targets as presented in the table below. Additionally, the creation of a task force on displacement and a clearinghouse on risk transfer was agreed upon.

Paris Agreement Article VIII	***Sendai Framework***	***SDGs***
Early warning systems/Emergency Preparedness	Priority 4	3, 11, 13
Slow onset events/Events that may involve irreversible and permanent loss and damage	All priorities	1, 2, 13, 15
Comprehensive risk assessment and management	Priority 1	11, 13, 15
Risk insurance facilities, climate risk pooling and other insurance solutions	Priority 3	
Non-economic losses	Priority 3	1, 2, 11, 13, 14, 15
Resilience of communities, livelihoods and ecosystems	All priorities	All SDGs

Figure 3 – Correlation of the Article VIII areas of cooperation and facilitation with the SFDRR priorities and the SDGs goals and targets

- During the ***COP-22*** (Marrakech, Morocco, 2016) the first review of the WIM was concluded and the five-year work plan was adopted, without any concrete commitment made for the financing of the loss and damage.
- The ***COP-23*** was held in Bonn, Germany under the Fiji Presidency pushing forward the loss and damage agenda. „The topic of loss and damage was recognised as the third pillar of necessary climate actions in the Paris Agreement, along with emission reductions and adaptation to climate change.“[22] In addition, the *Fiji Clearing House*[23] was launched as a UNFCCC repository of information on insurance and risk transfer i.e. a platform for the connection of experts and those looking for risk transfer solutions to build tailor-made responses, to foster climate-resilient sustainable development.
- ***The Suva Expert Dialogue***[24] held in Bonn, Germany in 2018 discussed risk assessment, risk transfer, risk reduction and retention, and comprehensive risk management approaches to extreme weather events and slow-onset climatic processes. Considering the risk reduction and retention, a low level of awareness of climate risk was identified and come solutions were identified i.e. implementation of pilot risk reduction projects, fostering political buy-in and use of scientific knowledge and information as awareness-raising material for the authorities and communities. The dialogue identified the Global Covenant of Mayors on Climate and Energy as an organization, which could develop tools to support risk assessment and reduction strategies for cities for integration into the city and national sustainable development plans. Access to post-disaster financial resources, including for the recovery and reconstruction phases is still a challenge and anticipatory solutions need to be introduced e.g. forecast-based financing. Also, further work is needed to integrate the targets of the Paris Agreement into

[21] https://hal.univ-reunion.fr/hal-03328974/document p.7
[22] https://wupperinst.org/fa/redaktion/downloads/publications/COP23-Report.pdf p.10
[23] http://unfccc-clearinghouse.org/
[24] https://sdg.iisd.org/news/unfccc-publishes-report-of-the-suva-expert-dialogue-on-loss-and-damage/

frameworks and indicators for streamlining national-level planning and implementation approaches to DRR and the SDGs.

- One of the outcomes of the ***COP-24*** (Katowice, Poland, 2018) was to include the loss and damage under a separate "heading in the guidelines of the transparency framework section on Impacts and Adaptation. Under this framework, all countries report on the action they have taken to address climate change. The framework is extremely important, as commitments under the Paris Agreement are all voluntary."[25] So, they can report on the impacts of the past events, potential effects of the future ones and planned measures and activities for mitigation of losses and damages, including the institutional set-up and identification of the type of support in these efforts. Countries' information on loss and damage was included as part of the Global Stocktake.
- The ***COP-25*** (Madrid, Spain under the Chilean Presidency, 2019) placed the importance of the loss and damage in the right direction. "Based on the conclusions of the WIM Review the Parties of the Paris Agreement adopted the following decisions, among others: parties were encouraged to „establish a loss and damage contact point"; the WIM's Executive Committee was requested to liaise with the Green Climate Fund, to „clarify how developing country Parties may access funding from the Green Climate Fund"; the Santiago Network[26] was established, as part of the WIM, to «catalyse the technical assistance» required by the most vulnerable countries".[27] Considering the financing for loss and damage, no specific decision was made, but the importance of resource mobilization and continuous financing by the Green Climate Fund was referenced.
- The ***COP-26*** (Glazgow, Scotland, UK, 2021) "only touched on the technical assistance required for loss and damage and did not address any realistic aspects of it, such as finance."[28] In that sense, no decision was made on the detailed set-up of the SNLD (it will be followed up during the next COP-27), instead of the creation of the Glasgow Facility to finance the solutions to loss and damage, a dialogue on finance for loss and damage would be held and a new Loss and Damage Fund set up.

