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COMMISSION STAFF WORKING DOCUMENT

Climate change, environmental degradation, and migration

Accompanying the document

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

An EU Strategy on adaptation to climate change

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An EU Strategy on adaptation to climate change

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1. INTRODUCTION

1.1. Focus and Thematic Scope of the Paper

Environmental factors have always acted as a driver of human mobility. However, with emerging awareness of the rate and magnitude of climate change, interest in the question of how environmental change is likely to affect population movements in the future has grown significantly over the last decade. And though debate between researchers and within the policy world is continuing, there is growing evidence that climate change, climate-induced events and environmental disruptions are likely to assume greater importance in influencing migration, particularly within the developing world.

This Staff Working Paper aims to provide an overview of the research and data currently available on the inter-linkages between migration, environmental degradation and climate change. It also provides an overview of the many initiatives of relevance for the topic which are already being taken by the EU in various policy fields, and analyses on-going debates on policy responses at EU and international level. The paper is produced as a response to a request made by the European Council to the Commission in the Stockholm Programme for '*an analysis of the effects of climate change on international migration, including its potential effects on immigration to the European Union*'¹. However, given the strong evidence that most migration which is primarily driven by environmental change is likely to occur within the Global South, much of the analysis of the paper and many of its recommendations are of specific relevance for EU policies with an external focus, including on development, foreign policy and humanitarian aid.

The specific focus of this paper is on human mobility due to climate related disasters and environmental degradation, including such caused by climate change² (e.g. land degradation,

¹ Council of the European Union: The Stockholm Programme – An open and secure Europe serving and protecting the citizens, 2009, Doc 17024/09

² 'Climate change' means shifts in average climatic parameters and/or in the magnitude of climate variability that are observed and persist over extended periods of time (typically decades or longer). Like climate variability, it can be induced by both natural and anthropogenic factors. In this paper, 'climate change' is used to mean long-term changes in climate directly and indirectly caused by human activities combined with those originating from natural climate evolution and variability. This is in line with the definition provided by the Intergovernmental Panel on Climate Change (IPCC).

drought, desertification, rising sea level or climate induced disasters such as drought, floods, extreme weather events, winter storms and heat waves)³. At present, most environmental disasters or degradation can be exacerbated by (if not certainly attributed to) climate change⁴. As a result, seeking to isolate climate change as the sole driver of migration or displacement would complicate identification of the persons affected. Though the primary focus of the paper is on international migration, internal migration trends within the developing world are also considered, as research suggests that a significant proportion of migration driven by environmental factors will occur within national borders.

This paper does not address the impact of environmental degradation and climate change on intra-EU movements, which are regulated by different legal bases, policies and instruments. Nor does it address displacement caused by industrial accidents, conflicts or development projects (including designation of protected areas). It will not address displacements resulting from earthquakes, tsunamis or volcanic eruptions, although they might have similar consequences with regard to temporary and permanent displacement. Such cases trigger specific and relatively well established responses that differ to some extent from those required to address migration and displacement caused by climate change, climate-related disasters and environmental degradation. Nevertheless, they can serve as a source of inspiration for designing responses to these movements.

This Staff Working Paper will first provide a brief summary of major initiatives of relevance for environmental change and migration at international and EU level. Section 2 continues with an overview of the main research findings on the likely impact of climate change on future migration trends, and the broader interrelations between migration and adaptation strategies. Section 3 briefly acknowledges the complexity of terminology. Section 4 then looks at policy responses which are currently being taken at EU and international level, and formulates preliminary recommendations for future action. The paper then concludes with considerations on future funding.

1.2. The state of the reflection at international level

In the past few years a number of stakeholders, including UN bodies and agencies, governments, international organisations and NGOs have been reflecting on how to adjust their humanitarian and development cooperation and/or their adaptation strategies in light of the link between migration and climate change.

The latest assessment report by the Intergovernmental Panel on Climate Change (IPCC), presented in 2007, highlighted that the increases in drought, intense tropical cyclone activity and extremely high sea levels are likely to lead to increased population movements⁵. In

³ Climate change has been a driving force for some more extreme and more frequent natural disasters. Therefore, dealing with climate change separately from other environmental aspects makes little sense from a theoretical or practical point of view. A similar line has been followed by the EU when addressing other issues, such as environmental integration in development cooperation.

⁴ For example, Climate change — Human Impact Report. The Anatomy of a Silent Crisis, Global Humanitarian Forum, Geneva, June 2009, p. 81: ‘Most low-elevation territory is reclaimed through a combination of sea-level rise and ordinary geological subsidence, although climate change greatly accelerates this process. So if a cyclone hits, it would be impossible to say if one particular individual is a climate-displaced person or not’.

⁵ Climate Change 2007 – Synthesis report, Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Core Writing Team, Pachauri, R.K. and Reisinger, A. (Eds.) IPCC, Geneva, Switzerland., pp 104, p. 53. Already in 1990, the Intergovernmental Panel on Climate Change (IPCC) noted that “*the greatest single impact of climate change might be on human migration*”, with millions of people displaced by shoreline erosion, coastal flooding and agricultural disruption; Intergovernmental Panel on Climate Change (IPCC), *First Assessment Report*, Cambridge University Press, Cambridge, 1990, p. 20.

addition, the recent Special Report 'Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) highlights the link between climate change and migration.⁶ Given the growing importance of this issue, the next assessment report (to be completed in 2014) will include for the first time a chapter dedicated to the link between climate change and security that will examine the ability of States to address climate change, conflict and migration.

The International Organisation for Migration (IOM) has long been advocating in various fora for actions to address environmentally-induced migration⁷. On 30 November 2012, the IOM Council resolution on the Migration Crisis Operational Framework was adopted to reinforce IOM's role in dealing with migration-related aspects of conflict or natural disaster-induced displacement. Within the Inter-Agency Standing Committee framework (IASC), an informal group on migration, displacement and climate change has been set up⁸. Given its particular refugee protection mandate, the UN Refugees Agency (UNHCR) is the lead agency for the Humanitarian Protection Cluster in emergencies. In June 2011, the UN High Commissioner for Refugees António Guterres described the issue as 'the defining challenge of our times', and urged countries to adopt new measures to cope with climate-induced displacement within and across borders⁹.

In March 2009, the UN Human Rights Council adopted Resolution 10/4 which stated that climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights. It also stressed that the effects of climate change will be felt most acutely by those segments of the population who are already in a vulnerable situation and affirmed that human rights obligations and commitments have the potential to inform and strengthen international and national policy-making in the area of climate change¹⁰.

Migration is also mentioned in the Cancun Agreements reached at the 16th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2010 that invite all Parties to take '*measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation*'¹¹. In addition, the decision on loss and damage to the adverse impacts of climate change at COP 18¹² also addresses this issue when acknowledging the '*further work to advance the understanding of and expertise on loss and damage, which includes, ..., How*

⁶ IPCC, 2012: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, A Special Report of Working Groups I and II of the IPCC

⁷ IOM undertakes extensive research on the nexus between climate change, the environment and migration. It also implements a number of operational activities. More info at: <http://www.iom.int/jahia/Jahia/pid/2068>

⁸ The IOM and the UNHCR are the co-chairs. Other agencies participating include the NRC/IDMC, UNEP, UNU-EHS, WFP, WHO, OHCHR, IFRC, OCHA, UNDP, IASC Secretariat, UNICEF, UNFPA, UNHABITAT. In parallel, an informal 'Climate change, Environment and Migration Alliance' (CCEMA), has been put in place to bring together global stakeholders, including UN agencies, research institutions and the private sector. For further information see: <http://www.ccema-portal.org/>

⁹ Speech at the Nansen Conference on Climate Change and Displacement in the 21st Century convened by the Norwegian Government, 6-7 June 2011, Oslo.

¹⁰ Human Rights Council, Resolution 10/4 on Human Rights and Climate Change, Adopted without a vote at the 41st Meeting, 25 March 2009, available at http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_10_4.pdf

¹¹ The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, 1/CP.16, chapter on 'Enhanced action on adaptation', paragraph 14 (f).

¹² <http://unfccc.int/resource/docs/2012/cop18/eng/l04r01.pdf>

impacts of climate change are affecting patterns of migration, displacement and human mobility'.

Climate change is also increasingly integrated in the global migration dialogue, in particular in the Global Forum for Migration and Development (GFMD), which held a specific roundtable on this topic during its 2010 meeting in Mexico¹³. Among its main recommendations, the GFMD has been calling for improvement of data collection processes and exchanges of analyses to strengthen the dialogue at all levels on the interconnections between climate change, migration and development, and to '*recognize the need for all concerned stakeholders to begin discussions on an appropriate legal and institutional framework to address these important issues, including in the context of the UNFCCC*'. At the 2012 GFMD, the roundtable on "Addressing South-South Migration and Development Policies" also covered the issue of environmentally-induced migration.

1.3. The EU Context

The EU is gradually moving from supporting research to also identifying policies and strategies for responding to the impact of environmental change on migration.

The European Parliament was the first institution to mention this topic in its resolution on "*The Environment, Security and Foreign Policy*" passed on January 1999¹⁴. In the past years, MEPs have organised several seminars on this subject¹⁵. In 2011, at the request of the Committee on Civil Liberties, Justice and Home Affairs the International Centre for Migration Policy Development (ICMPD) has produced a study on legal and policy responses to environmentally induced migration¹⁶.

The European Commission has been one of the first to sponsor multi-country comparative research on environmental change and different kinds of human mobility worldwide, the "Environmental Change and Forced Migration Scenarios" (EACH-FOR) project¹⁷.

In 2008, the paper on 'Climate Change and International Security' prepared by the High Representative and the European Commission drew attention to the fact that climate change could act as a '*threat-multiplier*', exacerbating trends, tensions and instabilities which would

¹³ <http://www.gfmd.org/en/recommendations/mexico-2010.html>.

¹⁴ European Parliament, Resolution on *The Environment, Security and Foreign Policy*, passed on January 29, 1999, A4-0005/99, JO C 128/92 of 7 May 1999. See also the EP resolution of 6 May 2010 on the White Paper 'Adapting to climate change: Towards a European framework for action', INI/2009/2152.

¹⁵ For example, a seminar on 'climate refugees' took place at the European Parliament on 11 June 2008, which aimed at drawing attention to environmentally induced migration through the adoption of a declaration that invites European and international institutions to "*organize legal protection for the victims of climate disruptions and of possible displaced persons who do not benefit today from any recognition*". In June 2008, at the Agora on climate change held by the European Parliament, representatives of European civil society expressed their concern over environmental migration. The workshop "Solidarity" called upon European institutions to develop a European strategy on climate forced migration and to launch a debate within the UN on the status of climate migrants and on a protocol to the United Nations Framework Convention on Climate Change on climate forced migration. On 2 March 2011, the S&D group hosted a seminar entitled "*Climate Refugees - A New Arena for Human Rights*". Green Party MEPs have also organised a number of hearings on the climate change and migration.

¹⁶ International Centre for Migration Policy Development (ICMPD): "*Climate Refugees*" *Legal and policy responses to environmentally induced migration*, Study commissioned by the European Parliament, Directorate General for internal policies, Policy Department C: Citizens' rights and constitutional affairs, civil liberties, justice and home affairs, Brussels, 2011, PE 462.422

¹⁷ More information at <http://www.each-for.eu>

already have an influence on migration patterns¹⁸. The Council Conclusions on EU Climate Diplomacy¹⁹ adopted in July 2011 highlighted that climate change is a global environmental and development challenge with significant implications related to security and migratory pressures. It also acknowledged the Joint Reflection Paper from the High Representative and the Commission '*Towards a renewed and strengthened European Union Climate Diplomacy*', which sets out three strands for action on EU climate diplomacy: strengthening engagement with key partners, supporting developing countries and mitigating security risks.

