Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts

United Nations Framework Convention on Climate Change (UNFCCC)

Technical Meeting

Action Area 6: Migration, Displacement and Human Mobility

Date: 27-29 July 2016
Venue: Casablanca, Morocco

BACKGROUND

Action Area 6 of the initial two-year workplan of the Executive Committee (ExCom)
The Technical Meeting is being organized in implementation of Action Area 6, activity (b) of the initial two-year work plan of the ExCom:

Action Area 6: Enhance the understanding of and expertise on how the impacts of climate change are affecting patterns of migration, displacement and human mobility; and the application of such understanding **and expertise**
Activity (a): Invite relevant organizations and experts to provide scientific information on projected migration and displacement based on projected climate and non-climate related impacts in vulnerable populations
Activity (b): Invite United Nations organizations, expert bodies and relevant initiatives to collaborate with the Executive Committee to distil relevant information, lessons learned and good practices from their activities
Expected results: Enhanced understanding, based on sound science, of migration and displacement, including of characteristics of vulnerable populations that may become mobile owing to factors related to climate change impacts or unable to relocate despite such factors. Synthesized information made available on the relevant information, lessons learned and good practices from the activities of organizations and experts to support the protection of rights of and assistance to those displaced.

Objectives of the Technical Meeting
The objective of the Technical Meeting is to bring together the members of the ExCom, national policymakers and practitioners, interested respondents to the invitation under activity (a) of Action Area 6, and relevant experts from different horizons with the aim of synthesizing relevant information and make it available widely in line with the expected results of this Action Area.

Expected results of the Technical Meeting
1. Enhanced understanding, based on sound science, of migration and displacement, including of characteristics of vulnerable populations that may become mobile owing to factors related to climate change impacts or unable to relocate despite such factors;
2. Synthesized information made available on the relevant information, lessons learned and good practices from the activities of organizations and experts to support the protection of rights of and assistance to those displaced.

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Synthesis of relevant information, good practices and lessons learned in relation to Pillar 1: Enhancing Knowledge and Understanding

Prepared by: International Organization for Migration, Hugo Observatory (University of Liège), Norwegian Refugee Council (including IDMC) and UNU-EHS with contributions from Excom/WIM, Mary Robinson Foundation for Climate Justice, Refugees International, UNHCR, University of Massachusetts Amherst, UN Women, all contributors to case studies and experts present at the meeting

This draft synthesis paper focuses on one of three pillars representing the functions of the Warsaw International Mechanism:

1. **Enhancing knowledge and understanding of comprehensive risk management approaches to address loss and damage associated with the adverse effects of climate change, including slow onset impacts, by facilitating and promoting:**
   - 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;
   - Collection, sharing, management and use of relevant data and information, including gender- and age-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 by:**
   - 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;
   - Fostering dialogue, coordination, coherence and synergies among all relevant stakeholders, institutions, bodies, processes and initiatives outside the Convention.

3. **Enhancing action and support, including finance, technology and capacity-building, to address loss and damage associated with the adverse effects of climate change, so as to enable countries to undertake actions pursuant to decision 3/CP.18, paragraph 6, including by:**
   - Providing technical support and guidance on approaches to address loss and damage;
   - Providing information and recommendations for consideration by the Conference of the Parties;
   - Facilitating the mobilization and securing of expertise, and enhancement of support.

Guidelines/Modality

An identified Champion will, in collaboration with a group of experts, develop a working/draft paper. The Champion is responsible for 1.) Developing the overall content of the first-order draft paper, including collection, compilation and analysis of information from different sources; 2.) Ensuring outreach to relevant stakeholders, taking into consideration regional coverage, and consolidating inputs; 3.) Reporting back to the Technical Meeting organizers and participants; and 4.) Coordinating a panel session during the Technical Meeting, balanced in terms of technical expertise and geographical representation.

Date: 6 September 2016

International Organization for Migration with the support of the Ministry of Foreign Affairs and International Development of the French Republic

Key Knowledge and Information

The aim of this section is to **provide an overview** of the state of knowledge and information collection, sharing and management regarding migration, displacement and planned relocation in the context of the adverse effects of climate change.

Definitions and Key Concepts:

In this draft paper, the term **human mobility** is used to refer to three forms of population movement: i) **migration** - primarily voluntary movement of persons; ii) **displacement** - understood as the primarily forced movement of persons, and iii) **planned relocation** - planned process of settling persons or groups of persons to a new location (Cancun Climate Change Adaptation Framework). Mobility can be within countries or cross-border, temporary or permanent. The paper acknowledges that there is no internationally agreed terminology and different stakeholders define terms in different ways.

Hazards are events which occur and threaten exposed populations. Climate change is anticipated to increase the frequency and intensity of some naturally-occurring, hydro-meteorological hazards resulting in more extreme weather events (IPCC AR5). However, not all hydro-meteorological hazards are linked to climate change.[1]

Disaster refers to a "serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources" (UNISDR). Whether a hazard becomes a disaster is therefore dependent not only on the intensity of the hazard and the level/extent of exposure but also on the underlying vulnerability of affected populations to withstand, respond, and recover from the hazard.

Sudden-onset disasters can result from both hydro-meteorological hazards such as acute or prolonged precipitation (that can lead to flash floods or landslides) and storms such as tropical cyclones (also known as typhoons and hurricanes), and geophysical hazards including earthquakes, tsunamis, and volcanic eruptions. In the context of this paper, the focus is on disasters linked to hydro-meteorological hazards and other changes that may be related to climate change.

Slow-onset disasters can arise from hydro-meteorological hazards or more gradual changes to the climate system that unfold over longer-periods of time such as droughts (which can lead to food and water insecurity or famine), and desertification. Other adverse effects of climate change such as increased temperatures, changes to rainfall patterns (and associated impacts on agriculture and livestock), rising sea levels, salinization of fresh water resources, and thawing of permafrost may not be characterized as "disasters" but have the propensity to force or cause people to move.