5. WARSAW INTERNATIONAL LOSS AND DAMAGE MECHANISM (WIM)

Acknowledging the importance of the losses and damages related to the climate change impacts, the COP19[29] established the ***Warsaw International Mechanism for Loss and Damage (WIM)*** during its session in 2013 in Warsaw, Poland. As the main vehicle in the UNFCCC process and reaffirmed with the Paris Agreement, its objective is to "*address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change*"[30] in a comprehensive, integrated and coherent manner. In general, the WIM promotes the implementation of approaches to address loss and damage associated with the adverse effects of climate change by undertaking the following essential functions while implementing Article 8 of the Paris Agreement:

[25] https://climateanalytics.org/blog/2018/progress-on-loss-and-damage-in-katowice/
[26] https://unfccc.int/santiago-network/about
[27] https://unepdtu.org/wp-content/uploads/2019/12/ld-cop25.pdf
[28] https://www.icccad.net/daily-star-articles/what-did-cop26-do-to-deal-with-loss-and-damage/
[29] https://tinyurl.com/3kfd6cva
[30] https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction-to-loss-and-damage

1. ***Enhancing knowledge and understanding of comprehensive risk management approaches*** i.e. action to address gaps in the understanding of and expertise in approaches to address loss and damage associated with the adverse effects of climate change, including, inter alia, the areas outlined in decision 3/CP.18, paragraph 7(a)[31]; collection, sharing, management and use of relevant data and information, including gender-disaggregated data; provision of overviews of best practices, challenges, experiences and lessons learned in undertaking approaches to address loss and damage.
2. ***Strengthening dialogue, coordination, coherence and synergies among relevant stakeholders*** i.e. providing leadership and coordination and, as and where appropriate, oversight under the Convention, on the assessment and implementation of approaches to address loss and damage associated with the impacts of climate change from extreme events and slow onset events associated with the adverse effects of climate change; fostering dialogue, coordination, coherence and synergies among all relevant stakeholders, institutions, bodies, processes and initiatives outside the Convention, to promote cooperation and collaboration across relevant work and activities at all levels.
3. ***Enhancing action and support, including, finance, technology and capacity-building*** i.e providing technical support and guidance on approaches to address loss and damage associated with climate change impacts, including extreme events and slow onset events; providing information and recommendations for consideration by the Conference of the Parties when providing guidance relevant to reducing the risks of loss and damage and, where necessary, addressing loss and damage, including to the operating entities of the financial mechanism of the Convention, as appropriate; facilitating the mobilization and securing of expertise, and enhancement of support, including finance, technology and capacity-building, to strengthen existing approaches and, where necessary, facilitate the development and implementation of additional approaches to address loss and damage associated with climate change impacts, including extreme weather events and slow onset events.

Implementation of these functions is guided by the *Executive Committee*[32] through the adopted Workplan and with support from the various *thematic expert groups*. In fulfilling its mandate the Executive Committee also develops initiatives i.e. *Fiji Clearing House for Risk Transfer*, which connects experts and those looking for risk transfer solutions to build tailor-made responses, to foster climate-resilient sustainable development. The current Workplan[33] has five strategic streams as follows:[34]

1. ***Non-economic losses*** workstream aims at enhancing data collection, knowledge and awareness of non-economic losses so that they can be further taken into account in national-level measures.
2. ***Comprehensive risk management approaches*** *i.e. risk assessment, risk reduction, risk transfer and risk retention* to address and build long-term resilience to loss and damage.
3. ***Human mobility*** *comprises migration, displacement and planned relocation related to the adverse impacts of climate change.*
4. ***Action and support*** targets enhanced cooperation and facilitation concerning action and support, including finance, technology and capacity-building.
5. ***Slow onset events workstream*** aims at improving the understanding of slow onset events, as well as enhancing the capacity to address them, particularly at regional and national levels.

