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**Analysing environmental migration and
displacement from a legal and geographical
perspective and the use of migration as a
possible adaptation strategy**

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Abstract

Il pilastro di questa tesi consiste nel riconoscere un legame tra i cambiamenti ambientali e climatici e le migrazioni, che si concretizza nel fenomeno della migrazione e dello sfollamento ambientale, il tema centrale di questo lavoro. Può essere definito come il movimento di individui, gruppi di persone o anche intere comunità che si spostano all'interno del proprio paese o all'estero, volontariamente o per obbligo, prevalentemente per via di cambiamenti improvvisi o gradualmente nell'ambiente che incidono in maniera nociva sulle loro condizioni di vita o mezzi di sussistenza.

Il degrado ambientale e il cambiamento climatico sono sempre stati tra i principali motori di migrazione, ma la consapevolezza politica di questo legame è solo agli albori. Questo tema sta acquisendo sempre più importanza al giorno d'oggi, soprattutto per le sue implicazioni di governance; per questo motivo è stato scelto come il fulcro del presente lavoro. Dal momento che la migrazione e lo sfollamento ambientale sono già in atto, anche se sono concentrati in alcune aree del mondo che sono tipicamente quelle più colpite dai cambiamenti climatici, e dal momento che si prevede che aumenteranno con l'inasprirsi degli impatti del cambiamento climatico, è fondamentale esplorare questo fenomeno in tutti i suoi aspetti e da diversi punti di vista.

Nel contesto del cambiamento climatico e del degrado ambientale, la tradizionale narrativa sulla migrazione è quella pessimistica: i migranti sono descritti come un problema e la migrazione è generalmente percepita come l'esito negativo degli effetti del cambiamento climatico, un risultato che deve essere evitato a tutti i costi. Nei dibattiti politici sulla questione, molto spesso gli svantaggi della migrazione per i paesi di accoglienza sono quelli più enfatizzati, soprattutto in termini di coesione sociale e sicurezza. Infatti, quando studi preliminari hanno previsto future "ondate di rifugiati ambientali", hanno innescato un acceso dibattito sui problemi relativi alla sicurezza insiti nella migrazione ambientale, soprattutto nei paesi sviluppati del Nord del mondo, preoccupati per il potenziale arrivo di milioni di persone dalle regioni meno sviluppate (e più colpite dal cambiamento climatico).

Tuttavia, questa tesi si promette di trasmettere un'idea diversa. Esiste un bisogno urgente di una nuova narrazione sul tema della migrazione, che riconosca i benefici

che la migrazione può apportare sia alle comunità di origine che a quelle di destinazione, che sia in grado di cogliere il potenziale della migrazione come strategia di adattamento al cambiamento climatico. È proprio questo il secondo tema centrale di questo lavoro: la migrazione è già usata, e lo sarà sempre di più in futuro, come uno strumento di adattamento. Studiare questo argomento è fondamentale in quanto consente di superare la visione datata della migrazione come “il peggior incubo” che i governi devono affrontare e abbracciare invece un punto di vista positivo che riconosca che la migrazione, se ben pianificata e gestita, può essere vantaggiosa per tutti e può aiutare a sviluppare la resilienza e ad adattarsi a cambiamenti ambientali e climatici avversi.

Nello specifico, questa tesi si prefigge due obiettivi: il primo scopo è esaminare il fenomeno della migrazione e dello sfollamento ambientale da due diverse prospettive, quella giuridica e quella geografica, mentre il secondo obiettivo è esplorare l’uso della migrazione stessa come potenziale strategia di adattamento al cambiamento climatico e al degrado ambientale, con l’intento di sostenere una visione della migrazione come una possibile risposta e soluzione.