In May 2012, the Council of the EU adopted conclusions on the EU Global Approach to Migration and Mobility in which it 'recognises the need to further explore the linkages between climate change, migration and development, including the potential impact of climate change on migration and displacement'.

Some Member States have also given attention to the topic. The Foresight Programme of the UK Government Office for Science, for example, has invested significant resources into a two-year research project, exploring global patterns and impact of migration arising from environmental change and the challenges that could result from changing migration patterns over the next fifty years. This Staff Working Paper draws heavily on the final project report published in October 2011²⁰.

In order to gather recent evidence and the latest thinking on the effects of climate change on migration and displacement and to share ideas for addressing this challenge, particularly at EU level, a consultation of experts on '*Climate Change and Migration*' was organised by the European Commission on 6 May 2011. It brought together representatives of EU Member States, partner countries, non-State actors and other stakeholders who provided valuable input for this paper. Furthermore, in July and September 2012 respectively, the European Commission organised two roundtables (with the support of ICMPD and Foresight) on the specific topics of migration as a strategy of adaptation to climate change and the development impacts of forced and environmental migration. Conclusions of these events fed directly into this paper. In addition, the Commission funded a FP7 project CLICO working on climate change, water conflicts and human security in the Mediterranean, Middle East and Sahel (2010-2012). CLICO explored whether the effects of climate change in terms of water scarcity, droughts and floods in the region present a threat to human security, not least by exacerbating social tensions and intra- and inter-state conflicts²¹.

2. UNDERSTANDING MIGRATION IN THE CONTEXT OF ENVIRONMENTAL CHANGE

2.1. Environmental change as a driver of migration

Decisions to migrate are usually the result of multiple considerations that reflect a complex

¹⁸ Joint Paper from the High Representative and the European Commission to the European Council: *Climate change and international security*, S113/08, 14 March 2008. A background paper was prepared on the topic: Martin, S., Warner, K. (2010) 'Climate Change, Migration, and Development'. Paper for the Global Forum on Migration and Development, Civil Society Days. Presented at the GFMD in Puerto Viarte Mexico 8-9 November 2010

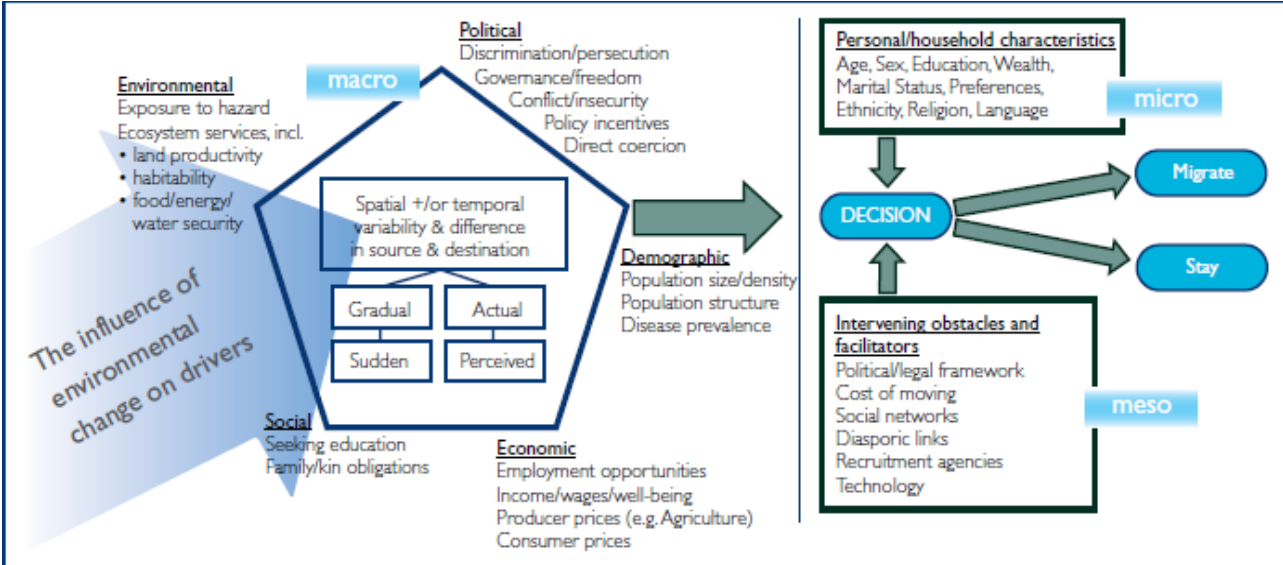
¹⁹ Council Conclusions on EU Climate Diplomacy, 3106th Foreign Affairs Council Meeting, Brussels, 18 July 2011. Joint Reflection Paper by the High Representative and the Commission '*Towards a renewed and strengthened European Union Climate Diplomacy*', 9 July 2011

²⁰ Foresight: *Migration and Global Environmental Change* (2011), Final Project Report, The Government Office for Science, London

²¹ Project website: <http://www.clico.org/> and policy brief: http://ec.europa.eu/research/social-sciences/pdf/policy-briefs-clico-112012_en.pdf

combination of environmental, economic, social, security and political factors²². Economic and social factors are in most cases considered both by social scientists and migrants to be the most important drivers of migration.²³

Early analyses of the impact of climate change and migration were based on an overly deterministic understanding of the relationship between the risk of environmental degradation faced by populations and the likelihood that they would migrate. In contrast, more recent research such as the UK government's Foresight study has taken a more sophisticated approach, paying greater attention to both the adaptive capacity of persons in low income countries, and the factors behind decisions to migrate. The diagramme from the Foresight study which is reproduced below offers a conceptual framework to capture the drivers of migration and the influence of environmental change on those drivers²⁴. It demonstrates that while environmental degradation does indeed affect migration decisions, it does so not only directly through 'environmental drivers' of migration, but also indirectly via its impact on other drivers, especially economic ones.



Foresight: Migration and Global Environmental Change (2011) Final Project Report, the Government office of Science

This demonstrates that with the exception of certain clear-cut cases such as small island states affected by sea level rise, **it is very difficult to establish straightforward links between migration and environmental degradation.** The complex relationship between environmental factors and other processes at work in regions of origin and destination which may drive migration (e.g. economic restructuring) make it extremely difficult to clearly pinpoint the role of climate change and other environmental factors in individuals' decision to migrate.

The diagramme also highlights the importance of individual characteristics and available resources in determining whether persons are both willing and able to migrate. The role of financial resources (of either the individual or the family) and social capital (e.g. migrant networks) in facilitating migration has long been recognised. Indeed, the Foresight study has highlighted that because of the significant resources which are required to migrate, persons in

²² The IPCC noted that disentangling the environment from other drivers is likely to be difficult because 'reasons for migration are often multiple and complex, and do not relate straightforwardly to climate variability', IPCC, 2007, Op. Cit., p. 365.

²³ Foresight (2011), p. 46

²⁴ Foresight (2011), p. 33

the poorest sectors of societies at risk from environmental degradation may be 'trapped' and unable to move. Moreover, due to the potential for environmental changes to erode households' financial resources, Foresight goes so far as to argue that 'environmental change is equally likely to prevent migration as it is to cause migration'²⁵.

2.2. Vulnerable areas and possible migration outcomes

Available studies and recent events show that some regions of the world are and will continue to be disproportionately affected by climate and environmental changes. Many of these regions are in the developing world, where environmental factors are most likely to directly impact food security, livelihoods and the safety of populations due to the limited resources available to cope with the consequences of natural disasters and to adapt to the adverse effects of climate change²⁶. Persons in the poorest segments of such societies who already face multiple stressors to livelihoods are likely to be the most vulnerable to environmental degradation.

The most vulnerable ecological regions in the developing world include the following²⁷:

- **Drylands** are likely to be affected by drought, and progressive land degradation. These will have a particularly strong impact on agricultural activities and pastoralists. Increases in drought are foreseen in particular for dryland regions of sub-Saharan Africa (e.g. the Horn of Africa), Central Asia, and parts of the Mediterranean.
- **Low-elevation coastal zones** in several global regions will be at risk from a variety of threats such as rising sea levels, soil salinisation, the degradation of marine ecosystems, more frequent flooding and extreme weather events. Particularly vulnerable areas include highly populated urban centres in mega-deltas of rivers such as the Nile, the Mekong and the Ganges and low-lying island states.
- **Mountains regions** have faced above-average warming in recent decades, and this trend is likely to continue, posing significant challenges for their populations, which are in most regions largely dependent on agricultural activities. Significant changes in mountain ecosystems are expected, which may lead to glacier melting and related problems of water supply and flooding, extreme rainfalls leading to landslides, and the possibility of more frequent landslides. Vulnerable areas include the Himalayas, the Andes, and the East African highlands.

All of these areas are hosts to major urban centres which are likely to experience continued population growth in line with the global trend towards urbanisation. This is in particular the case for low elevation coastal areas in Asia, where several cities face particular risks of flooding (Bangkok, Dhaka etc.) Cities in mountain regions such as the Andes are however also at risk from problems such as water shortages. The challenges which such cities face in effectively adapting to climate change whilst managing population growth

²⁵ Foresight (2011), p. 12

²⁶ See, for example, Warner, K., Ehrhart, C., de Sherbinin, A., Adamo, S.B., Onn, T.C. 2009. "In search of Shelter: Mapping the effects of climate change on human migration and displacement." A policy paper prepared for the 2009 Climate Negotiations. Bonn, Germany: United Nations University, CARE, and CIESIN-Columbia University and in close collaboration with the European Commission 'Environmental Change and Forced Migration Scenarios Project', the UNHCR, and the World Bank.

²⁷ See, for example, Warner, K., Ehrhart, C., de Sherbinin, A., Adamo, S.B., Onn, T.C. 2009. "In search of Shelter: Mapping the effects of climate change on human migration and displacement." A policy paper prepared for the 2009 Climate Negotiations. Bonn, Germany: United Nations University, CARE, and CIESIN-Columbia University and in close collaboration with the European Commission 'Environmental Change and Forced Migration Scenarios Project', the UNHCR, and the World Bank.

should therefore be considered in designing responses to migration in the context of environmental change.

Possible Migration Outcomes

As explained above, **vulnerability to climate change may significantly impact migration drivers, but does not automatically imply that migration will occur**. For this reason, it remains challenging to make reliable forecasts of population movements which are likely to result from climate change and related environmental degradation. Though a number of studies have proposed possible figures, most have subsequently been criticised due to methodological concerns. A serious lack of reliable quantitative data persists, mainly because estimates depend on a large number of parameters²⁸, including the way the data are recorded (e.g. forecasting models used, definitions and sources) and human and natural factors (such as the vulnerability of populations to natural disasters, the number, severity and impact of disasters, population growth, climate change and disaster trends and the quantity of future emissions). Most importantly, the vast majority of those who will be affected by a negative change in their environment, and who decide to move, will not be easily identifiable as such, as many other drivers contribute to their individual decisions. This makes any numerical estimation highly questionable.

A number of steps have been taken to help fill the knowledge gaps and monitor displacements after sudden events (led, in particular, by the Internal Displacement Monitoring Centre (IDMC) and the UN Office for Coordination of Humanitarian Affairs (OCHA). Nevertheless, knowledge of displacement in response to slow-onset events is still very scarce. According to the IDMC, in 2010 over 38 million people were forcibly displaced by climate-related events (mainly floods and storms), Asia being by far the continent worst affected²⁹. The IDMC adds that drought, the main category of slow-onset disaster, affected about 108 million people in 2010, but acknowledges that it is not known how many were forced to move³⁰.

Despite continuing uncertainty on figures, experts have reached some agreement on the ways in which environmental change is likely to interact with migration drivers, and the main patterns of migration which will occur. These are set out in the box below:

Box 1. Expected patterns of migration in the context of environmental change

The diverse potential effects of climate and environmental change will combine with other drivers to cause **different patterns of migration**, which may require different policy and operational responses. The **nature of the environmental disruption** will evidently be an important determining criterion, in particular as the needs and types of flows generated by sudden-onset events are likely to differ from those generated by slow-onset processes³¹.