[31] http://www.ciesin.columbia.edu/repository/entri/docs/cop/FCCC_COP18_dec03.pdf
[32] https://unfccc.int/wim-excom
[33] https://unfccc.int/sites/default/files/resource/5yr_rolling_workplan.pdf
[34] https://tinyurl.com/cmd8kc6t

6. EXISTING NATIONAL CONTEXT FOR LOSS AND DAMAGE

6.1. Existing mechanisms to address loss and damage

The Republic of North Macedonia was one of 187 countries that adopted the Sendai Framework for Disaster Risk Reduction 2015 – 2030 during the Third World UN Conference on Disaster Risk Reduction held in March 2015 in Sendai, Japan. However, it lacks regular reporting on the achievement of objectives and fulfilment of the targets. Nevertheless, good practice in terms of initiating and supporting tegular reporting to the Sendai Framework (as per the "Technical Guidance for Monitoring and Reporting on Achieving Global Targets of the Sendai Framework for Disaster Risk Reduction"[35]) and SDG13[36] is the newly established Sendai Framework and SDG 13 Reporting Modul as part of the E-Assessment platform[37] of the Crisis Management Centre. This module allows recording events, occurrences, conditions and certain data about the past disastrous events that are entered and that contribute to the systematic and better data collection and reporting on damages and losses. Concerning the WIM, the country until now has not engaged sufficiently in the reporting and utilizing the benefits from the mechanism, but it "*plans to develop a National Adaptation Plan (NAP) based on nexus approaches in the following areas: water, food, energy, health, biodiversity, tourism, forestry, disaster risk reduction, loss and damage, built-in infrastructure*."[38] NAPs can ensure coherent integration of climate change adaptation and disaster risk reduction. From the normative aspect, the country has not sufficiently designed solutions to comprehensively address the climate change loss and damage, or if they are existing, still they are stand-alone mechanisms with limited effects across the policies and sectors. Even the draft versions of the Long-term Strategy of Climate Action and the Law on Climate Action are not considering the aspects of loss and damage in their entirety. From the point of view of different sectors' policies and practices, the existing mechanisms for loss and damage are identified from the point of view of the comprehensive risk management which aims to build long-term resilience to loss and damage as presented in the text above.

- ***Risk assessment*** **–** Existing risk and hazard assessment in the country is integrated within the crisis management and protection and rescue frameworks with the preparation of the national and municipal risk and hazard assessments. They profile the existing hazards, assess and analyze the exposure and vulnerability of the population and the critical infrastructure and services to prevailing risks and consequently spatially locate them, as well as identify and prioritize operational measures for mitigation, preparedness, response and recovery. "The system for national risk assessment built on local risk assessments forms a robust evidence base to identify capability needs across the country as a whole."[39] The risk and hazard assessment conducted by the Crisis Management Centre is a broader regional example of how to conduct multi-risk, multi-hazard and multi-sector assessments with support of the ICT solutions. Nevertheless, existing challenges in the current context can be identified as the following i.e. insufficient integration of climate scenarios, services and models, lack of probabilistic

[35] https://tinyurl.com/44j63ktx
[36] https://unstats.un.org/sdgs/metadata/?Text=&Goal=13&Target=
[37] http://procena.cuk.gov.mk/Login.aspx?ReturnUrl=%2f
[38] https://tinyurl.com/2vktzybt p.20
[39] European Union Civil Protection. *Peer Review – Report North Macedonia 2018*. 2019. p.41. Online https://tinyurl.com/y4pxv23m

modelling, insufficient inclusiveness and participation of the at-risk communities during the risk assessment process, poor mainstreaming of the risk and hazard assessments into the strategic and development programmes and plans, as well as the private sector, especially the insurance companies.

- ***Risk reduction*** **–** Its importance is recognized and many interventions are implemented, especially at the local level with the execution of structural and non-structural measures and works. Even though many of them can be labelled as stand-alone ones, more comprehensive ones, strengthening the climate and disaster resilience can be found e.g. the ongoing Polog flood risk reduction programme[40] is an example of a comprehensive and inclusive approach toward overall risk reduction. Nevertheless, climate risk analyses are insufficiently integrated into the design and implementation of comprehensive actions and risk reduction measures mainly address extreme weather events impacts rather than slow onset events consequences.