Loss and damage – refers to the adverse effects of climate variability and climate change that occur despite global mitigation and local adaptation efforts. It is defined by the UNFCCC as "the actual and/or potential manifestation of impacts associated with climate change in developing countries that negatively affect human and natural systems." It can be broken down into economic (those

[1] Herring, S.C., Hoerling, M.P., Kossin, J.P., Peterson, T.C. and Stott, P.A., 2015. Explaining extreme events of 2014 from a climate perspective. *Bulletin of the American Meteorological Society*, *96*(12), pp.S1-S172. This review found that 14 out of 28 extreme meteorological events which occurred in 2014 were influenced by human activities.

which can be valorized) and non-economic losses (those which do not adhere to measurement). Non-economic losses include human life, meaningful places, cultural artefacts, biodiversity, ecosystem services, communal sites, production sites, intrinsic values, identity and agency.

Knowledge and information on migration, displacement and planned relocation in the context of the adverse effects of climate change, including gaps:

- The Fifth Assessment Report of the IPCC (IPCC AR5) concludes that the adverse effects linked to climate change are anticipated to affect human mobility in at least four ways:

  (1) **Increased frequency and intensity of extreme weather events** displaces people from their homes on a temporary and sometimes permanent basis.

  (2) Increased warming and drought affects **agricultural production and access to clean water** needed to sustain livelihoods in given locations and, a related search by individuals, families, and communities for **alternative locations that offer livelihood and food security**.

  (3) **Slower-onset climate impacts** such as sea level rise and desertification could decrease the **habitability** of low-lying coastal areas like deltas and small islands, or arid zones across the world. These changes could contribute to permanent human displacement[2].

  (4) Climate impacts contribute to **stresses on community cohesion** (e.g. amplified poverty, economic duress) **and diminish ability to diffuse tensions** that fuel violent conflict and persecution-related human mobility, especially in fragile states.

  The IPCC Report also concluded that levels of displacement related to both large and small-scale, recurrent hazards linked to climate change will increase in the coming decades. Climate change is likely to exacerbate an upward trend in displacement as the number of vulnerable people living in hazardous areas increases, through population growth and rapid, unplanned urbanization (and an explosion in the number of people living in slum-like conditions), poor development practices and other inter-related socio-economic, environmental and cultural processes. However, many of the most vulnerable will be unable to move as vulnerability is inversely correlated with mobility, leading to those being most exposed and vulnerable to the impacts of climate change having the least capability to move (Foresight, 2011, IPCC, 2014, P767; on trapped populations see also below under 'Challenges').

- While severe weather events affect rich and poor countries alike, certain geographic regions and communities are more exposed and vulnerable to its effects. Developing countries are disproportionately affected by the impacts of climate change and within these countries, poor and vulnerable communities are worst affected. Since 2008, close to 175 million people who live in developing countries have been displaced by hydro-metrological disasters, accounting for 95 per cent of the global total of 203 million. Risks are greatest for least developed countries with significant populations who are both exposed to climate change-related hazards and vulnerable to climate change impacts due to pre-existing vulnerability such as poverty, dependence on natural resource-based livelihoods (such as rain-fed agriculture), poorly constructed housing and

[2] Although not mentioned in this direct quote from the IPCC, it is important to note the wide range of environmental impacts which can lead directly or indirectly to human mobility through impacting eco-system services and related livelihoods. Further examples include changes in rainfall patterns, ocean acidification, distribution shifts in marine fisheries and an increase in vector-borne diseases. These impacts make environmentally based livelihoods more marginal, be they based on agriculture, pastoralism, horticulture, fisheries or hunter gathering.

infrastructure, as well as their limited financial, technical and institutional capacity to prepare, recover or adapt[3]. Thus, the extent of displacement will also depend on the ability of governments and communities to adapt to climate change and implement measures to build resilience and reduce underlying vulnerabilities and displacement risk. Women and girls, already experiencing gender inequalities that limit their access to financial resources, land, education, health care and are excluded from decision-making processes find themselves in more vulnerable situations as migrants or displaced persons. As such, gender inequalities are magnified by climate-related hazards, resulting in what the IPCC found to be "higher workloads, occupational hazards indoors and outdoors, psychological and emotional stress, and mortality" for women as compared to men. Existing research also points to the differentiated impacts experienced by women and men in the context of migration linked to slow onset events[4].

- There is significant quantitative and qualitative data on past displacement associated with disasters brought on by sudden-onset natural hazards such as floods, storms and wildfires. Between 2008 and 2015, there was an average of at least 21.5 million people newly displaced ever year through the impact of sudden-onset weather-related hazards[5].

- However, without time-series data on disaster-related displacement, it is difficult if not impossible to estimate of the total number of people living in displacement at any moment in time. Case studies and anecdotal evidence suggests that millions remain displaced for prolonged periods of times that go on for years to decades rather than days to months before they are able to return in their former homes or settle elsewhere.[6]

- More data and information is needed to understand the socio-economic impacts, specific protection needs, the duration and severity of displacement in the context of disasters and the adverse effects of climate change. Without a standard index, it is thus difficult to compare situations and identify those of greatest concern, including people caught in prolonged, protracted and chronic displacement, what their specific needs are and how these needs change over time. Specific groups of people including women and girls, children, people with disabilities, indigenous communities among others have specific needs. Women and girls in particular have specific health care needs and are vulnerable to sexual and gender-based violence. It is thus crucial to incorporate a gender perspective in collecting data and information and in devising policies, responses and actions for displaced people.

- There is limited data regarding how smaller-scale or slower-onset climate change-related hazards, changes or events such as changes in rainfall patterns, desertification, sea level rise and increased temperature are affecting patterns of migration and displacement. It is widely acknowledged that these processes erode livelihoods, food security, health and other factors necessary for people to survive and prosper in their home areas. For example, the 2015/2016 El Niño event has affected 60 million people and threatened the food security of 50 million people

[3] IDMC Global Report on Internal Displacement 2016, May 2016. http://www.internal-displacement.org/globalreport2016.
[4] IOM Outlook (2014) : Brief 13
[5] IDMC Global Report on Internal Displacement 2016, May 2016.
[6] IDMC Global Estimates 2015: People displaced by disasters, July 2015, pp. 47-74. http://www.internal-displacement.org/publications/2015/global-estimates-2015-people-displaced-by-disasters/

in Southern and Eastern Africa[7] and it is likely that climate change will increasingly act as an intensifier to the El Niño Southern Oscillation. However, experts also agree that the link between the adverse effects of climate change and human mobility is multi-causal and numerous other, highly contextual and subjective factors can affect a household's or individual's decision or need to move. More qualitative and quantitative research and evidence is needed to improve understanding of migration, displacement and human mobility in these contexts and in order to estimate the likelihood of future human mobility patterns under different scenarios[8].