Despite the difficulties inherent in identifying the role of environmental drivers in decisions to

²⁸ IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. *et al.* (Eds), Cambridge University Press, Cambridge, 2007, p. 365.

²⁹ IDMC/NRC: *Displacement due to natural hazard-induced disasters*. Oslo: IDMC/NRC, June 2011, p. 4. The findings indicate that about 77% of those displacements occurred in Asia in 2010.

³⁰ IDMC/NRC: *Displacement due to natural hazard-induced disasters*. Oslo: IDMC/NRC, June 2011, p. 20.

³¹ This distinction appears in many research papers, e.g. IDMC/NRC: *Displacement due to natural hazard-induced disasters*. Oslo: IDMC/NRC, June 2011; OCHA: *OCHA and slow-onset emergencies*, Occasional Policy Briefing Series, Brief No 6, April 2011; UNHCR: *Summary of Deliberations on Climate Change and Displacement*, Expert roundtable held in Bellagio (Italy), April 2011; IOM: *Migration, Environment and Climate Change: Assessing the evidence*, Geneva, December 2009; Warner *et al.*: *Human security, climate change and environmentally induced migration*, UNU-EHS Report, June 2008.

migrate, several studies (including Foresight) have proposed a distinction between two broad categories of migration outcomes:

- **Migration undertaken primarily to secure livelihoods.** In cases where environmental change increases economic and social hardship or influences other drivers, persons with sufficient resources may migrate to diversify income streams. This migration may be temporary or permanent, and generally follows pre-established patterns of internal (e.g. rural-urban) or international mobility. It can result from either slow-onset or sudden-onset events, and will be highly influenced by migrant's perception of economic opportunities in destination areas. The potential impact of this form of migration on strengthening resilience of communities to climate change is further considered in 4.3.2.

- **Displacement as a last resort solution to the adverse effects of environmental change,** such as when catastrophic climatic events or extreme environmental degradation leave no option for persons to remain. Much displacement is likely to be only temporary, in particular when it is linked to sudden-onset events such as hurricanes. However, in certain cases such as for small island states affected by sea level rise, environmental change may result in permanent displacement. Both temporary and permanent displacement may pose significant challenges for hosting areas and expose migrants to vulnerabilities during their journeys and at destination, and they should therefore be prevented wherever possible.

While this distinction is far from clear-cut and will be difficult to apply to individual cases, it has been argued that it provides a useful basis for identifying different challenges which may be posed by migration in the context of climate change and **different types of policy responses**. In this regard, additional parameters may include the **scale of migration** (large v. small scale displacements), **the duration of migration** (permanent v. temporary), **the destination of migrants** (inside their State of origin or at regional or international level) and **local circumstances** (scale of impact, level of exposure, vulnerability and resilience).

In addition, as mentioned above, the Foresight study has drawn attention to the fact that certain populations may be 'trapped' by the effects of environmental change, facing extreme vulnerability but lacking the resources to move. Such persons may become displaced if they are not assisted.

Climate change is highly likely to impact on population movements. However, current evidence strongly suggests that most migration and displacement will take place in an **intra-State context, or within developing regions**. International migration requires substantial resources, in particular if it is inter-regional, and is likely to be a feasible option only for persons who are less likely to be seriously affected by environmental change (as they typically live in better protected areas of cities)³². **This suggests that the impact of climate change and environmental degradation on migration flows to the EU is unlikely to be substantial.**

On the other hand, **urban centres in the developing world** are likely to receive large number of migrants moving in the context of environmental change, including both persons in search of livelihood opportunities and the displaced. As noted above, many of these cities are themselves also vulnerable to the effects of climate change and already face difficulties in meeting the challenges of urbanisation.

³² See Climate change — Human Impact Report. The Anatomy of a Silent Crisis, Global Humanitarian Forum; Ehrhart, C.: 'Humanitarian implications of climate change mapping, emerging trends and risk hotspots'; CARE, 'In search of shelter: mapping the effects of climate change on human migration and displacement'. See also Foresight (2011), p. 96

Box 2. The impact of environmental degradation in the Southern Mediterranean region on migration^{33[1]}

The Southern Mediterranean region^{34[2]} comprises drylands, coastal zones and mountains. A large proportion of the population is exposed to the effects of environmental change. Indeed, 33 million persons reside in vulnerable low elevation coastal areas, and the great majority of the region's population reside in dryland areas which are at risk from increased drought and land degradation. Though the situation varies across the region, a key shared challenge is the scarcity of water resources.

Accurate household-level data on how environmental change will be perceived is lacking. However, it is clear that despite the profound impact which climate change may have on the Southern Mediterranean region, exposure to its effects will not necessarily result in migration. Economic factors are and will remain the key determinants of migration in the region, with environmental drivers primarily being felt through their impact on livelihoods. The relationship between environmental stressors and migration is far from deterministic, as demonstrated, for example, by the so far limited impact of severe water shortages in the Occupied Palestinian Territories on emigration. Migrants moving primarily due to the effects of climate change or environmental degradation will therefore be extremely difficult to distinguish.

Climate change and environmental degradation are likely to exert an influence primarily on existing patterns of internal mobility. For example, past experience suggests that where environmental stressors impact on agricultural productivity in rural areas, temporary short-distance circulatory migration has past been used to diversify income in order to sustain livelihoods, and this phenomenon is likely to continue.

Migration will be an option available only to those with sufficient resources. These will be unavailable to many of those affected by the potential negative impact of climate change on agriculture in drylands. Research on rural Egypt conducted under the EACH-FOR study showed that in general, affected populations *'would leave their home and move to another place only if there are absolutely no more livelihood possibilities for them'*. The possibility of having “trapped populations” is therefore very real, as people may be unable to move due to lack of assets linked to the impact of environmental change on household resources.

For the same financial reasons, **options for longer-distance and international migration within the Southern Mediterranean countries and beyond are likely to be reduced by the effect of environmental change and its interaction with other migration drivers**, in particular for the poorest groups in society. Therefore, persons migrating may not be the most vulnerable or the most affected by environmental change.

Destinations will be selected by migrants primarily due to the economic opportunities they offer, meaning that migration to regions of environmental vulnerability is likely. The EACH-FOR report has found that *'in the case of the Morocco-ruled Western Saharan territory, today immigration clearly surpasses out-migration flows. It seems that the economic attractiveness of the region... is exceeding any possible negative consequence of the extreme environmental conditions of the region'*.

^{33[1]} This case study draws on a policy brief prepared by Professor Andrew Geddes. The brief draws directly from the evidence base and final report of the Foresight project “Migration and Global Environmental change: Challenges and Opportunities”, 2011. It also draws on the findings of the EACH-FOR Project in Northern Africa and the Middle East, EACH-FOR - Environmental Change and Forced Migration Scenarios: Final Synthesis Report, 044468, 2009.

^{34[2]} Defined as including Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, the Occupied Palestinian Territory (OPT), Syria and Tunisia.

Due to their role as economic centres, much temporary and permanent migration will be directed to cities, accentuating current urbanisation trends in the region. Urban centres will also face vulnerabilities, in particular as many are located in coastal floodplains or low elevation coastal zones.

2.3. Improving the knowledge base

A number of themes need to be better considered in order to develop a comprehensive understanding of the impact of environmental change on migration and design appropriate policy responses.

At conceptual level

Clear gaps in conceptualising environmentally-induced migration hamper policy-making. They relate to four areas:

- **DEFINITIONS.** The effects of environmental change on migration are so diverse that it is hard to encompass all scenarios under one single concept and definition. However, definitions are paramount in guiding policy-making to assign roles and responsibilities. They are also crucial in the generation of statistics.
- **ESTIMATES.** While it shall be acknowledged that producing accurate predictions is difficult (especially in the case of slow-onset events) and that existing statistics are based on little evidence, policy-makers need to know the magnitude of environmentally-induced migration to be convinced of the importance of the phenomenon and to design action.
- **DRIVERS.** The role of the environment as a migration driver and the ways in which it may interplay with other social, economic and political factors should be better understood to develop adequate policy responses. The specific local aspects such as the pre-existing migration patterns are central in this regard.
- **MIGRATION IMPACTS,** particularly in urban areas and at internal level. The following research questions should be addressed to better understand the migration impacts of environmental degradation: who migrates, where, why and how? Much information is also needed about the obstacles that prevent migration and the adaptive capacities of local communities. Ecological tipping points that trigger migration should be identified. From an EU perspective, research on the link of migration and climate change in the immediate European neighbourhood and/or traditional ‘migrant sending regions’ should be especially improved. Finally, the migration impacts of environmental change on different groups of people (including the ones left behind) should be better documented as their policy implications may vary.

Evidence on policy options

The development of a typology of policy alternatives for the various kinds of environmentally induced migration from prevention, adaptation, resettlement to managing future flows should be supported. Greater focus should be placed on responses to slow-onset environmental degradation as the bulk of current research has been on sudden onset events so far. Studies should focus on:

- **HUMANITARIAN AID.** Existing humanitarian responses with regard to disasters need to be assessed to identify gaps and better grasp the needs of those affected.

- **ADAPTATION AND DISASTER RISK MANAGEMENT STRATEGIES.** Adaptation and disaster risk management mechanisms that can avoid or reduce the need for migration should be identified. In addition, how and where to frame migration as an adaptation mode needs to be better documented to inform sound decision-making. More research on the potential positive effects of migration on adaptation is also needed.
- **RELOCATION.** Future research should help policy-makers in assessing the costs and benefits of relocation programmes based on an evaluation of past experiences and, when relevant, preparing pro-active relocation processes, including over the long term, to monitor what happens to relocated communities.
- **MIGRATION MANAGEMENT AND PROTECTION.** The extent to which existing legal frameworks are useful in the context of environmentally induced migration should be better analysed and protection gaps such as statelessness and cross-border movement should be clarified. Governments' capacity to implement existing and/or new frameworks or policies should also be evaluated.

Generally, looking at other forms of forced migration and policy responses can help inform policies in all the above-mentioned fields. At the same time, further investigation is required to determine the nature of the specific measures to develop to address environmentally induced migration compared to other forms of forced migration.

3. TERMINOLOGY

Though the impact of environmental change on migration will be highly complex and context-specific, as demonstrated above (see Box 1), several useful distinctions have been proposed to capture different patterns of mobility that may at least in part be driven by biophysical processes. Linking these distinctions to terminology can help to produce comparable data and inform measures to develop differentiated and appropriate policy response.

However, notwithstanding the more fundamental debate on whether it is possible to attribute migration processes to climate change, views differ on the appropriate terminology and definitions applicable to persons migrating or displaced as a result of environmental drivers. Though numerous different terms have been proposed, researchers, lawyers and policymakers cannot agree on whether those concepts are legally viable or appropriate for the scientific or political agenda. International organisations, civil society organisations and media use the term that is the most appropriate to their particular agenda. Recognition of any of the proposed concepts has implications, *inter alia*, on how solutions and responses are shaped and on the division of tasks between different organisations.

Box 3 Some commonly used definitions

The term '**environmental refugee**' has been used in position papers presented by various NGOs, in the media and in some academic literature. The term is especially associated with the early stages of reflection on the topic, before differentiation between types of environmental change and forms of mobility started³⁵. It was used to raise awareness and

³⁵ The nexus between the environment and migration has been popularised by the frequently quoted paper written by El Hinnawi in 1985 for UNEP that employed the concept of 'environmental refugee'. Environmental refugees are defined by El Hinnawi as: '*those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption*

focused on the forced nature of displacement. However, use of the term and status of 'refugee' has subsequently been criticised, primarily because the term has a specific legal meaning in the context of the 1951 Geneva Convention relating to the Status of Refugees and international refugee law³⁶. Relevant UN agencies and the IOM considered that the use of the term "refugee" would be inappropriate in that context, and that it would not be opportune or feasible to widen the 1951 UN Convention' definition of refugees to include additional categories of persons³⁷.