- ***Risk transfer*** – In general, there is no systematic disaster and climate risk insurance system in the country and the approach is ex-post rather than ex-ante. This existing practice is reactive with submitting claims to the government for payment of damages and losses in the event of disasters, rather than proactive with payment in advance for the insurance policies and being financially protected from the adverse effects of the natural and human-made hazards. On the other side, the interest of the citizens and businesses in covering the effects of the natural hazards is low. An exception to this is agricultural insurance where the government is subsidizing part of the premium (60%) of the crop insurance, but the interest of the farmers is very low i.e. 3.5% in 2015 and 2% in 2020. Agricultural insurance can be indemnity-based crop insurance (claim payment is based on the actual loss incurred by the insurance policyholder) and/or parametric (a non-traditional insurance product that offers pre-specified payouts based upon a trigger event). The former is implemented by the national insurance companies and the latter was introduced by Europa Re as part of the below mentioned CRIF project as an Area-Yield Parametric Insurance for 4 types of crops (maize, wheat, barley and vine grapes) enabling farmers to collect claims if the overall performance of the respective crop(s) in the relevant municipality is poor, as specified apriori through the trigger mechanics of the policy.[41]

- ***Risk-retention*** **–** Its application in the country is limited scope since they are not fully recognized as a solution for addressing loss and damage. In that sense, the budgets of the state and the municipalities do not have "specifically allocated funds to risk reduction per se"[42]. Many of the activities are financed by these budgets but they are not having the risk reduction tag to be easily identified and systematize the risk reduction financing. Contingency planning is insufficiently developed and applied and cannot be linked successfully with the risk transfer mechanisms. The national and local budgets allocate 3% of their total amount as contingency budget reserves for covering the response and disaster relief. They are allocated on an annual basis, without having the possibility for their accruing and re-allocation for other purposes. On the other side, the process of ***climate budget tagging*** was initiated and can be utilized for better risk reduction annual budgeting and financing, as well as providing a basis

[40] https://tinyurl.com/2p9xnhfb
[41] Ibid. p.9.
[42] UNDP. *Disaster Risk Reduction Capacity Assessment Report for Former Yugoslav Republic of Macedonia*. 2011. p.. Online https://tinyurl.com/3cxxw9s2

for the application of many other financial solutions. "The benefits of Climate Budget Tagging can be summarized as the following: i) identify Climate Change budget being mobilized and report on CC-relevant expenditure; ii) enable the government to make informed decisions and prioritize climate investments; iii) enable public scrutiny on government spending on climate responses to improve accountability and transparency; iv) mobilise climate-related action across government sectors by providing evidence of on-going climate-related activities, and v) raise public awareness about climate change issues and government's climate responses. vi) capture all expenditures made through the programmes that are on-budget-on-treasury including projects funded by international sources under SDGs, Enhanced Nationally Determined Contributions and DRR. vii) produce separate budget and expenditure information for mitigation, adaptation, and mixed programmes that have both mitigation and adaption functions."[43]

- ***Preparedness*** **–** The World Bank and the Global Facility for Disaster Reduction and Recovery assessed the emergency preparedness and response capacities in North Macedonia[44] based on the Ready to Respond (R2R) diagnostic methodology. As per the findings of the report, the preparedness and response system in the country meets the basic requirements with the main challenges being identified in the overlapping competencies and insufficient clarities considering the individual and joint responsibilities. To be established as a dynamic, integrated, multi-sector preparedness and response system it is necessary to build a joint vision, to encompass new challenges e.g. climate change, emerging risks and threats while developing the essential policy normative and institutional frameworks, building the capacities accordingly, supplying the required resources and applying the necessary technologies.

- ***Social protection and safety nets*** **–** One-off financial assistance and in-kind assistance (related to a certain shock or disaster that hit a family or young people leaving the care system) for which only 0.02% of the population is eligible.[45] On the other side, social safety net systems for climate and disaster risks are insufficiently used, mainly as cash-for-work or public works programmes, both during the prevention and recovery phases.