Knowledge Regarding Cross-Border Displacement in the Context of Climate Change

- There remains a protection gap related to cross-border displacements in the context of disasters and climate change. Although most people displaced in the context of disasters and climate change remain within their own country, some are compelled to cross borders in order to reach safety and/or protection and assistance in another country. Here, serious legal, knowledge, data, operational, institutional and financial gaps persist despite recent advances in terms of awareness created through the Nansen Protection Agenda (for more details see the Nansen Initiative Protection Agenda on cross-border disaster displacement).

- Even though knowledge and data on cross-border disaster-displacement is growing, there is still a lack of clarity regarding concepts, numbers and regional dynamics, and more comprehensive, reliable and timely global data on cross-border disaster displacement is still not available. Similarly, additional knowledge is also needed on climate change-related migration and planned relocation processes.

Knowledge Regarding Planned Relocation in the Context of Climate Change

- Risks posed by disasters and the impacts of climate change have prompted communities and governments to choose planned relocation to help people move to safer lands, before and after a disaster strikes. Examples exist for a wide range of countries worldwide. Important insights can be derived from lessons learned from conflict-induced and development-induced displacement, disaster risk reduction, evacuations, historical and more recent examples. This type of movement of an entire community should always be considered as a last resort option. Whether relocation is successful in the long term depends on the type of relocation (preventive relocations tend to be more positive and efficient than reactive ones after the hazard impact occurred), the political will to plan, manage and fund the costly process and whether income-generating activities are taken into consideration. Most importantly, the whole process needs to be self-determined and conducted in a consultative approach with the communities affected and groups of people within those communities, including women, and the hosts, different levels of government and all other relevant stakeholders. Planned relocation should be addressed through the combination of both traditional and modern approaches including traditional knowledge, cultural attitudes, values and practices and local expertise on community relocation as an adaptive response to extreme environmental events. The great challenge of

[7] OCHA (2016) El Niño: Overview of impacts and humanitarian needs in Africa as of 22 June 2016 http://reliefweb.int/sites/reliefweb.int/files/resources/el_nino_overview_of_impacts_and_humanitarian_needs_in_africa_0.pdf

[8] See IOM Council MC/INF/288 2007 for eight scenarios involving environmentally induced migration https://www.iom.int/jahia/webdav/shared/shared/mainsite/about_iom/en/council/94/MC_INF_288.pdf

translating traditional knowledge into policy, and finding ways to merge it with the best practices on planned relocation should be urgently addressed.[9] [10]

Knowledge Regarding Effective Practices to Avert, Minimize and Address Displacement and Migration related to the adverse effects of climate change

- Significant opportunities exist to avert and minimize displacement and migration related to climate change. Investments in reducing disaster risk and in enhancing disaster preparedness and response capacity, building the resilience of vulnerable communities to climate-related shocks, and climate change adaptation programs can prove effective in averting and minimizing displacement and migration. In addition, ensuring that laws and policies related to land use, urban planning, building and construction codes, natural resource management, and agriculture incorporate climate change impacts are also necessary in order to avert and minimize displacement risk. Additional evidence and case studies are needed regarding how improved disaster risk management, resilience-building, and adaptation programs can better support communities and households to stay in place and avert and minimize displacement and migration exacerbated by global climate change.

- When living conditions deteriorate, individuals and households commonly use migration to seek opportunities within their country or abroad. Managed properly, migration has the potential for affected communities to better cope with recurrent natural hazards and climate change. Recent research demonstrates that households where at least one member migrated are not among the most affluent, but are less vulnerable than those households that did not move. The evidence indicates that migration could be a successful adaptation strategy by reducing vulnerability[11]. However these movements might not be understood as successful adaption from the communities in question; for them such movements may be deemed as necessary, but undesirable. For these reasons, there is also a need to better understand the impacts of voluntary migration on the wellbeing of migrants.

Challenges and Opportunities

The aim of this section is to **identify and document key challenges and opportunities** on knowledge and information collection, sharing and management regarding migration, displacement and human mobility in the context of climate change. *(Indicative word range: 250-500 words)*

While understanding of the causes, dynamics and magnitude of climate change-related human mobility has been growing in recent years, these phenomena are still not fully understood and conceptualized. Therefore better conceptual understanding, data and evidence are needed to develop adequate policies. The development of tools and methods that allow for the systematic gathering and analysis of reliable data on displacement, and human mobility more generally, in the

[9] Gharbaoui, D. and Blocher, J. (September 2016) The reason land matters: relocation as adaptation to climate change in Fiji Islands In IOM-UNU-GDI book project Migration, risk management and climate change: evidence and policy responses. Elsevier.

[10] For more information, see also the '*Guidance on Protecting People from Disasters and Environmental Change through Planned Relocation*' (UNHCR, Brookings, Georgetown University's Institute for the Study of International Migration). https://www.brookings.edu/wp-content/uploads/2016/06/GUIDANCE_PLANNED-RELOCATION_14-OCT-2015.pdf

[11] **IOM (2015) Policy Brief Series Volume 1, Issue 8: When do households benefit from migration?** http://www.environmentalmigration.iom.int/policy-brief-series-volume-1-issue-8-when-do-households-benefit-migration.

context of disasters and the effects of climate change is needed. This is particularly true in the case of slow-onset events associated with the adverse effects of climate change and for cross border displacement.

Challenges

- **Definitions** – At present, there is wide recognition that human mobility occurs across a spectrum from voluntary to forced movements. There is still lack of consensus about how these movements are then characterized and definitional/terminological distinctions are made, from predominantly voluntary "migration" to predominantly forced "displacement." There is also confusion as to whether "displacement" refers to a temporary and/or permanent process and definitions of "migration" still vary from country to country and even within the same countries. A similar environmental change can induce a wide array of mobility outcomes, depending on the cultural and social characteristics of the affected peoples.