The term "**environmental migrant**" is widely used, including by the IOM³⁸. Nevertheless, the term 'migrant' might not always be considered appropriate, as it suggests a degree of volition in the decision to move.

Lastly, one of the most recent terms is "**environmental/climate displaced person**". This term is descriptive - at least of one part of the mobility spectrum (displacement) - and does not necessarily imply governance responsibility³⁹. Although there is no internationally accepted legal definition of 'displaced person', the concept of 'internally displaced persons' (IDPs) is relevant when displacements occur internally (see below).

For the purposes of this paper, the broad term '**environmentally induced migrant**' is used provisionally as a broad category encompassing all types of migrants moving internally and crossing international borders for reasons related to climate change or environmental degradation. The term '**environmentally induced displaced person**' is also used when referring specifically to migrants who move as a 'last resort response' to the effects of environmental change (see Box 2). However, the choice of these terms in no way prejudices the need to analyse further whether a range of terms describing the variety of environment-related movements would not cover better the various migration and displacement patterns that might result from environmental degradation and climate change⁴⁰.

(natural and/or triggered by people) that jeopardised their existence and/or seriously affected the quality of their life', El Hinnawi Essam: *Environmental Refugees*, Nairobi: UNEP, 1985, p. 4.

³⁶ The 1951 United Nations Convention and 1967 Protocol relating to the status of refugees provide the international definition of 'refugee': 'a refugee is a person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country'.

³⁷ *Climate Change, Migration and Displacement: Who will be affected?*, Working paper submitted to the UNFCCC Secretariat by the informal group on migration/ displacement and climate change of the IASC, 31 October 2008.

³⁸ The IOM uses the following definition: '*environmental migrants [are]. . . persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad*', IOM, Discussion note: Migration and the Environment, Ninety-fourth session, MC/INF/288, 2007, pp. 1-2. The IOM's definition is quite broad as it includes persons forced to move and persons for whom leaving is a choice.

³⁹ '*Environmentally-displaced persons*' have been defined as '*individuals, families and populations confronted with a sudden or gradual environmental disaster that inexorably impacts their living conditions and results in their forced displacement, at the outset or throughout, from their habitual residence and requires their relocation and resettlement*', Draft Convention prepared by CRIDEAU (the Interdisciplinary Centre of Research on Environmental Planning and Urban Law) and the CRDP (Centre of Research on Persons' Rights), thematic teams of the OMIJ (Institutional and Judicial Mutations Observatory), from the Faculty of Law and Economic Science, University of Limoges, with the support of the CIDCE (International Centre of Comparative Environmental Law). This draft Convention has been published in the *Revue européenne de droit de l'environnement* (Francophone European Environmental Law Review), No 4-2008, p. 381.

⁴⁰ See, for example, Renaud, F.G., Dun, O., Warner, K., Bogardi, J.J.: *A Decision Framework for Environmentally Induced Migration*, International Migration, Volume 49, Supplement 1, June 2011, p.

4. POLICY RESPONSES

Migration in the context of environmental change is a complex issue that requires comprehensive responses involving a broad range of issues and policies: climate change mitigation, disaster risk reduction, urban planning, education, social policy, asylum and migration policies, development policies and humanitarian and civil protection policies.

Due to the broad variety of patterns of migration and the diverse environmental pressures and capacity in non-EU countries, responses have to be tailored to local needs and conditions. Even during massive inflows, people's needs vary, depending on their age, health, gender and socio-economic status. Any adopted measures or policies should be in line with existing policies, in particular on climate change adaptation and disaster risk reduction, and also with ongoing global efforts⁴¹.

This chapter outlines the responses addressing challenges and opportunities posed by migration in the context of climate change, which is a main driver for an increased number and severity of natural disasters and environmental degradation. First it looks at the existing legal framework for the protection of migrants moving in the context of climate change and the efforts to make it more coherent. Next, it analyses adaptation and disaster risk reduction as means to reduce displacement. Finally, it focuses on addressing migration and displacement occurring in the context of climate change or environmental degradation, including emergency responses, facilitating the use of migration as adaptation, addressing the needs of displaced persons and hosting communities and the potential of resettlement and relocation of trapped populations. The chapter aims to provide an overview of the many measures which the EU has already taken in each of the areas covered, in order to support future efforts to build a more coordinated and strategic response to the challenges posed by climate change and migration.

4.1. Existing legal framework

No legal framework specifically addressing environmentally induced migrants exists. However, a number of instruments, both at the international and national level, legally binding and soft-law, might offer some form of status and/or protection to some types of environmentally induced migrants and/or displaced persons.

4.1.1. *International human rights law*

Human rights law applies to environmentally induced migrants, as to all other persons. The effects of climate change may undermine the enjoyment of several human rights, including: the right to life (Art 6, ICCPR; Art 6 UNCRC); right to adequate food (Art 11 ICESCR; Art 14 CEDAW; Art 5 CERD), the right to water (Arts 11 and 12 ICESCR⁴²; Art 14 CEDAW; Art 28 CRPD; Art 24 CRC), the right to health (Art 12 ICESCR), and the right to adequate housing (Art 11 ICESCR).

4.1.2. *Environmental law*

The UNFCCC and the Kyoto Protocol provide the international framework to address climate change issues. Although the Treaties do not mention environmentally induced migration and

5-29. Also see Renaud, F.G.; Bogardi, J.J., Warner, K., Dun, O. (2007): *Control, Adapt or Flee: How to Face Environmental Migration?*, UNU-EHS InterSections No. 5/2007

⁴¹ Articles 13 and 21(3) of the Treaty on European Union (TEU) and Article 7 of the Treaty on the Functioning of the European Union (TFEU) in conjunction with specific coherence clauses such as Article 208(1) of the TFEU (on poverty reduction) and Article 11 of the TFEU (on environment).

⁴² See also the General Comment no. 15 by the Committee on Economic, Social and Cultural Rights.

displacement, they do contain a number of guiding principles that are relevant to climate-induced migration. The precautionary principle, found both in the UNFCCC and the Lisbon Treaty⁴³, requires action to be taken ahead of full scientific certainty. Thus, although it is not possible to wholly attribute the cause of population displacement to climate change, in the face of scientific evidence on the impact of climate change and the link to migration, it is necessary to take a precautionary approach. A second principle, known as ‘common but differentiated responsibility’ (CBDR), is also relevant because least developed countries and small island developing countries are the most vulnerable to the adverse effects of climate change and have the least capacity to respond. The CBDR principle recognises that while climate change is a common problem, developed nations have a responsibility to assume a leading role in global efforts to promote climate change mitigation and adaptation.

4.1.3. *International refugee law*

The 1951 United Nations Convention relating to the Status of Refugees and its 1967 Protocol provide the international definition of ‘refugee’:

‘a refugee is a person who, owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country’.

As explained in Box 3 (page 13), this definition is not applicable to environmentally induced migrants. Firstly, it would be difficult to deem environmental degradation as ‘persecution’ in the sense envisaged in the convention. It would also be necessary to link such persecution to one of the grounds set out in the Convention⁴⁴. Therefore, environmentally induced displacement falls outside the scope of the 1951 Convention and its additional protocol.

4.1.4. *Guiding Principles on Internal Displacement*

Given that a high proportion of the environmental or climate-related movements are expected to be internal and some may occur after a sudden natural disaster, the 1998 UN *Guiding Principles on Internal Displacement* provide a framework for protecting victims of natural disasters who do not cross an international border⁴⁵. They offer a valuable set of legal standards for protection and have the advantage of leaving governments wide room for manoeuvre when it comes to implementation, which allows them to take into account various scenarios in a way that is flexible and adapted to local circumstances. However, even if the list of persons covered by the principles is not exhaustive, it is not clear whether those who migrate due to gradual processes of degradation can be included.

Despite their focus on internal displacement, it has also been suggested by the Council of Europe that the principles could be taken as a model to develop a global guiding framework

⁴³ Article 191(3) of the TFEU.

⁴⁴ In some cases, refugee status might apply, for example, to cross-border movements of a particular social group (such as an indigenous people) after a government fails to protect them against the adverse effects of climate change or in a conflict over access to environmental resources; Cf Zetter Roger: *Protecting environmentally displaced people: Developing the capacity of legal and normative frameworks*, Research Report, Refugee Studies Centre, University of Oxford, February 2011, p. 19.

⁴⁵ ‘Internally displaced persons are persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognised State border’ (Guiding Principles, Introduction, paragraph 2).

for the protection of displaced persons crossing international borders *as a result of climate change and natural disasters*⁴⁶.

There are nonetheless a number of gaps and grey areas in this framework that need to be addressed. The guiding principles are not legally binding and are far from being correctly implemented, even if they have been incorporated by governments in domestic policy and law and also in international agreements. Most recently, they were used for drafting the Kampala Convention for the protection and assistance of internally displaced persons (IDPs) in Africa⁴⁷. This convention, which was adopted by the African Union in October 2009 and entered into force on 6 December 2012, is the first legally binding regional instrument in the world to impose an obligation on States to protect and assist IDPs, including persons displaced by natural or man-made disasters and development projects.

4.1.5. *Complementary forms of protection*

Complementary forms of protection allow States to provide protection against being returned on human rights grounds, in cases not addressed by the 1951 Convention and its 1967 Protocol. They are subsidiary to recognition as a refugee under the 1951 Convention. However, complementary protection remains a generic term, given that it is not defined in any international instrument. As a result, the nature of the protection, the eligibility criteria and even the terminology used to describe such forms of protection vary from one jurisdiction to another.

It has been argued that complementary forms of protection might be relevant for some of the people who are forced to move on a long-term basis or permanently, i.e. when there is no prospect of return in the long term. This could include slow-onset processes at an advanced stage leading to gradual displacement (such as desertification), persons affected by rising sea-level or certain cases of natural disasters.

In practice, the need for refugee-type protection is not clear in the context of environmentally induced migration and displacement. In cases of slow-onset environmental degradation, people tend to seek support for finding an alternative livelihood and earning a living rather than seeking refugee-type protection. Neither the aim nor the content of refugee-type protection appears to be appropriate in order to fulfil the needs that result from gradual movements of this kind. On the other hand, because of its long-term character, such protection would also not be appropriate in case of rapid-onset events leading to temporary displacement.

At the EU level, an example of complementary protection is subsidiary protection granted under the **Qualification Directive**⁴⁸, which however, does not include environmental degradation nor climate change amongst the types of serious harm which can lead to granting such protection. However, some EU MS have included in their legislation on refugee-type protection provisions concerning those who may be unable to return home owing to a natural disaster. For example, under the Swedish law, a person '*unable to return to the country of origin because of an environmental disaster*' may also qualify for asylum⁴⁹. However, this

⁴⁶ See Resolution 1862 (2009) of the Parliamentary Assembly of the Council of Europe, point 6.5.

⁴⁷ [African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa](#) (Kampala Convention), adopted by the Special Summit of the Union held in Kampala, Uganda, 23 October 2009.

⁴⁸ Council Directive 2004/83/EC of 29 April 2004 on minimum standards for the qualification and status of third country nationals or stateless persons as refugees or as persons who otherwise need international protection and the content of the protection granted, Official Journal L 304, 30/09/2004 P. 0012 - 0023

⁴⁹ Swedish Aliens Act, Chapter 4, Section 2a.

provision has never been applied. Furthermore, the preparatory papers make it clear that slow-onset processes are not covered⁵⁰. Another example is the Finnish humanitarian protection framework, under which ‘*An alien residing in Finland is issued with a residence permit on the basis of humanitarian protection, if (...) he or she cannot return to his or her country of origin or country of former habitual residence as a result of an environmental catastrophe*’⁵¹. The preparatory papers state that both natural and human-induced disasters fall within its scope. This provision is less restrictive than the Swedish law, but has not yet been used either.