- ***Damages and losses Including non-economic losses*** **-** This type of assessment is an *ex-post* type of reimbursement of damages and the procedure is lengthy with only a portion of the assessed damages and losses being compensated. Some of the slow-onset events and extreme weather events are not included in the existing damage assessment framework e.g. desertification, loss of biodiversity, land and forest degradation, salinization, and heatwaves. Additionally, climate change impact-related losses and damages are not assessed. The existing assessment framework does not include socio-economic sectors and human development including the needs of the population, as well as the cross-cutting issues e.g. gender, DRR, etc. Following a disastrous event, the ad-hoc reimbursement scheme is applied through the municipal and national commissions for damage assessment and is in line with the Law on

[43] Madhukar Upadhya, Aleksandar Naumoski. *Guidelines Implementing Climate Budget Tagging in the Republic of North Macedonia.* 2021. p.6. Online https://tinyurl.com/334svj7s

[44] The World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR). *Ready2Respond: Diagnostic Report Emergency Preparedness and Response Assessment – North Macedonia*. 2021. Online: https://tinyurl.com/mw56ubva

[45] https://www.unicef.org/eca/media/15976/file p.18.

protection and rescue and the Methodology for damage assessment from natural disasters and other accidents.

6.2 Country engagement in the WIM

As a Non-Annex I party of the UNFCCC, North Macedonia can benefit from many facilitated actions, including the ones to address gaps in understanding of various topics related to addressing loss and damage, collection, sharing, management and use of relevant data and information or provision of overviews of best practices, challenges, experiences and lessons learned. In that sense, it can undertake or enhance existing actions[46]

- Assessing the risk of loss and damage;
- Identifying options and designing and implementing country-driven risk management strategies and approaches;
- Systematic observation and data collection of the impacts of climate change;
- Implementing comprehensive climate risk management approaches, including scaling up and replicating good practices and pilot initiatives;
- Promoting an enabling environment that would encourage investment and the involvement of relevant stakeholders in climate risk management;
- Involving vulnerable communities and populations, civil society, the private sector and other relevant stakeholders, in the assessment of and response to loss and damage;
- Enhancing access to, sharing and the use of data, at the regional, national and subnational levels, to facilitate the assessment and management of climate-related risk.

In particular, this mechanism should contribute to a better understanding of the climate change impacts related to the overall disaster risk reduction, enhancement of the national and local policies, processes, ICT solutions and methodologies and tools, strengthening the relevant capacities, mobilization of resources and access to financial sources contributing to the prevention of disruptive shocks to the sustainable and resilient development of the country and the communities. Consequently, the following actions are identified for the country's implementation:

- ***Appointment of a loss and damage contact point*** – Following the invitation of the Excom, the country needs to establish a *Loss and Damage contact point* to enhance the implementation of approaches to address loss and damage at the national level.[47] It can play an important role in raising awareness of, and enhancing coordination, action and support for, averting, minimizing and addressing loss and damage associated with the adverse effects of climate change. Furthermore, the National Contact Point can support a better interaction with the loss and damage structures, dissemination of information and implementation of solutions and practices for addressing losses and damages. Given the current normative framework, the scope of competencies and responsibilities in the climate change area, as well as data availability on the human-induced climate change loss and damage, it is recommended a representative from MoEPP (from its senior staff) be appointed as the loss and damage contact point.
- ***Active Participation in the WIM bodies and working groups –*** As the Non-Anex I Party, the country is strongly encouraged to nominate experts to the Executive Committee and the various

[46] https://unfccc.int/topics/resilience/resources/questions-and-answers-ld-mechanism
[47] https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i7_wim2.pdf

technical groups. Considering former North Macedonia is within the group of the "2 additional members from non-Annex I Parties" and needs to consult with the regional group constituency and can submit the nomination for membership to the respective Chairs and Coordinators. As for the latter, national experts can be part of the several technical groups: Technical expert panel/group to improve the knowledge base on and develop recommendations for approaches for addressing slow onset events, Expert group to develop inputs and recommendations to enhance data and knowledge of reducing the risk of and addressing non-economic losses and Technical expert group to enhance knowledge and understanding of comprehensive risk management approaches, including issues related to finance, data, technology, regulatory environments and capacity-building.

- ***Access to Santiago Network on Loss and Damage*** **-** Once it is fully operationalized, the country can access it for information sharing on the technical aspects of the loss and damage.
- ***Access to FIJI Clearing House for Risk Transfer –*** There is an opportunity for the national experts and organizations i.e. insurance companies, NGOs, financial associations, etc. to be included in the networks of experts and organizations for risk transfer solutions to build tailor-made responses, to foster climate-resilient sustainable development. Through *RISK TALK*[48], an interactive online community on climate change risk transfer, one can ask specific questions and get tailor-made answers. Furthermore, it provides a palette of case studies and lessons learned, types of funding and access, as well as various literature on losses that can be beneficial for the national practitioners, academia and the private sector.