- **Understanding how climate change impacts influence human mobility patterns** – Climate change may influence human mobility patterns through impacts on safety in hazard zones, livelihood and food security, livestock and fisheries, habitability of territory, and community cohesion and conflict; in most instances migration and displacement will result from the combination of climate change impacts and numerous other underlying and inter-related environmental and human processes. Climate change impacts will also affect the economic, social, cultural and political factors which are key drivers of human mobility. Increasingly, these factors will get difficult to disentangle one from another. Accordingly there is a need to better understand the inter-relationship of these drivers. In particular, more research should be done to understand context-specific links between slow-onset environmental processes and key drivers of human mobility. Moreover, the impacts of climate change mitigation and adaptation policies on migration, displacement, and relocation still need to be addressed. In some cases, initiatives to mitigate climate change, such as REDD+ or biofuel production, may also lead to displacement and other forms of human mobility. [12]

- **Attribution** - The interactions of human mobility with climate change impacts are multifaceted and motivations are complex. Environmental conditions and altered ecosystem services usually interact with a range of other economic, political, social, cultural, and demographic factors. Climate change impacts may thus play a role in the decision to move, but direct attribution is often difficult to establish in relation to specific events and contexts. Since both voluntary migration and forced displacements are influenced by climate change impacts and other environmental and human processes, research at this stage may be more supportive to decision makers by establishing correlations in specific locations and with different types of climatic stressors (rather than attempting to establish causal links between broad human mobility patterns and climate change). This is best achieved through the use of a combination of quantitative and qualitative research methods.

- **Existing Datasets and lack of common methodologies** - Major constraints include insufficiently detailed data on various socioeconomic and demographic characteristics, the definition of population movements, the choice and definition of proxy variables for environmental factors,

[12] Vigil, S. 2015. 'Displacement as a consequence of climate change mitigation policies', Disasters and Displacement in a Changing Climate, Forced Migration Review. University of Oxford. No 49 : 43-45.

the empirical methodology, and the geographic level of representation of data sources. Some of these issues could be overcome through the introduction of common methodologies and metrics to investigate, analyse and map climate risks, the way they relate to the different forms of human mobility and the impacts of the movement on the affected communities and households. Innovative approaches of data collection also include drones pictures, displacement tracking metrics, IDMCs forward-looking tools and risk models to inform decisions, and IOM's Disaster Displacement Matrix (DTM) etc.[13]

- **Historical data to validate models** – Estimating and projecting future climate-related human mobility depends on modelling exercises. Models depend on a variety of assumptions, including the physical science of the climate system which is rapidly evolving, the effect of a changing climate on hazards, food and water security and other ecosystem services upon which humans depend, how these climate change-related hazards and effects will impact people, how well people adapt to these hazards and effects in order to allow adaptation in place, and finally the decisions that people take about movement and their ability to manifest these decisions. In order to have confidence in model-based projections, it is necessary to validate the models against historical data. At present, this historical data is too short (it does not extend far-enough back in time) and it is not consistently available. These gaps reduce/limit confidence in and increase the uncertainty of projections of future migration and displacement risk. The lack of longitudinal data and evidence remains a major obstacle for rigorous analysis.

- **Complex systems** – It is also difficult to model and develop empirically derived scenarios for human mobility phenomena which are extremely rare or which have not yet occurred. For example, the IPCC has identified the risk of climate change impacts contributing to the risk of future conflicts over resources, which could in turn lead to displacement. Other manifestations of climate-related human mobility could involve very indirect climate impacts or impacts that occur in one part of the world but whose knock-on effects cause displacement elsewhere.

- **Disaggregated and context specific data** - As far as possible disaggregated data should be produced, to give a deeper and wider understanding of the ways in which climate-related human mobility interacts with gender, age, disability, ethnicity etc. Such data is needed for displacement (internal and cross-border), migration, relocation and trapped populations and for causes and impacts of movements. In addition, research questions and data gathering methods need to remain context specific. In order to best address the rights, interests and voices of displaced people and migrants, people-centred and defined data is needed. Such data is needed to better inform policies, strategies and measures to avert, minimize and address climate-related human mobility while ensuring the protection of human rights.

- **Protracted displacement** - More research is needed on the risks to, and impacts on those who move in the context of climate change. One aspect of this which remains understudied relates to protracted displacement. In the context of conflict-related displacement, it is widely recognized that the longer people are displaced, the higher the risk that their human rights will be violated. In the context of climate change, time series data and further research is needed on how long people are displaced, the obstacles to their ability to achieve a durable solution (e.g., return or successful integration into a new community), the risks and impacts that arise during protracted displacement and the actions which can be taken to minimize these risks and obstacles.

[13] https://publications.iom.int/system/files/pdf/gmdac_data_briefing_series_issue2.pdf

- **Integration into host communities** – There is also insufficient research on what happens to migrants and displaced people when settling into a new location and the impact on the communities into which they settle (host communities). Rights abuses can reduce their ability to work and live a dignified life in their new communities, reducing their ability to both support their original communities (e.g., through remittances) and contribute to their new, host community. There is a strong correlation between the legal status (especially in the case of disaster and climate-related cross-border displacement), the degree to which their rights are respected and their integration into host societies. Likewise, so far there has been relatively little research on how the arrival of climate change related migrants affects host communities. The success of integration will be context specific and depend on the form of human mobility.[14]

- **"Trapped" and immobile populations -** We know that the most vulnerable groups are often unable to move when affected by the impacts of climate change and environmental disruptions. Thus research needs to pay attention not just to those who move, but also to those unable to do so and how they can be supported to move when that is their desire.

- **Populations who want to stay -** Equally, large numbers of people will not want to leave their homes, communities and culture. Consideration needs to be given to those who want to stay and how they can be supported to remain in place.

- **Research capacity** - There are currently numerous limitations in terms of funding and capacity to conduct research, in particular in least developed countries, and in countries most vulnerable to climate change. Inequalities in terms of access to funding to support research and in terms of national- and local-level research capacities result in a geographic imbalance, with many vulnerable countries and regions receiving less visibility than others. This research divide can be overcome through increased financial support, transfer of research methodologies and capacity-building activities for national researchers and institutions in vulnerable countries.