Many States provide the possibility of issuing a residence permit on a discretionary basis to a non-national in cases where essential considerations of a humanitarian nature conclusively make it appropriate to grant the application. Such residence permits are issued rarely and only upon a specific assessment of the individual circumstances.

In this regard, Denmark has proceeded with an interesting application of the provisions on humanitarian protection⁵² and issued residence permits on humanitarian grounds to families with minor children from certain areas in Afghanistan, where the drought is particularly bad, and also to destitute Afghans without land coming from areas suffering from drought and food insecurity and who would be in a particularly vulnerable situation upon return⁵³.

4.1.6. Temporary protection

Temporary protection takes different forms worldwide, but it is generally described as an exceptional measure and specific provisional protection response to situations of mass influx, aimed at providing immediate emergency protection from *refoulement*.

Temporary protection status might be appropriate after severe rapid-onset disasters (such as floods), when masses flee from the area affected but when the possibility of them returning in the short or medium term remains open. Therefore, those persons have an immediate and temporary need for protection. An example of such status is the one granted under the EU **Temporary Protection Directive**⁵⁴, which has been designed in particular for persons who have fled areas of armed conflict or endemic violence and persons at serious risk of, or who have been victims of, systematic or generalised violations of their human rights. Nevertheless, the Directive leaves wide room for manoeuvre, in the form of open definitions of key words, such as ‘mass influx’⁵⁵.

At the national level, Finland is the only EU Member State offering an institutionalised mechanism that grants temporary protection in the event of an ‘environmental catastrophe’, without defining the concept⁵⁶. Even if this provision seems flexible, it has never been applied so far.

⁵⁰ Preparatory work, prop. 1996/97:25 s. 101, p. 100.

⁵¹ Finnish Aliens Act, Chapter 6, Section 88a(1).

⁵² Danish Aliens Act, Section 9b.

⁵³ See *Comparative Study on the Existence and Application of Categorised Protection in Selected European Countries*, prepared by the International Centre for Migration Policy Development, Vienna, commissioned and funded by the Advisory Committee on Aliens Affairs (ACVZ), The Netherlands, January 2006, p. 35.

⁵⁴ Council Directive 2001/55/EC of 20 July 2001 on minimum standards for giving temporary protection in the event of a mass influx of displaced persons and on measures promoting a balance of efforts between Member States in receiving such persons and bearing the consequences thereof, OJ L 212, 7.8.2001, p. 12.

⁵⁵ The term ‘mass influx’, which is the heart of the system, means ‘*arrival in the Union of a large number of displaced persons, who come from a specific country or geographical area, whether their arrival in the Union was spontaneous or aided, for example through an evacuation programme*’ (Article 2d).

⁵⁶ Finnish Aliens Act, Section 109.

Other countries grant temporary protection on an *ad hoc* basis after natural disasters. Examples of such systems can be found in the UK response to the Montserrat volcanic eruption in 1995/1997⁵⁷. Equally interesting are the special immigration concessions granted by several governments worldwide for the victims of the Indian Ocean tsunami in 2004. Governments have either suspended the return of people to the countries affected or taken measures concerning resettlement of victims⁵⁸.

The US Immigration Act of 1990 provides for discretionary granting of temporary protection status when '*there has been an earthquake, flood, drought, epidemic, or other environmental disaster in the state resulting in a substantial, but temporary, disruption of living conditions in the area affected*' and when '*the foreign state is unable, temporarily, to handle adequately the return to the state of aliens who are nationals of the state*'⁵⁹. It is important to underline that this protection applies only to persons who are already in the US at the time of the disaster. The status allows a six-month stay which can be extended to eighteen months. During their stay, residents may work but cannot apply for admission of spouses or family members. This status has been granted in a few cases, when disasters occurred in Central America (e.g. for 90 000 Hondurans and 60 000 Nicaraguans after Hurricane Mitch in 1998). However, the system has been criticised due to the limited group which it covers (persons already present on US territory), and because it frequently results in permanent settlement via systematic extensions of the status.

These national examples show some of the weaknesses of *ad hoc* measures, particularly in cases when the underlying environmental process or event is not temporary - such as if an area is declared unfit for habitation. This has been the case in some non-climatic events such as the Montserrat volcano explosion in 1997 which left thousands of people without protection once the disaster was declared permanent and thus temporary protection measures were no longer valid. They do not provide a clear and secure way of obtaining protection (especially because granting of protection is discretionary). Furthermore, they can be an answer for only a limited proportion of environmentally induced migrants, given that, after rapid-onset disasters, people tend not to move far away from their home.

4.1.7. Regional Free movement agreements

Existing regional agreements on the free movement of people, including for the purpose of work, in particular those adopted through regional integration organisations such as the Economic Community of West-African States (ECOWAS) or MERCOSUR, might, if properly implemented, also serve as frameworks for environmentally induced migration. Although they do not target specifically environmentally-induced migrants, they might be used by them to move temporarily or permanently to other countries in the region. For example, evidence suggests that the ECOWAS Free Movement Protocol has increased access to protection for refugees in West Africa by allowing the displaced to move as labour migrants to neighbouring countries⁶⁰. However, many regional organisations in the developing world have made only limited progress on promoting regional mobility, and for

⁵⁷ See Memorandum from the Parliamentary Under-Secretary of State, Foreign and Commonwealth Office, Baroness Symons, 9 February 1998. See also CLAY Edward (Team Leader): An Evaluation of HMG's Response to the Montserrat Volcanic Emergency, Volumes I and II, ODI (Overseas Development Institute), London, published by the DFID (Department for International Development) as 'Evaluation Report EV635', December 1999.

⁵⁸ For example, Canada expedites immigration paperwork from victims who have relatives in Canada if their applications were already in the system.

⁵⁹ INA (§244 of INA (8 U.S.C. §1254a).

⁶⁰ Long, K., 'Extending Protection? Labour Migration and Durable Solutions for Refugees', New Issues in Refugee Research, Research Paper No. 176, October 2009

those that have (such as ECOWAS), implementation of agreed provisions is frequently ineffective.

4.1.8. Towards a coherent legal framework for environmentally induced migrants

A piecemeal approach persists with regard to regulating the legal status of environmentally induced migrants, which clearly reflects the problems with definitions of who such migrants are and the extent to which their movement can be attributed to climate change and environmental degradation. However, as demonstrated above, several states have made attempts to address certain aspects of environmentally-induced migration and displacement through national legislation. Potentially useful frameworks also exist at regional and international levels. It therefore remains to be seen whether a new specific legal framework is both necessary and feasible, or if persons moving in the context of environmental change can be adequately assisted and protected under existing frameworks. At any rate, the complexities of the topic and its comparative novelty as a subject of international policy dialogue between states means that the wider political consensus which would be necessary to establish international rules remains lacking, including at regional levels.

Nevertheless, as indicated above, some States will face important challenges linked to environmentally induced migration, and those most affected should be encouraged and assisted in developing an appropriate legal framework. Existing legal frameworks could be applied more effectively and build consensus at the international level on basic guiding principles governing environmentally induced migration and displacement.

In that respect, work initiated at the Nansen Conference on Climate Change and Displacement in Norway in June 2011 is an important step forward. Participants of the conference devised 10 Principles on Climate Change and Cross-Border Displacement, primarily in the context of sudden onset events. Those principles set the grounds for responses, based on humanity, human dignity, human rights and international cooperation and on the primary necessity for states to ensure a proper level of protection of their own nationals. The role of other actors, including civil society, regional integration processes and international cooperation is also recognized. Those principles call for strengthening prevention, resilience and disaster preparedness. While acknowledging the importance of the Guiding Principles for Internal Displacement, they also identify a normative gap for the protection of "externally displaced populations", victims of sudden onset events and encourage the development of a guiding framework or instrument in that regard.

Building on the Nansen Conference, the Nansen Initiative has been launched in October 2012 by Norway and Switzerland, with the support of UNHCR and the Norwegian Refugee Council, and co-funding of the European Commission. It aims to build consensus on how to address potential legal and protection gaps for people displaced across borders owing to environmental change and extreme weather events.

4.2. Adaptation as a Means to Reduce Displacement

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as “any adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation” (IPCC TAR, 2001 a). In other words, adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause. Examples of adaptation measures include using scarce water resources more efficiently, adapting building codes to future climate conditions and extreme weather events, building flood defences and raising the

levels of dykes, developing drought-tolerant crops and choosing tree species and forestry practices less vulnerable to storms and fires.

There is a close link between climate change adaptation and disaster risk reduction policies and actions. The Cancun UNFCCC Conference established the Cancun Adaptation Framework, which invites parties to strengthen adaptation action in nine areas including “enhancing climate change-related disaster risk reduction strategies” and considers disaster risk reduction as an effective way of climate change adaptation.

Adaptation to the adverse effects of climate change and effective disaster risk reduction of natural hazards are both very important for minimising the need for displacement. Preventive action brings clear economic, environmental and social benefits. The costs of taking action to address climate change are known to be much lower than the costs of inaction over the medium to long term⁶¹.

Adaptation and risk reduction measures addressing displacement should be **targeted towards allowing persons who wish to remain in communities affected by environmental change to do so**, by for example providing alternatives to threatened livelihoods. They should be based on a recognition that some level of migration or displacement may be necessary or inevitable where the impact of environmental stressors on communities is extreme. Indeed, measures which aim to constrain movement at all costs rather than adequately planning for this can represent forms of maladaptation which risk failure and may increase the likelihood of later irregular movements or unplanned displacement⁶².

The distinction between disaster risk reduction and adaptation to slow-onset and fast-onset events is important here. As will be demonstrated below, the Commission supports numerous measures throughout the developing world in both of these areas.

4.2.1. *Increasing resilience to natural hazards*

Investing in disaster risk reduction (DRR) aims to strengthen the resilience and coping capacities in disaster-prone regions, minimising the need for environmentally-induced displacement when disasters occur. This support mainly takes the form of capacity-building (strengthening local and national capacity for DRR, early warning systems, global monitoring systems⁶³, mainstreaming of adaptation into development strategies) and specific adaptation projects such as reinforcement of sea defences, watershed projects, mangrove rehabilitation to provide wind barriers and improve the resilience of agricultural systems thereby increasing food security, etc.

A range of measures can contribute to this, including raising awareness of the population, improved mechanisms for risk communication, improving the knowledge base on hazards and their impacts, developing risk mapping, risk assessments and disaster risk management plans, updating National Adaptation Plans of Action (NAPA) and move towards National Adaptation Planning processes (NAPs) and/or funding allocations. Operational responses imply not only increasing the investments in disaster risk reduction, but also making humanitarian and development action more efficient (by improving the speed of deployment and appropriateness of action) and coherent (at operational and political levels).

⁶¹ The Stern Review on the Economics of Climate Change (HM Treasury, 2006) and the World Bank and the United Nations study on 'UnNatural Disasters, The Economics of Effective Prevention', 2010.

⁶² Foresight(2011), p.133

⁶³ For further information global monitoring see: <http://copernicus.eu/>

At international level, the ‘Hyogo Framework for Action’ (HFA), a global blueprint for disaster risk reduction efforts for the period 2005-2015, is already coherent with the Cancun Agreement⁶⁴.

At EU level, Disaster Risk Reduction is an increasing priority for the Union to address the alarming disaster trends and reduce vulnerability to disasters. A cross-sectoral EU Disaster Risk Management framework is being developed which promotes a holistic approach for all natural and man-made risks throughout all sectors based on risk assessments and planning, sharing of good practices between countries, improving the knowledge base, early warning systems and strengthening capacities through training and other preparedness actions. Furthermore, an increasing share of EU financial support (both internal and external) is being directed to support disaster risk reduction via various channels, including humanitarian aid and development instruments, climate change initiatives, support for endemic surveillance capacity and grants for research projects. Implementation is continuing of the 2009 Strategy for Supporting DRR in Developing Countries for 2011-2014, which places a specific focus on promoting coherence between DRR and adaptation to climate change.