7. REDUCTION OF LOSSES AND DAMAGES - THE WAY FORWARD

Reduction of climate change losses and damages is a complex and continuous endeavour which needs to be implemented in multi-risk, multi-hazard and multi-sector cooperation and coordination. There are many potential measures and actions that the national and local authorities can implement to address the existing and anticipated losses and damages aimed at protecting the vulnerable communities and ensuring the resilience of the society. Some of the recommended actions are presented in the table below following the existing practices and mechanisms related to the reduction of losses and damages and the national and local contexts in the country

Active engagement with the WIM	National level
Integration of climate risk & information into policymaking & planning	National level
Mainstream CCA and DRR	National/Local level
Capacity building	National/Local level
Risk assessment	National level
Disaster preparedness	National/Local level
Risk transfer mechanisms	National level
Assessment of damages and losses	National/Local level
Finance mechanisms	National level
Microfinance	Local level
Social protection & safety nets	National/Local level
Application of ICT solutions	National/Local level

[48] http://unfccc-clearinghouse.org/find-solution

Figure 4 – Potential loss and damage actions on national and local levels[49]

- ***The country's active engagement with the WIM*** is the starting recommended action for the advancement of the loss and damage agenda given the profile of the mechanism, as well as benefits that can be provided by the adjacent structures, disseminated knowledge and information and accessed expertise and professional resources.

- ***Integration of climate risk & information into policymaking & planning*** aims at improving the overall risk governance and policy coherence in the country while enabling inclusiveness and participation of all stakeholders. Climate risks need to be integrated not only into the risk reduction policies and efforts but throughout the development sectors and policies enabling the development of risk-informed policies and decisions. Relevant policies enable the implementation of all adequate measures and actions by the concerned stakeholders, whether the planning for loss and damages guides the response to their adverse impacts. Also, partnerships with the various stakeholders need to be established i.e. private sector, academia, etc. utilizing their professional expertise, research capacities or resources.

- ***Mainstreaming CCA and DRR*** are important because they have a common objective of risk reduction and resilience-building of the communities and the society, from the perspectives of addressing the long-term (CCA) and short-term (DRR) impacts. The initial point is integration in the policy documents, followed by normative solutions, operational plans and practices, and structural and non-structural measures.

- ***Scaling up existing knowledge and education*** of the practitioners and professionals on different levels, as well as the vulnerable communities raising their awareness on the impact of the losses and damages. The initial action in that sense is the sensitization of the key policy- and decision-makers and sectoral practitioners on the climate risks and human-induced losses and damages since their support are crucial for the related transformative actions.

- ***Comprehensive risk and hazard assessment*** based upon systemic nature of the risk and proactive approach to risk management, streamlined data collection and sharing ensuring uniformity and facilitated analysis built upon the successful examples of modules developed within the E-Assessment platform and access by various stakeholders, integration of the slow-onset events in the disaster risk reduction framework towards integration of the DRR and environmental aspects of the risk assessment and management, development of probabilistic risk models and scenarios, enhanced cooperation with other stakeholders e.g. academia, research institutions, private sector for risk quantification and probabilistic modelling, as well as enhancement of the risk and hazard assessment normative and operational framework enabling inter-sector consultation and cooperation, inclusion and participation of the at-risk communities, wider dissemination of the assessment documents and their integration across the sectoral policies and programmes. Ultimately the products of the risk assessment need to be widely disseminated among the population and businesses.