Opportunities

- Despite the existing challenges and gaps that have been highlighted above, knowledge and information on migration, displacement and planned relocation in the context of the adverse effects of climate change has increased in recent years (see section below on good practices and lessons learned).

- Today, much more is known about recent displacements and movements due to improvements in record-keeping and reporting (i.e., reporting bias) and much more is known about countries, contexts and situations that can be studied for linguistic, security and other reasons (i.e. selection bias).

- The ExCom's work under activity area 6 (migration, displacement and human mobility) could leverage processes outside the Convention and define a common set of research questions and evidence gaps for future research. This could inform resource allocation for research projects and the production of evidence that can eventually be consolidated in future IPCC reports.

[14] For example in the context of planned relocation, traditional and customary authorities from both affected and hosting communities should be included in the relocation planning at very early stage to facilitate land negotiation and reduce post-relocation vulnerabilities associated with land-based conflicts.

- The increasing interest and willingness of States to develop/improve laws and policies to prevent and better manage displacement and migration (including cross-border) means that decision-makers will require more evidence to inform such laws/policies, which might trigger new funding and new programmes aimed at building/strengthening research capacity, including at the national level.

Good Practices and Lessons Learned

The aim of this section is to **identify and document good practices and lessons learned** on knowledge and information collection, sharing and management regarding migration, displacement and planned relocation in the context of the adverse effects of climate change. *(Indicative word range: 250-500 words)*

- **Multi-stakeholder approach involving local communities** - Research should be centred on community-based participatory processes throughout the entire lifespan of the research. Such involvement maximizes the sustainability and long-term impacts of research projects. Research questions should emerge from the affected communities and states in addition to the researchers, NGOS and international organisations working in and funding the project. It is crucial to involve local stakeholders (communities, traditional leaders, governments, decision makers, media etc.) and where necessary, traditional structures of governance in the design of research projects. Research on these issues continues to be driven by Western researchers and institutions, though progress has been made in recent years to better involve local stakeholders to value traditional knowledge, local culture and locally-based expertise and create a platform for discussion and build local capacity. The concepts, aims etc. of the surveys have to be clearly communicated to the interviewed persons and crucially they should also be informed about the outcome of the research, both in the short and longer term.

- **Mixed methods assessments -** Most of the research so far has been of qualitative nature, which has not allowed for the provision of robust figures. In recent years, more quantitative research has been developed, sometimes with innovative methods. Such efforts need to be continued, though it should not be forgotten that some questions, such as those which require an understanding of culture or subjective perception cannot be properly addressed through quantitative tools.

- **Availability of databases and methods -** The research process and results need to be as transparent as possible, so that they can be re-used for other purposes by the research community. This is especially the case for databases, which continue to suffer from poor harmonisation and availability. More work needs to go into having data that is packaged, stored and marketed. Guidelines[15] and toolkits can provide best practices for carrying out research such as national assessments in a comprehensive and systematic way that produces data disaggregated by age, sex and other variables. In this way, lessons learned through local case studies can be exploited UN wide platform.

- **Impacts of non-economic losses** – non-economic losses are difficult to measure and quantify. Losses are happening now and will increase in the future. There is a need to identify and define the losses, and overcome issues of incommensurability. The development of wellbeing

[15] Guidelines and guiding principles at the level of local researchers could be particularly useful to share information with communities. Tools for self-monitoring could also be highly beneficial to monitor rapid changes within communities that may affect the research process and results.

indicators (as developed in Vanuatu) is an example of good practices that could overcome challenges associated with the quantification of non-economic losses. Land, culture, heritage and community assets comprise a valuable tangible and intangible component of the national economic capital.[16]

- **Identification of climate hot spots / risk mapping / vulnerability assessments –** Interdisciplinary research can combine existing methods and tools and data from the physical and social sciences. For example mapping can be used to identify physically exposed regions. This data can be combined with socio-economic data to ascertain the combination of exposure and vulnerability and therefore map populations at risk of displacement. In some cases databases might already exist which can be used for this purpose.

Case studies

The aim of this section is to **illustrate good practices, challenges and lessons learned** on knowledge and information collection, sharing and management regarding migration, displacement and planned relocation in the context of the adverse effects of climate change, through case studies.

Migration:

1. **Timeframe :** 2014-2016
2. **Location:** 6 Pilot Countries (Dominican Republic, Haiti, Kenya, Mauritius, Papua New Guinea, Viet Nam)
3. **Title of Activity/Programme/Project**
   Migration, Environment and Climate Change - Evidence for Policy
4. **Brief Description of Activity/Programme/Project**
   The "Migration, Environment and Climate Change - Evidence for Policy" project uses household surveys to collect data and improve the evidence base on the role of migration in resilience and adaptation strategies in six countries.1 The surveys feature sections on the socio-economic vulnerability of households, on their migration histories for ten years, and on perceived impacts of migration. The project's strength lies in its mixed-methods and cross-country approach creating comparability. Relying on broader migration studies to shed light on different forms of mobility in the context of environmental change, a wide range of possible scenarios is taken into account to produce policy-relevant findings. The project provides an example of well-integrated methodologies that could be scaled up in the future. Comparative studies that use similar methodologies and conceptual frameworks will be indispensable in moving research and policy forward. The Environmental Migration Portal (http://environmentalmigration.iom.int/) developed by the project has become a key one-stop shop for accessing information on the topic.

International standards for capturing environmental and biodiversity (including their loss) contributions to national economies already exist; cultural and heritage aspects should be equally recognized. Further research on how non-economic losses can be accounted for in national systems of accounting would be highly needed.