The EU also seeks a common humanitarian aid and development resilience strategy fostering an effective and inclusive approach, maximizing comparative advantages, strengthening capacity building in the long-term engagement, in line with country-owned and country-led resilience agenda, using flexible financing, enhancing risk assessments and financing, and developing innovative financing mechanisms. In this respect, the Commission has already increased synergies between Development and Humanitarian policies and an important step has been the adoption of the Communication "The EU approach to Resilience: learning from Food Security Crises"⁶⁵, which reaffirms the role of DRR as a driver of resilience and sustainable development.

In this context, special attention is paid to disaster-prone regions and to least developed and highly vulnerable countries and groups. In order to respond efficiently to the multiple causes of disasters that has hit the Horn of Africa and the Sahel, the Commission has produced two targeted initiatives: the SHARE initiative (Supporting the Horn of Africa's Resilience) and the AGIR Sahel initiative (Alliance Globale pour l'Initiative Resilience Sahel) to strengthen the resilience of the most vulnerable populations as a joint humanitarian and development approach covering short-term response and long-term development needs.

DRR and resilience to climate change are also increasingly integrated into EU regional strategies (for example, the Northern Dimension, European Neighbourhood Policy, EU-Africa Strategy, Barcelona Process, Black Sea Synergy, EU-Central Asia Strategy and the Middle East Action Plan).

⁶⁴ The Hyogo Framework for Action (HFA) was adopted by 168 United Nations Member States in 2005 at the World Disaster Reduction Conference. There is an ongoing consultation process which should lead to a new HFA framework in 2015 where one of the key issues to be addressed are the strengthened links between disaster risk reduction, climate change adaptation, sustainable development and resilience. The current priorities of the HFA (2005–2015) are:

- ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation;
- identify, assess and monitor disaster risks and enhance early warning;
- use knowledge, innovation and education to build a culture of safety and resilience at all levels;
- reduce the underlying risk factors;
- strengthen disaster preparedness for effective response at all levels.

⁶⁵ COM(2012) 586 final

Under its aid cooperation programmes, the EU provided developing countries with support of around €355 million for climate change adaptation and DRR between 2007 and 2010, from both its humanitarian and development budgets. Under its humanitarian budget, the Commission funding for DRR and adaptation has significantly increased (i.e. funding under the Disaster Preparedness by ECHO (DIPECHO) Programme has increased from €6 million in 1996 to €35 million in 2012). In more general terms, the annual direct investment by EU humanitarian action in DRR, which includes but is not limited to the DIPECHO Programme, accounts for around 15 to 20% of its budget (2012 estimate).

4.2.2. *Increasing resilience to climate change and environmental degradation*

Disaster risk reduction and adaptation measures aim to mitigate the impacts of climate change and environmental degradation and minimize instances of migration related to these phenomena. Adaptation options include for instance:

- Behavioural change at the individual level, such as the sparing use of water in times of drought or the adoption of drought tolerant breeds and species of livestock
- Protective actions, such as the replenishment of sand and the construction of sea walls in coastal areas affected by sea level rise
- Promotion of ecosystem management practices, including biodiversity conservation to reduce the impacts of climate change on people
- The enactment of appropriate policies, the creation and/or strengthening of appropriate institutions to implement these policies such as re-building restrictions in areas affected by sea level rise

Sustainable development, disaster risk reduction and climate change adaptation are closely integrated as required by the outcome from the Rio+20 Summit and the required follow-up. The environment and climate change should also be fully integrated in country profiles, migration profiles and sectoral strategies, paying special attention to the most vulnerable regions and potential climate security hotspots, and should prepare the ground for further examination of the security implications of climate change for partner countries. Moreover, environmental protection requirements must be integrated into the definition and implementation of EU policies and activities, in particular with a view to promoting sustainable development⁶⁶.

Substantial contribution to disaster risk reduction and adaptation to slow environmental degradation can be made via actions in water management (the EU Water Initiative and the EU-ACP Water Facility), agriculture, biodiversity, forests, desertification energy, health, social policy (including gender issues), research and coastal erosion.

In relation to its external aid cooperation, since 2001 the Commission has been implementing its environmental integration strategy, updated in 2009 to better take into account climate change, which outlines how the EU can best help developing countries to respond to environmental challenges whilst reducing poverty. Based on this strategy, the Commission has developed methods and practical tools to improve mainstreaming of the environment and climate change in projects and programmes with developing countries. A training programme for Commission and Member States' staff and for staff from the ministries concerned in

⁶⁶ Article 11 of the TFEU.

developing countries has backed up these efforts. A set of guidelines on mainstreaming the environment and climate change is available on-line⁶⁷.

At operational level, it is important to build on past experience in areas already affected by climate change (Sahel, Bangladesh, etc.) Adaptation programmes like **Advancing Capacity to Support Climate Change Adaptation (ACCCA)**⁶⁸, based on the experience gained in pilot schemes implemented in 12 affected countries, appear to be very useful tools, which are designed to communicate climate risk information to decision-makers in clear terms, to address climate risks and adaptation in an integrated, multidisciplinary way and to engage stakeholders from scientific and policy communities.

The **Global Climate Change Alliance** launched in 2008 between the EU and the most vulnerable developing countries can also be mentioned as a major initiative. Based on two pillars: policy dialogue and implementation, the GCCA has already led to three regional conferences, over 20 international training seminars and over 35 country or regional programmes, implemented or under preparation. This valuable experience, including programmes merging DDR and adaptation strategies, should be built upon.

4.3. Responding to the challenges and opportunities posed by migration in the context of environmental degradation and climate change

Migration will continue in the context of climate change and environmental degradation, posing challenges and opportunities for receiving and sending countries. On the one hand, this chapter argues that migration has the potential to contribute to adaptation in a number of ways. This potential should be fully exploited, including through measures to promote well-managed legal mobility, and support migrants in strengthening the resilience of their communities of origin. On the other hand, the fact that the environmentally induced displacement linked to both sudden-onset and slow-onset environmental changes will inevitably continue must be recognised. Measures will therefore be required to assist the displaced, including through emergency responses in cases of sudden-onset disasters, and to find durable solutions.

This chapter considers challenges and possible measures in each of these areas. It begins by looking into emergency responses to sudden-onset events, and continues by addressing measures to promote and facilitate migration as a strategy to promote adaptation and disaster risk reduction. Thereafter, initiatives to provide durable solutions for the displaced are addressed, including the potential of relocation measures to assist 'trapped populations' and reduce the potential for unplanned displacement or irregular migration. Finally, the needs and challenges facing host communities receiving migration in the context of environmental change are considered.

4.3.1. Improving emergency responses

Under its humanitarian budget, the Commission provides significant humanitarian aid to persons displaced by natural disasters. Even though prevention is better than cure, in many cases emergency response is needed to assist and protect victims of natural disasters. The success of humanitarian aid also depends on response and delivery capacity. In order to be better prepared to address large-scale, sudden-onset disasters, humanitarian and civil protection actors should invest more in planning and pre-positioning key relief supplies, improving humanitarian logistics and better training and deployment of staff.

⁶⁷ http://www.enpi-info.eu/main.php?id=316&id_type=9.

⁶⁸ For further information, see: <http://www.acccaproject.org/accca/?q=node/1>.

In addition, a Civil Protection Mechanism was established in 2001⁶⁹ to support and facilitate the preparation and deployment of Member States' in-kind assistance (teams, experts and equipment) to countries requesting international civil protection assistance in major emergencies of all kinds, natural and man-made, within and outside the Union.

Since extreme weather events are likely to become more frequent and will displace people more frequently, better emergency response capacities are needed. Steps have already been undertaken in this regard.

The Commission's 2010 Communication '*Towards a stronger European disaster response: the role of civil protection and humanitarian assistance*' proposes a strategy for reinforcing the EU disaster-response capacity on the basis of the two main instruments for EU relief: civil protection and humanitarian aid. In December 2011, the Commission adopted a legislative proposal on EU civil protection⁷⁰ which puts increased emphasis on prevention and preparedness in addition to emergency response and introduces a number of voluntary instruments that Member States can make use of in order to increase the effectiveness and efficiency of civil protection. The system is based on exchange of information and planning, which in turn allows for pre-commitment of assets enabling targeted, speedy response, and the identification of gaps, which the Commission proposes the EU to co-finance, where such assets justify burden-sharing between Participating States. An Emergency Response Center is being set up in order to better fulfil the requirements following the increasing trend in disasters and interventions. Capacity-building to prepare for and cope with displacements resulting from sudden-onset events in high-risk areas (especially at local level) will also need to be stepped up.

4.3.2. *Promoting and facilitating migration as an adaptation strategy*

Although migration has often been portrayed as a failure to adapt, it is now increasingly also recognised as a legitimate adaptation strategy in its own right. Evidence clearly suggests that migration has the potential to contribute to adaptation in regions of origin by, for example, diversifying income sources and thereby strengthening resilience.

Furthermore, facilitating well-managed mobility and labour migration from environmentally degraded areas can represent an effective strategy to reduce environmentally-induced displacement, which is more likely to produce negative outcomes for migrants and host communities⁷¹. Where persons in communities affected by environmental degradation have the freedom to migrate to areas where economic opportunities are available, the likelihood to remain 'trapped' in a highly vulnerable situation or ending up displaced in regions with no hosting capacity is reduced. When environmentally induced migration is undertaken voluntarily, it is far more likely to produce benefits for both receiving and sending communities than displacement.

This section begins by exploring in greater depth the potential of migration to strengthen adaptation to climate change and environmental degradation in regions of origin, and possible concrete measures to exploit this potential. Thereafter, the issue of fostering greater mobility as a means of promoting migration as adaptation is addressed.

⁶⁹ It was created by a Council Decision 2001/792 which was later repealed by Council Decision 2007/779/EC, Euratom of 8 November 2007 establishing a Community Civil Protection Mechanism (recast). There is an ongoing reform of the Civil protection legislation which aims to further strengthen and improve the Mechanism.

⁷⁰ Proposal for a Decision of the European Parliament and of the Council on a Union Civil Protection Mechanism, 20.12.2011, COM(2011) 934.

⁷¹ Foresight (2011)

Migration as a Coping Mechanism for Communities of Origin

An increasing number of studies specifically document the potential of migration to contribute to the resilience of communities of origin. Remittances have frequently been cited as a useful source of capital which can diversify sources of family income, hence reducing vulnerability in a number of ways. For example, in the aftermath of natural disasters such as hurricanes, evidence suggests that remittance transfers to affected areas often increase substantially, hence reducing the need for displacement⁷². Remittances can also be used to strengthen *ex ante* preparedness in disaster-prone regions, or invested into other resilience strategies such as livelihoods diversification away from activities which are threatened due to environmental stressors.

Other frequently cited examples of the potential of migration to serve as a coping strategy include the role of both temporary and permanent migration in reducing pressures on limited environmental resources in communities of origin, and to allow access to social networks which can provide other resources such as information. Indeed, diaspora groups can play a valuable role in supporting adaptation measures through transfers of financial, social or technical resources to communities of origin. In particular, those migrants who decide to return to their country or origin can substantially contribute to increasing both personal and community resilience, through applying skills acquired during the period of migration and investing the resources earned.

Nevertheless, understanding of the relationship between migration and adaptation in communities of origin remains limited, and should be subject to further research. This should assess issues such as if and how the beneficial impacts of migration spread from households to the wider community, the ways in which migration contributes to structural modes of adaptation (e.g. through productive investment of remittances) and the potential risks of migration for those involved. The cost-effectiveness of migration as an adaptation strategy should also be compared with other modes.