[49] The table with potential loss and damage actions on national and local levels was made by the Author based on Byrnes and Surminski (2019) Source: https://tinyurl.com/bdfxatpw

- ***Enhancing disaster preparedness*** through designing of specialized preparedness approach to climate-related hazards and complex disasters, including pandemics and biohazards, professional education and training of the practitioners and responders, sustainable financing of the preparedness actions and provision of supply of necessary resources, increased awareness-raising, information dissemination and knowledge capacities building of the population, as well as the development of community-based preparedness schemes acknowledging the specific needs and the capacities and capabilities of the community members including the citizens as volunteers

- ***Risk transfer mechanisms*** i.e. risk insurance, climate risk pooling or similar, can provide effective protection for the households and the businesses for some of the risk related losses and damages resulting from both the extreme weather and slow-onset events. Insurance is more applicable for the former and the subsidies for the latter. Nevertheless, the starting point is to enhance the policy, normative and institutional frameworks i.e. adoption of a strategic approach to risk insurance, adoption of new and modification of the existing normative acts, the partnership between the national and local authorities with the insurers on the risk insurance aspects, the contribution of the actuaries in preparation of the integrated risk and hazard assessments, joint development of risk models for various hazards, the establishment of the National Insurance Pool aimed at limiting the ex-post risk insurance approach, professional education of the practitioners and personnel from the insurers, etc. The introduction of mandatory or quasi-mandatory risk insurance with the establishment of the National Risk Pool will result in a bigger number of premiums and consumers leading to increased risk transfer from the state to the insurers and ex-ante coverage of the potential damages and losses. Additionally, the CAT bonds are insurance instruments for transferring the disaster risk from the issuer to capital market investors and they are recommended for the country given the specific hazard profile and the risks from the extreme weather events. Finally, a subsidies scheme for addressing the slow-onset event should be developed.

- ***A transformative approach to the assessment of damages and losses*** through the enhancement of the normative framework, practical procedure, integration of the needs of the population, as well as climate change impacts related damages and losses, development of damage and losses indicators, catalogue of prices and pre-disaster baselines, digitalization of the damage and assessment process with design and application of the ICT solutions and tools and development of repository damage and loss database followed by the development of appropriate forms and templates, strengthening the capacities of the relevant experts and practitioners involved in the damage and losses assessment and integration of the Post-disaster Needs Assessment and establishment of the Recovery Framework.

- ***Creating a more effective and innovative national financial landscape*** suggests that more acceptable, sustainable and new financial mechanisms for addressing the loss and damage are needed. Starting recommendation in this sense is to ensure better utilization of the national and local budgets and 3% contingency reserve with greater financing of the mitigation activities, supporting the greater insurance and their use as the ultimate source for resilient recovery. Other measures could include incentives to phase out fossil fuels, the introduction of climate bonds for raising funds for addressing climate impacts, climate budget tagging, climate-related levies, etc. On the other side, it is necessary to

enable scaled-up financial resources ensuring easy access to them, and better cooperation and partnership with the private sector, both for the provision of financial assets, as well as limit contingent liabilities. Additionally, on the local level microfinancing schemes strengthening the climate and disaster resilience of the communities and the households can be established.

- ***Strengthening social protection and introducing the social safety nets*** can be achieved through several intersectoral activities. Social protection is recognized as one of the major retention mechanisms and plays an important role in addressing the impact of the loss and damages to the most vulnerable ones. So, a palette of activities can be designed aiming to contribute to the resilience of the communities and the citizens. For example, Disaster-Linked Contingent Credits as a WB mechanism to provide a financial safety net in times when it is needed most can be used to allow the country to disburse a loan following a disastrous event for immediate disaster response and relief activities. Others can be summarized as follows: integration of environmental and nature restoration works with social protection schemes e.g. implementation of Nature-based Solutions, integration of the climate and disaster risk consideration in the social protection policy and normative frameworks, application of forecast-based anticipation and anticipatory humanitarian actions, increase the potential social safety nets, provide sufficient funding, etc.

- ***Designing and application of innovative ICT solutions while leaving no one behind*** is crucial for mitigating the adverse effects and reducing the losses and damages. It can be applied throughout the disaster risk management cycle in each of the phases i.e. prevention, early warning, preparedness, response and recovery. Following the two deadliest torrential floods in 2015 and 2016, especially the early warning systems are important on the national and local level and therefore it is recommended to design and integrate rapid onset weather-related events solutions. "Develop a feedback mechanism where end users can provide inputs on whether the forecast and early warning products are addressing their needs, including the dissemination of warnings to farmers' organisations or forums, which help to pass on the alerts to the local people and communities."[50]

[50] FAO. *Comprehensive analysis of the disaster risk reduction and management system for the agriculture sector - The Former Yugoslav Republic of Macedonia*.2018. p.32. Online https://tinyurl.com/twcn5vxk