5. Key Lessons Learned from the Activity/Programme/Project Migration used as an adaptation strategy to climate change impacts can support the resilience of most vulnerable households. Finding from research can be integrated into national migration policies
6. Sources for more Information (webpage, report, etc.) http://environmentalmigration.iom.int/

1. Timeframe 2013-2016
2. Location Global
3. Title of Activity/Programme/Project Atlas of Environmental Migration
4. Brief Description of Activity/Programme/Project Research on the interactions between migration, environment and climate change has expanded considerably over the last decades. However, empirical literature and findings are dispersed and remain little accessible to the public. At the same time, policy-makers, the media and the civil society are becoming increasingly aware of the importance of this emerging topic, and are in growing demand of comprehensible data, maps and concrete facts to understand key problems and issues around migration associated with environmental and climate change. The Atlas of Environmental Migration is an innovative tool which responds to this gap by bringing together existing data and providing a visual overview of this trend of human migration through maps, illustrations and explanatory texts prepared with the support of world experts in this field. One of the key objectives of the Atlas is to foster the conceptual understanding of environmental migration, by clarifying and explaining key notions, concepts and terminology. At the same time, the Atlas explores the complex patterns and dynamics of environmental migration and provides insights into the realities behind the concepts. To illustrate these linkages between environment and migration, specific case studies throughout the publication focus on countries or regions witnessing migration flows, forced or voluntary, related to sudden disasters and slow-onset environmental processes. The Atlas is intended to serve the whole academic and policy community on environmental migration.
5. Key Lessons Learned from the Activity/Programme/Project It is possible to collect and compile relevant data related to climate impacts on migration and displacement and make it available in an accessible manner to decision makers.
6. Sources for more Information (webpage, report, etc.) https://environmentalmigration.iom.int/projects/atlas-environmental-migration

1. Timeframe : 2013-2017
2. Location: Northern Sub-Saharan Africa, South Asia and Europe.
3. Title of Activity/Programme/Project High-End cLimate Impacts and eXtremes (HELIX) - EU FP7 programme
4. Brief Description of Activity/Programme/Project HELIX is a European research project that seeks to document the impacts (bio-physical and socio-economic) of the high-end ranges of global warming, at +4°C and +6°C. Using historical analogues, it seeks – amongst other things – to forecast possible migration scenarios in a significantly warmer world.
5. Key Lessons Learned from the Activity/Programme/Project Within the HELIX project, the University of Liège performed case studies in Senegal, Benin, Ethiopia and Bangladesh amongst a variety of populations, rural and urban, with various relationships to their natural environments to establish people's current migratory responses to environmental changes. Two key findings thus far are the importance of evaluating populations' perceptions of climatic changes (which may in fact differ from observed changes) in determining their migration decisions, and the risks associated with immobile populations – people who either choose to stay or are unable to leave areas affected by environmental degradation.
6. Sources for more Information (webpage, report, etc.) http://helixclimate.eu/home

1. Timeframe 2013-2016
2. Location Kiribati, Tuvalu, Nauru
3. Title of Activity/Programme/Project Pacific Climate Change and Migration (PCCM)
4. Brief Description of Activity/Programme/Project The "Pacific Climate Change and Migration" project is funded by the European Union and implemented by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the International Labour Organization (ILO) and the United Nations Development Programme (UNDP). It focuses on three case studies of Small Island Developing States and builds on the methodology used in MECLEP. In PCCM, household surveys are used to produce a household vulnerability index to investigate the relationship between mobility and vulnerability and qualitative assessments were used to look at the range of attitudes to climate change and mobility. The data from the household survey was also used to build agent based models to project future flows of mobility.

5. Key Lessons Learned from the Activity/Programme/Project

Migration is a common experience in each of the countries studied, but the types of movement vary. In Tuvalu movements are international and internal, while in Kiribati most movements are internal and in Nauru all movements are international. It is likely that climate change is already affecting mobility patterns as environmental factors were given as the motivation for approximately 18% of all movements in the three countries.

A large number of people living in the three countries were unable to move, despite wanting to do so. There is a strong desire for migration to Australia and New Zealand, which at present is constrained by a lack of cash to support migration, the difficulty in obtaining a visa and the lack of education in the workforce. These people generally came from households with lower incomes and higher vulnerability. On the other hand, the strong sense of place and culture means that it is likely that some people will be unwilling to move, even if objective risk assessments deem it necessary.

The agent-based models suggest that under projected climate change the populations in Kiribati and Tuvalu will continue to be concentrated in the capital islands of South Tarawa and Funafuti bringing challenges to planning and potentially increasing exposure and vulnerability of migrants.

The results of the project demonstrate the need for further national policies and regional and international frameworks to support migration with dignity. This has the potential to reduce household vulnerability and enhance resilience and relieve the strain on natural resources.

6. Sources for more Information (webpage, report, etc.)

http://www.unescap.org/subregional-office/pacific/pacific-climate-change-and-migration-project

1. Timeframe

2014-2016

2. Location

Cambodia

3. Title of Activity/Programme/Project

Assessing Vulnerabilities and Responses to Environmental Changes in Cambodia

4. Brief Description of Activity/Programme/Project

The project intended on enhancing Cambodian policymakers' overall knowledge on the relationship between climate change, environment and migration with a view to promote the integration of migration into the national adaptation strategies. The proposed project aimed to reach this goal by:

- Conducting a comprehensive review of existing literature, on-going initiatives and policy

framework relating to climate change and migration in Cambodia;
- Generating empirical data from two pilot regions to provide evidence on the nexus of environment, climate change and migration;
- Enhancing political awareness of issues relating to environment, climate change and migration through a national dissemination meeting.

5. Key Lessons Learnt from the Activity/Programme/Project

Migration has become a central element for rural households, allowing them to diversify income, secure additional resources to supplement agricultural activity when faced with soil degradation, water pollution and erratic rainfall. It can act as an adaptive and coping strategy for dealing with seasonality, external influences and shocks such as fluctuating market pressures, or irregular flood regimes and weather patterns. Yet, it is not generally the poorest people who migrate, as migration demands resources. In this respect, non-migration can be associated with increased vulnerability to environmental risks. Such pressure on the most vulnerable households' livelihood can lead to the emergence of trapped population and constitute a threat to human security.

6. Sources for more Information (webpage, report, etc.)

http://www.environmentalmigration.iom.int/assessing-vulnerabilities-and-responses-environmental-changes-cambodia

1. Timeframe

2014-2016

2. Location

South Asia (Bangladesh, Maldives and Nepal)

3. Title of Activity/Programme/Project

Assessing the climate change, environmental degradation and migration nexus in South Asia

4. Brief Description of Activity/Programme/Project

This project aims at assessing the climate change, environmental degradation and migration nexus in South Asia through a related mixed-method study in Bangladesh, Nepal and Maldives. Based on the results of the field findings, plans of action was developed for each country which were presented at national consultations for feedback. The compiled assessment study will be disseminated at a regional level meeting to share the findings of the research and raise awareness on the subject.