Both future research and policy measures in this field must also factor in the well-documented potential negative social consequences of migration for communities. These include the negative impact on family members such as children or elderly persons left behind by migrants, and the potential for communities of origin to develop a dependency on remittances.

Reflection is also required on the policy measures which can be supported to promote the links between migration and adaptation. In this area, clear synergies exist with the experience gained by the EU since 2005 through implementing the migration and development pillar of the Global Approach to Migration, and since 2011 the Global Approach to Migration and Mobility (GAMM)⁷³. Through the GAMM the EU fully recognises that the human, social and financial capital which migrants transfer to their countries of origin can exert a positive impact on development. The Commission and EU Member States have gained significant experience in maximising the development impact of migration for countries of origin through measures such as facilitating remittance transfers, supporting the diaspora groups in becoming more effective development actors, and promoting the developmental benefits of return migration. Measures are also under development to mitigate the potential negative social consequences of migration.

⁷² For example, a World Bank study demonstrated that following a 2003 hurricane in Jamaica, remittance-receiving households recuperated up to a quarter of their hurricane-related losses through increased remittance transfers. See Clarke, G., and Wallsten, S., *Do Remittances Act Like Insurance? Evidence from a Natural Disaster in Jamaica*. World Bank Development Research Group, January 2003

⁷³ COM(2011)743 final

However, until now limited attention has been paid under the EU migration and development agenda to the links between migration and resilience to climate change. Ways should be explored to promote these links in future migration and development initiatives. For example, the Commission will consider how to ensure that future initiatives to facilitate remittance transfers better take into account the needs of regions suffering environmental degradation, including in the aftermath of sudden-onset disasters. Measures to promote the development impact of remittances should also address the objective of ensuring that remittances are invested into adaptation strategies, by for example providing information to receiving communities on ways of using financial transfers to increase resilience. The same goes for EU and Member State measures to support the engagement of diasporas in development activities, and to promote return, which could be more targeted towards migrants and diaspora groups that possess skills and resources which could strengthen adaptation in their communities of origin.

This potential of migration to serve as a coping strategy could also be highlighted to partner countries through on-going political dialogue initiatives on both migration and climate change adaptation. Under the GAMM, the EU is engaged in a number of bilateral and regional migration dialogues with key partners throughout the developing world. The relevance of climate change and migration for the GAMM framework has already been recognised and measures to facilitate migration as an adaptation strategy could therefore receive greater attention under GAMM dialogues with countries or regions which are particularly vulnerable to climate change. At global level, measures to facilitate 'adaptive migration' could also be further considered in broad migration and development fora such as the GFMD.

The EU could also consider how to further integrate migration-as-adaptation into broader efforts to promote climate change adaptation, by for example supporting partners in introducing a migration dimension to their national adaptation planning.

Fostering Greater Mobility to Promote Migration as Adaptation

As noted above, **fostering mobility and facilitating labour migration** can greatly contribute both to creating opportunities for individuals to take advantage of the potential of migration to boost adaptation, and to reducing environmentally induced displacement. Though each context is different, this statement applies both to the promotion of mobility within states (e.g. rural-urban migration), and to international migration, in particular between developing countries in the same region.

Given the similarities between environmentally induced migration and other types of migration flows, current experiences indicate that there is no need to 'brand' measures to promote mobility as specifically targeting a certain type of migrant for them to facilitate the use of migration as adaptation. Indeed, as demonstrated below, some of the most successful examples of schemes which have promoted migration as adaptation have been set up as 'ordinary' labour migration schemes.

Regarding internal mobility, measures to facilitate existing migration trends and promote their development impact may prove beneficial. These may include supporting developing countries in planning for increased mobility, strengthening infrastructure or transport links, and supporting host communities (see 4.3.4 on the latter).

As regards the facilitation of international population movements, the Commission has already implemented numerous relevant measures as fostering well-managed international mobility and better organising legal migration are recognised as one of the four 'pillars' of the GAMM. Many of these have focused on promoting circular migration schemes. In addition, both the GAMM and the 2011 Agenda for Change on Increasing the Impact of EU

Development Policy⁷⁴ call on EU to promote inter- and intra-regional mobility in developing regions. The Commission therefore aims to significantly step up its efforts to promote the development impact of South-South migration in the coming years through EU development cooperation. For example, a 26 million EUR initiative to promote implementation of the ECOWAS 1980 Free Movement Protocol was recently launched (for further consideration of ECOWAS see section 4.1.7.) In light of these synergies, the Commission will explore how future initiatives on labour migration and mobility could be more specifically targeted towards regions at risk of climate change or environmental degradation.

Such measures should build on the experience gained with a number of relevant labour migration schemes which have already been implemented both by the EU and its Member States and by non-EU countries. They have been developed in different contexts which demonstrate that greater mobility can promote the use of migration as adaptation in a vast range of scenarios.

In this regard, the EU-funded *Temporary and Circular Labour Migration* (TCLM) agreement between Spain and Colombia can serve as a model. It had a strong migration and development component and targeted communities affected by recurring environmental disruptions (such as volcanic eruptions, drought and floods). The programme was initiated by a federation of employers from the region of Catalonia in 2001 to fill gaps in the agricultural sector. The IOM implemented a project from 2006 to 2009, funded under the EU AENEAS programme⁷⁵, which sought to strengthen the model, notably the development effects for the migrant workers' communities of origin. One of the criteria for selecting communities of origin was their vulnerability to natural disasters.

Equally interesting is the New Zealander labour migration policy for Pacific islands. Since 2007, the *Recognised Seasonal Employer* (RSE) Programme permits short-term migration to solve a labour shortage in the agricultural sector. It includes a development component. In addition, the *Pacific Access Category* (PAC) allows limited permanent labour migration. This agreement, concluded in 2001, allows up to 75 citizens of Kiribati, 75 citizens of Tuvalu and 250 citizens of Tonga (including their partners and dependent children) to be granted residence in New Zealand each year⁷⁶. However, although targeting countries seriously affected by sea-level rise and extreme weather events, these schemes do not make any mention of the threat of climate change.

The specific case of pastoralists in the Horn of Africa is also worth mentioning, as for this group of persons limits on cross-border mobility can increase their vulnerability to environmental change, with negative security implications. In this context the *Security in Mobility Initiative* (SIM) launched in 2009 by a consortium of international organizations (OCHA, UNEP, IOM and ISS) is a best practice example for intra-regional cooperation. The project acknowledges mobility of pastoralist communities in the Horn and East Africa as an

⁷⁴ COM(2011)637final

⁷⁵ MIGR/2006/120-237

⁷⁶ Some criteria need to be fulfilled. The registration form for the Pacific Access Category (<http://www.immigration.govt.nz>) requires that: 'applicants possess citizenship status for Kiribati, Tuvalu, Tonga or Fiji; are aged between 18 and 45; have an acceptable (permanent, full-time, genuine, and paid by a salary or wages) offer of employment in New Zealand; have a minimum level of skills in English language; have a minimum income requirement if the applicant has a dependant; exhibit certain health and character requirements; and have no history of unlawful entry into New Zealand since July 1, 2002',

adaption strategy to climate change and advocates for regional cooperation to facilitate peaceful cross-border movements seeking to reduce and prevent localised conflicts⁷⁷.

The development of such migration schemes often requires the adoption of '**flanking measures**' to support mobility, such as:

- equipping younger rural generations with mobile skills,
- improving access to markets and transport systems,
- harmonising laws at regional level to address inconsistencies and inadequacies in the land tenure systems,
- involving civil society organisations and local governments in discussions on migration and climate change or
- addressing migration governance issues (at local, national, regional and international levels).

4.3.3. Providing durable solutions, including planning for relocation as a last resort solution

Environmentally induced displacement can take a broad variety of shapes. Frequently displacement will be linked to sudden-onset disasters such as hurricanes, in which case it will be spontaneous and will trigger emergency responses which should focus on allowing persons to return home as soon as possible. For other cases, especially following slow-onset environmental degradation, more gradual forms of displacement may occur which can be longer-term or permanent. Where displacement occurs, it is essential to provide assistance to the displaced, safeguard their rights, promote efforts to find durable solutions and, in particular in cases of protracted displacement, consider the needs of host communities (see point 4.3.4 on the latter point).

Policy and operational responses will significantly differ depending on the causes of displacement, the intentions of affected communities, the national policy frameworks, the coping capacities of hosting regions/countries and the likelihood of return. Where environmentally induced displacement remains internal, states have a clear responsibility to assist migrants and address their long-term needs. As mentioned above in section 4.1, for cases of international displacement, there is much scope for action under existing migration-related frameworks.

The revised Framework on Durable Solutions for Internally Displaced Persons, endorsed by the Inter-Agency Standing Committee in December 2009⁷⁸, establishes that a durable solution is achieved when migrants no longer need specific assistance and protection linked to their displacement and can enjoy their human rights without discrimination resulting from their displacement. The Framework underlines that a durable solution can be achieved by any of three settlement options: sustainable reintegration at the place of origin (return); sustainable integration in areas where IDPs have taken refuge (local integration); or sustainable integration in another part of the country (settlement elsewhere). The Framework outlines eight criteria to be considered in determining the extent to which a durable solution has been achieved. None of them explicitly refers to environmentally induced displacement, but three of the eight relate indirectly to such migrants. These are:

⁷⁷ OCHA & al, Security In Mobility: “Advocating for Safe Movement as a Climate Change Adaptation Strategy for Pastoralists in the Horn and East Africa”, June 2010

- long-term safety, security and freedom of movement;
- adequate standard of living, including at least access to adequate food, water, housing, healthcare and basic education;
- land and property or adequate compensation.

These three criteria are useful and might serve as a preliminary checklist for durable solutions for environmentally induced migrants. However, another two criteria are also essential:

- sufficient carrying capacity of the ecosystems that the migrants now rely on (in terms of food and water supply and of land and natural resource degradation over the long term);
- vulnerability of the new location considering previous, and possible future, climate-change-related natural disasters.

Although not specifically targeting environmentally induced migrants, the EU has been active in helping communities to find sustainable solutions for displaced people, in particular refugees. Some of these initiatives, if adequately adapted, might serve as a useful model to apply to environmentally induced displacement. One such initiative targeting refugees are the Regional Protection Programmes (RPPs) that comprise two main components: measures to enhance the protection capacity of non-EU countries where refugees are hosted as well as support to offer durable solutions to refugees, such as local integration, voluntary return and resettlement (including towards the EU). Such an RPP has been launched, amongst other places, in the Great Lakes Region. The EU has also provided support to displaced populations in the Caucasus, Asia (Burma, Nepal, Sri Lanka and the Philippines) or Latin America (Colombia) with the aim, amongst other things, of building up the capacity of local authorities to integrate refugees and displaced populations. Lessons learned from projects implemented in that framework clearly highlight the need for a comprehensive response to the needs of long-term displaced people. One of the main challenges is to find integration solutions for these populations, without affecting the livelihoods of host communities or creating imbalances between each group's living conditions.

Planned relocation as a last resort solution

Within on-going debates on climate change and migration, significant attention is often given to planned relocation measures as potential durable solution for communities which are particularly at risk from environmental degradation. The Foresight study has defined relocation as 'the movement of people, typically in groups or whole communities, as part of a process led by the state or other organisation, to a predefined location'⁷⁹.

Prior experience shows that relocation schemes frequently have a high human cost, and few successful examples exist. They therefore represent a last resort solution, and must be implemented on a voluntary basis (i.e. persons in targeted communities must be free to refuse participation in the schemes), based on careful planning. Relocation may nevertheless become a necessity in certain scenarios.

For example, for 'trapped populations', or persons in communities severely affected by environmental degradation but lacking the resources to either adapt or migrate, facilitating relocation may prove vital in removing persons from vulnerable situations and preventing potential unorganised displacement. Planned relocation can also be considered an option in itself for countries facing the risk of parts of their territory being inundated by sea water or becoming environmentally unsustainable due to desertification. Some researchers have

⁷⁹ Foresight(2011), p. 176

pointed out that the most vulnerable and poorest populations, especially if geographically isolated, are less likely to find a way to move out of an environment where a survival livelihood is no longer guaranteed⁸⁰.