5. Key Lessons Learnt from the Activity/Programme/Project

Climate change and environmental degradation affect migratory movements in the South Asian sub-continent, either directly through sudden and slow onset disasters or indirectly as a stressor on livelihoods. An appropriate plan of action is necessary to ensure that migration can be a positive adaptation or coping strategy, rather than an undesirable consequence that should be mitigated.

6. Sources for more Information (webpage, report, etc.)

http://www.environmentalmigration.iom.int/projects/assessing-climate-change-environmental-degradation-and-migration-nexus-south-asia

1.	**Timeframe** 2016
2.	**Location** Pacific Islands (Fiji)
3.	**Title of Activity/Programme/Project** Rapid assessment on climate change-related migration in the pacific islands region and potential impacts on Canada's immigration system
4.	**Brief Description of Activity/Programme/Project** The overall objective of this project is to conduct a rapid assessment to identify key themes relating to climate change-related migration in the Pacific region and the potential short- and longer-term impacts on Canada's immigration programme.
5.	**Key Lessons Learnt from the Activity/Programme/Project** Economic reasons were most frequently cited as the main reason for migration in the Pacific, while climatic and environmental reasons were more readily acknowledged in the case of displacement from sudden-onset disasters, and relocation from vulnerable sites. However these economic reasons that are argued to have primacy over other drivers of migration, appear to have been affected by underlying environmental stressors and climate change. In terms of migration to Canada, it is evident that Canada is not a priority destination for migrants from the region, but if given opportunities (particularly economic), Pacific Islanders would be willing to migrate there.
6.	**Sources for more Information (webpage, report, etc.)**

Displacement:

1.	**Timeframe:** 2012 -2015 (Nansen Initiative), 2016-present (Platform on Disaster Displacement)
2.	**Location**
3.	**Title of Activity/Programme/Project** Platform on Disaster Displacement as follow up to the Nansen Initiative
4.	**Brief Description of Activity/Programme/Project** The Platform on Disaster Displacement is a state-led process addressing the protection needs of people displaced across borders in the context of disasters and climate change. The Platform has been launched in May 2016 to follow-up on the work started by the Nansen Initiative consultative process (2012-2015) and to implement the recommendations of the 'Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change' (Protection Agenda). The Protection Agenda, endorsed by more than 100 governmental delegations during a Global Consultation in October 2015, consolidates a broad set of effective practices and policy options that can be used by States and others to

reduce and manage disaster displacement, and to better protect and assist disaster displaced persons. (http://disasterdisplacement.org/)
5. Key Lessons Learned from the Activity/Programme/Project See Protection Agenda
6. Sources for more Information (webpage, report, etc.) http://disasterdisplacement.org/

Planned Relocation:

1. Timeframe: 2014-2017
2. Location Global
3. Title of Activity/Programme/Project UNHCR, Brookings - LSE Project on Internal Displacement – Georgetown University's Institute for the Study of International Migration: Planned relocations, disasters, and environmental change, including climate change
4. Brief Description of Activity/Programme/Project The outputs of this initiative are the following: Review of Planned relocations cases in the context of natural disasters and climate change Review of Operational guidance and frameworks related to planned relocation Four case studies on planned relocation (Sri Lanka, Vietnam, New Zealand, Philippines) Guidance on protecting people from disasters and environmental change through planned relocation (All the above already done) To be prepared: Operational Guidelines on Planned Relocation
5. Key Lessons Learned from the Activity/Programme/Project
6. Sources for more Information (webpage, report, etc.) http://www.brookings.edu/about/projects/idp/planned-relocations

1. Timeframe: 2002-2006
2. Location: Vanuatu
3. Title of Activity/Programme/Project Capacity Building for the Development of Adaptation in Pacific Island Countries (CBDAMPIC) project

4. Brief Description of Activity/Programme/Project

- This relocation took place in August 2005 and it involved a population of about 100 people. The main stakeholders engaged in the implementation process include the Geology, Mines and Rural Water Supplies Department, Department of Health, Department of Meteorology, Department of Environment, the Torba Province, the Church of Melanesia and general oversight from SPREP.
- Severe coastal erosion of about 50 meters over the last 20 years (2.5 m/yr), sea level change and geological processes have raised the underground water lenses, creating permanent flooding and standing pools of water throughout the village. The situation is aggravated during spring tides and higher than usual high tides associated with the south-westerly winds as well as heavy rainfall during cyclones. The result is a village surrounded by permanent pools of water that bring about a series of health related issues that affect the daily livelihood of the people of Lateu. The periodic flooding of dwellings deteriorates housing rapidly, prevents or completely stops cooking on the ground (fireplaces) and results in endless dampness, a health hazard. The flooding also triggers the overflow of pit toilets, which threatens to contaminate the settlement's only underground water well. The flooding condition also creates favourable conditions for water-borne diseases, which have increased significantly, including malaria, diarrhoea and skin infections, especially among children.
- The Lateu community prioritised relocation of their settlement (including aid post, church and rainwater catchments and tank) and improved rainwater harvesting technologies (tanks and catchments facilities) as the most appropriate adaptation measure to boost their adaptive capacity.
- The CBDAMPIC project purchased the necessary working tools and water catchments and storage materials and facilities, while the Geology, Mines and Rural Water Supplies Department provided the engineers to oversee the construction of the catchment's facilities and set up of the storage tanks. The Department of Health provided toilet facilities and the Church of Melanesia will be relocating the community Church. The community assisted by way of providing and allocating the necessary land and labour for the relocation process.
- Through the collaboration of all stakeholders the problems of flooding, water shortage and contamination and sanitation have been reduced. A total of 100 people and their households have relocated to the new site called Lirak, about 500 meters inland with a rainwater storage capacity boost of 36000 litres (plate 5.0). Each individual now uses 480 litres of water per day, an amount well over the WHO standard of 50 litres per person per day. The construction and installation of facilities was followed by a water management training that was conducted by the Geology, Mines & Rural Water Supplies Department so as to enable sound management of the facilities and the water resource by the community.
- It is envisaged that all sectors of the community will benefit from the relocation of the community (principal adaptation option), which include women and children. Such a measure will be a "first" in Vanuatu and the experiences gained will be invaluable to the rest of the archipelago especially in the area of climate change adaptation involving a small island and small population.