Relocation could also be considered following cases of environmentally induced displacement to host communities which lack the capacity to provide a durable solution for some or all of the displaced. Similarly to resettlement of refugees, this may be a way to lighten the burden on host communities and to increase the commitment of local authorities to protecting persons at risks who are not selected for relocation. This might also be the only sustainable solution in some contexts, especially for host communities where resources are already scarce.

The EU should therefore consider supporting countries severely exposed to environmental stressors to assess the path of degradation and design specific preventive internal, or where necessary, international relocation measures when adaptation strategies can no longer be implemented. Consultations with authorities at not only national but also regional and international levels are required in order to assess the most viable and sustainable solution for relocation. The experience amassed by the EU and its Member States in the process of supporting and implementing their own resettlement programmes could prove useful and enable the EU to play a role in supporting non-EU countries' efforts to use relocation in managing environmentally induced migration.

Planned relocation of populations has been used in the past also to allow implementation of development programmes, such as dams or urban reorganisation. But it might take on larger proportions in the future. Guidelines for resettlement, such as those prepared by the World Bank⁸¹, could be useful to avoid weakening the displaced communities even more. The Cancun Adaptation framework also specifically mentions planned relocation as a means to ensure that populations exposed to risks can be brought to safety. This must imply careful evaluation of the socio-economic, demographic and environmental situation, consultations with local communities and national authorities as well as compensation and assistance schemes.

Designing an appropriate and durable relocation strategy has to take into account a number of issues. The case study carried out on Mozambique in the 'EACH-FOR' project illustrates some of the challenges, such as the need to provide not only housing but also alternative sources of income in destination areas. It reported that people relocated after regular flooding in the area of the River Zambezi often had to go back to their homes temporarily, as cultivating their fields was the only way they could support themselves. Moreover, attention needs to be paid to social, cultural and religious aspects, as for multi-generational families moving out of an open village to a confined space can have a deep impact on the relocated persons and the host communities. The impact of the relocated persons on the local environment should not be underestimated, as often the host communities also suffer from difficult conditions. In Mozambique relocated migrants were placed in dry areas, often suffering from excessive droughts.

4.3.4. Addressing the needs of receiving areas and hosting communities in EU partner countries

Measures to address environmentally induced migration and displacement must adequately factor in the situation and needs of host communities if they are to be sustainable. As noted in Section 2, research suggests that many environmentally induced migrants may head to destination areas which are themselves at risk from the adverse effects of climate change.

⁸⁰ Jäger et al. 2009. EACH-FOR Synthesis Report. www.each-for.eu.

⁸¹ <http://rru.worldbank.org/documents/toolkits/highways/pdf/91.pdf>.

Therefore, in designing schemes to improve mobility or promote relocation or in the context of climate change, it is necessary to take into account the environmental sustainability of potential locations to which migrants might move.

Furthermore, it is necessary to ensure that, where possible, migration produces benefits for the host communities, which will also allow migrants to accumulate financial and social capital which can be shared with communities of origin. Where this cannot be achieved, such as in cases of environmentally induced displacement to regions facing economic or social hardship, measures may be necessary to reduce potential tensions between the displaced and host communities, who may resent increased pressure on scarce resources.

It appears that **environmentally induced migration flows do not present any real specificities compared to other forms of migration or displacement in terms of their impact on host communities**. Therefore, current best practice measures in promoting the economic and social integration of migrants and supporting receiving communities in managing challenges related to population inflows such as urbanisation are likely to be effective.

As part of its migration and development agenda, the Commission aims to support integration measures for migrants in countries of destination in the Global South, including by sharing EU best practice⁸². Integration measures and development strategies of hosting countries could aim to maximise the development potential of all persons moving in the context of climate change, including the displaced, for whom economic livelihood opportunities may not be immediately available.

Migration to urban centres

Migration in the context of climate change will exacerbate the existing challenges in urban areas in low-income countries as they will most likely be the destination of environmentally induced migrants. Cities will face a double problem as they are both growing in terms of population and are extremely vulnerable to environmental change. The EU should therefore consider how cities can be assisted in planning for increased migration in order to meet the needs of all current and future residents. Providing infrastructures and services (e.g. health, education...) in urban centres will become an even more challenging issue in the future. Effective urban planning and land use will be crucial. In addition, it will be even more important to address the social protection needs of migrants in cities. The role of civil society will be essential in this regard.

5. FINANCIAL ASPECTS

This paper has identified a large number of practical measures which may contribute to effectively meeting the challenges posed by the nexus between climate change, environmental degradation, disaster risk reduction and migration. Given that many of the most affected states will be low- and middle-income countries with limited resources to meet these challenges, the financial resources to implement necessary measures will frequently be lacking. Therefore a need exists to consider possible funding sources.

The existing EU financial framework already allows support to partner countries in many of the areas addressed by this paper, including strengthening adaptation and DRR, and promoting more effective international migration governance. So far, only a limited number of EU-funded initiatives have been explicitly labelled as targeting challenges posed by climate change and migration. Nevertheless, numerous initiatives which the Commission has

⁸² EC Staff Working Paper on Migration and Development, 18.11.2011. SEC(2011) 1353 final

already financed can be considered as relevant, in particular in the area of promoting adaptation to reduce displacement. Relevant funding sources include the EU's research programme⁸³, the EU budget for humanitarian aid, and the various thematic and geographic instruments for external cooperation, which are the main potential sources for initiatives on partner countries on migration.

Addressing the social and development impacts of climate change is a rising issue in bilateral dialogues between the EU and some of the most exposed countries in the world, especially in southern Asia, Africa and the Pacific region. A number of measures to promote DRR and strengthen adaptation have been funded under both the EU humanitarian budget, and its development funds.

The EU's bilateral development assistance under geographic funds (the European Development Fund, the Development Cooperation Instrument and the European Neighbourhood Policy Instrument) is programmed in close coordination with partner countries on the basis of joint priorities identified through political dialogue, in line with EU commitments to aid effectiveness principles. The climate change and migration nexus is not yet specifically mentioned in EU Country Strategy Papers, which are the basis for the disbursement of EU geographical funds, though relevant adaptation-related projects have been financed⁸⁴. The growing relevance of this topic for the EU's relations with some non-EU countries may lead to the topic being integrated as a priority in future programming, especially if partner countries request this in their bilateral dialogue with the EU.

Regarding the Commission's thematic development funding, the Global Climate Change Alliance is the key EU instrument for engagement with partner countries on climate change, in particular least developed countries and small island developing States. The total funding for the period 2008-2011 amounted to 200 million EUR, including 74 million Fast Start Financing from Commission and MS. GCCA combines (i) A platform for dialogue to raise awareness of issues and identify areas of cooperation at global, regional and national level and (ii) Technical and financial support. Particularly relevant areas of funding include:

- Adaptation: Water, agriculture, reducing vulnerability of populations to climate change
- Disaster risk reduction (DRR): The GCCA seeks to help developing countries to prepare for climate-related natural disasters, reduce their risks and limit their impacts.
- Mainstreaming climate change into poverty reduction and development efforts

Under the DCI, the Thematic Programme for Migration and Asylum is dedicated to cooperation with non-EU countries in the area of migration, complementing the geographical programmes. The strategy for this programme for 2011-2013 includes migration and climate change as one of the priority areas for action, and the topic was included as a priority in the call for proposals launched in October 2011⁸⁵. A particular focus on research to strengthen evidence base and assistance to Asia and Pacific countries to plan and manage migration caused by sea-level rises was included.

⁸³ Several relevant research initiatives have been funded under the 7th Framework Programme for Research and its predecessor,

⁸⁴ Example: Country Strategy Paper for Bangladesh.

- EU is fifth biggest donor. Country allocation 2008-13: 410 million EUR
- Identifies priorities on health, human rights, private sector etc.
- Identifies indicative allocation of 12% of funding for environment, disaster risk reduction and climate change

⁸⁵ The Temporary and Circular Labour Migration Project mentioned above was funded under the predecessor of TPMA

Given the wide range of relevant financial instruments at EU level, the Commission will explore how relevant funds can be used to address the complex issues underlying migration and climate change in a more coherent and coordinated manner, including under the future financial perspectives for 2014-2020.

6. CONCLUSIONS AND RECOMMENDATIONS

The complex interplay between drivers of migration and the difficulty of isolating climate and other environmental changes as such make it difficult to make precise estimations regarding migration in the context of climate change. Nevertheless, existing evidence clearly suggests that where environmental change impacts on migration, its effects will be felt primarily in the developing world, with migrants moving either internally or to countries in the same region. New large-scale international population movements to developed regions such as the EU are therefore unlikely to occur.

As shown in this paper, migration in the context of environmental change will present both major challenges and opportunities. Different types of environmentally induced migration and displacement call for different approaches and policy responses. The Commission already possesses many of the tools necessary to meet challenges such as promoting adaptation to reduce the need for migration and assisting those displaced by sudden- or slow-onset environmental events. The EU also has experience in implementing measures which could promote the use of migration as a climate change adaptation strategy and an opportunity for migrants, their families and countries of origin. The Commission and Member States should therefore reflect how existing measures identified in this paper could be better coordinated and targeted to form a comprehensive response to the challenges posed by climate change and migration. Joint reflection on the need for possible new measures should also continue together with partner countries and other international actors.

The following steps seem important for building a policy to address environmentally induced migration:

Knowledge:

- **More EU research** on all aspects of environmentally induced migration and displacement, focusing on the priorities addressed in section 2.3. This should include support to the research capacities in regions of origin.
- Integration of data relevant to migration in the context of climate change into relevant EU instruments, such as **migration and environmental profiles**. Moreover, development of global information systems that not only generate and process data, but also **communicate** relevant data to policy-makers and politicians at all levels in such ways that the data can be incorporated into EU, Member States' and non-EU countries' development plans could help to bridge the gap between current needs, current knowledge and the action required to mitigate and adapt to the effects of environmental change on migration.

Dialogue:

- Environmentally induced migration can be more frequently put on the agenda of EU dialogue with the partner countries affected or likely to be affected, including under the **Global Approach to Migration and Mobility**. In this vein, the EU might contribute to enhancing coherence within **the EU climate diplomacy mechanism**.
- Further discussions in international fora on an appropriate **legal and institutional framework**, based on the principle that responses are flexible, individualised and

tailor-made, especially at regional level.

Cooperation:

- While addressing environmentally induced migration is principally a matter for the **EU development and humanitarian aid policies**, there is also a need to strengthen policy coherence at the EU level.
- The remit and scope of EU action on **climate-change and disaster risk reduction** need to be widened in order to include environmentally induced migration from a longer-term perspective
- It is important to integrate climate change adaptation (and, where appropriate, mitigation) deeper into national **sustainable development strategies**, linking disaster risk reduction, disaster risk management and climate change adaptation strategies, and to consider including migration dimensions into existing tools such as the National Adaptation Programmes of Action, Poverty Reduction Strategy Papers and the United Nations Development Assistance Framework.
- A number of tools developed under the EU's **Global Approach to Migration and Mobility** could be better targeted to more directly address the challenges of migration in the context of environmental change. This includes, in particular, measures under the GAMM and Agenda for Change to promote well-managed South-South migration and regional mobility, and measures to provide assistance and durable solutions to displaced persons. Moreover, action under the GAMM **migration and development** pillar, in particular with regard to relations with the diaspora and facilitating remittances, could, where relevant, be refocused to better promote migration as adaptation.
- The EU should promote the involvement of **multiple stakeholders**, particularly the diaspora, social organisations, local authorities and the private sector in order to ensure addressing the challenge of environmentally induced migration in a comprehensive and sustainable way.