5. Key Lessons Learned from the Activity/Programme/Project

The main problem that has prevented the people of Lateu from relocating to higher grounds on their own is the issue of water. Their main source of water at present is a small water tank that was supplied by the Government years ago and fresh water springs at low tides. There are no above ground water sources in the whole island of Lateu and people rely on rainwater they harvest to maintain a constant supply for their daily sustenance. Containers to hold water are scarce and people rely on buoys that drift into the shores of Lateu to hold water that are harvested. Thus by providing the water tanks, and enabling relocation to be close to the original site, the relocation was successful.

6. Sources for more Information (webpage, report, etc.)

www.sprep.org

1. Timeframe: 2014 - present

2. Location: Fiji

3. Title of Activity/Programme/Project

Development of national relocation guidelines

4. Brief Description of Activity/Programme/Project

The residents of Vunidogoloa village in Fiji relocated in February 2014 to reduce their vulnerability to encroaching sea level and inundation events that regularly devastated the community. As a consequence of the Vunidogoloa relocation, the Fiji Government is planning for similar resettlement transitions, including vulnerability and adaptation assessments to develop a list of potential community relocations and the development of national relocation guidelines. Given the speed at which these national, top-down initiatives are being forged and especially in light of the absence of any mention of relocation in Fiji's 2012 climate change policy, careful and inclusive engagement across all scales and stakeholders, including communities "earmarked" for relocation, is paramount. With this realization, the Fiji Government decided that proper planning based on agreed guidelines developed through stakeholder and expert consultation would be required.

5. Key Lessons Learned from the Activity/Programme/Project

The relocation of Vunidogoloa village has highlighted the complexity of the relocation process. It has provided insight for the Fiji Government on some key aspects and steps that are needed in the initial phases of community relocations. This includes the need for communities to be actively engaged throughout the relocation decision-making process (in terms of when, how, where) and also the need to provide resources and human capital. Inter-agency technical and financial cooperation is also needed to assist with the relocation and help ensure sustainable livelihood options (in the short- and long-term). In the Fiji context there are complicating factors and issues related to the land tenure system and hence the availability of land to relocate to, especially if communities cannot relocate within their customary land boundaries. Other lessons that would be incorporated into a national relocation guideline included:

- A multi-disciplinary team and a participatory approach are necessary in assessing and planning for potential relocation. This should be inclusive of technical specialists to social scientists and local community experts.
- Land use plans that provide options for communities faced with relocation, including how it impacts their socio-economic status.
- Any relocation should be carried out within an official national development and planning framework(s) to ensure that work is aligned to national plans, government priorities, and ensure that support is provided by relevant government and technical agencies.
- On food security, improving diversity of crops that can be introduced to bolster local food production is important, but equally crucial is the need to include an environment and economic assessment of introduced crops and vegetables.
- Household income and expenses survey approaches are critical in understanding the integrated responses to boost overall food security ecosystem of services support.

The government is aware that in developing a relocation list and guidelines there is a strong need to avoid relocation failures that have been commonplace elsewhere. It is expected that the government will be showing leadership through forward planning, but at the same time needs to be realistic about the resources needed and the resources available.

6. Sources for more Information (webpage, report, etc.)

http://www.pacificclimatechange.net/country/fiji

1. Timeframe: 2015 - present

2. Location: Alaska, USA

3. Title of Activity/Programme/Project

Resilient Alaska Native Coastal Communities: Integrated Social-ecological Monitoring and Assessment Supporting Relocation Decisions

4. Brief Description of Activity/Programme/Project

The Alaska Institute for Justice is working with 14 Alaska Native Indigenous communities to design a community-based social-ecological monitoring and assessment tool to increase their capacity to adapt and to assess when relocation is required to protect the lives and livelihoods of community residents. Adaptation to a rapidly changing climate requires community engagement and empowerment. In the Arctic, erosion and repeated extreme weather events damage infrastructure, including health clinics and water and sewage treatment facilities. Saline intrusion and thawing permafrost impact access to potable water. In the most extreme cases, accelerating rates of erosion are life-threatening and are causing Alaska Native communities to choose to relocate their entire community.

Currently, no governance framework exists in the United States to evaluate climate-change

impacts and determine when people can no longer be protected in place and need to relocate. This lack of a governance framework hampers the ability of tribal, local, regional and national government agencies to respond. New governance institutions need to determine whether people can be protected in place or require relocation. This project seeks to begin the design and implementation of this governance framework.

Brief Summary of Work: 1. Design a community-based social-ecological monitoring and assessment methodology at the first adaptation workshop. Methodology development is a cooperative effort led by Alaska Native communities and involving university researchers, government representatives, such as National Oceanic and Atmospheric Administration (NOAA), and non-governmental organizations such as the Alaska Institute for Justice and Alaska Native Science Commission; 2. Train local community representatives to implement this methodology in their community and to perform trial data collection; 3. Document the collaborative relationship between these communities, university researchers, non-governmental organizations and government agencies throughout the grant period; 4. Compare implementation at a second adaptation workshop; and 5. Disseminate the methodology.

This project seeks to address two critical questions posed by Pillar 1 and 3. First, this project seeks to enhance knowledge and understanding about comprehensive risk management approaches that address loss and damage caused by slow onset environmental change and create a framework for understanding when community relocation may need to occur to protect lives and livelihoods. Second, this project is enhancing action to support capacity-building.

5. Key Lessons Learned from the Activity/Programme/Project

- Creating new governance institutions to respond to the need to relocate populations within countries takes time to design and implement and requires multi-level coordination and collaboration.
- Community-based adaptation requires that communities lead research efforts to understand how to avert and minimize loss and damage for community residents at risk of displacement.
- Community-based adaptation and disaster risk reduction strategies that include community relocation requires multi-level coordination between community residents and local governance institutions and technical assistance and funding provided by regional, state and national government agencies.

6. Sources for more Information (webpage, report, etc.)

Bronen, R. 2015. Climate-induced community relocations: using integrated social-ecological assessments to foster adaptation and resilience. Ecology and Society 20(3):36.