Per raggiungere gli scopi indicati, nel presente lavoro l’analisi verrà sviluppata in tre capitoli. Il primo è un capitolo introduttivo, dedicato allo studio del nesso tra migrazione e ambiente. Si prevede di raggiungere il primo scopo della tesi nel secondo capitolo, dedicato alla prospettiva giuridica, e nella prima sezione del terzo capitolo, incentrata sulla prospettiva geografica. Invece si prevede di raggiungere il secondo obiettivo del lavoro nella seconda e terza sezione del terzo capitolo. Queste sono dedicate specificamente allo studio della migrazione come possibile strategia di adattamento, con la presentazione di un case-study incentrato sul Kiribati che, con la sua ‘Migration with Dignity Policy’, rappresenta un perfetto esempio della pianificazione a livello nazionale dell’uso della migrazione come mezzo per adattarsi agli effetti dannosi del cambiamento climatico.

Scendendo nel dettaglio, la prima sezione del primo capitolo esplora tre aspetti critici che dimostrano l’importanza del legame tra migrazione e ambiente, ovvero il cambiamento ambientale come motore della migrazione, il cambiamento climatico come ‘moltiplicatore di minacce’ e l’immobilità nel contesto di condizioni ambientali difficili. Qui devono essere sottolineati diversi punti.

Innanzitutto, il cambiamento ambientale e climatico molto spesso non è l'unico fattore scatenante della mobilità, ma si combina con gli altri driver economici, politici, sociali, culturali. In particolare, molti studi sottolineano che il cambiamento climatico ha un effetto indiretto sulla migrazione attraverso le sue ripercussioni sulle possibilità di conflitto, sui rischi per la salute e su variabili economiche come reddito, opportunità di mezzi di sussistenza e sicurezza alimentare. Si dimostra che questa difficoltà di isolare il driver ambientale dalle altre cause profonde delle migrazioni è, tra le altre cose, alla base del problema di proporre una definizione di migrazione ambientale accettata dall'intera comunità internazionale e di concedere protezioni a questo tipo di migranti.

In secondo luogo, è ora riconosciuto che il cambiamento climatico agisce come un 'moltiplicatore di minacce', nel senso che si combina con altri fattori e ha il potenziale per intensificare un'ampia gamma di rischi per la sicurezza, esacerbando così i driver alla base dei conflitti, soprattutto nei paesi in via di sviluppo.

Terzo, il cambiamento ambientale può anche portare a livelli significativi di immobilità. Infatti, le popolazioni colpite potrebbero subire un calo del capitale stesso necessario per migrare. Di conseguenza, in futuro milioni di persone non potranno lasciare delle aree in cui sono estremamente vulnerabili ai cambiamenti ambientali e climatici, diventando così 'popolazioni intrappolate'. Allo stesso tempo, la decisione di rimanere piuttosto che migrare può anche essere volontaria. Le persone possono scegliere di restare perché credono che, rispetto ad altre alternative, questo garantirebbe loro un futuro migliore.

In seguito, la seconda sezione presenta alcune statistiche e previsioni sulla migrazione e lo sfollamento ambientale, mostrando le difficoltà delle stime attuali e future. Una cifra precisa è difficile da stabilire per diverse ragioni. Ciò implicherebbe, in primo luogo, l'esistenza di una definizione precisa internazionalmente riconosciuta per questi migranti e, in secondo luogo, la possibilità di isolare il driver ambientale. Un'altra difficoltà è poi legata al fatto che questa cifra comprende sia la migrazione volontaria che quella forzata, sia quella temporanea che quella prolungata.

Per quanto riguarda la valutazione degli sfollamenti all'interno dei paesi, l'attività dell'Internal Displacement Monitoring Centre è di notevole importanza, però si concentra solo sugli sfollamenti causati da disastri naturali. Invece, nel campo delle

migrazioni o degli sfollamenti transfrontalieri che si verificano a causa di disastri o fenomeni ambientali a lenta insorgenza, a livello globale non esistono ancora dataset completi ed esaurienti.

Per quanto riguarda le previsioni, la maggior parte di esse condivide due caratteristiche: una metodologia fragile o assente e la tendenza a gonfiare i numeri. Il capitolo cita diverse predizioni famose, a partire dalla prima fornita dall'UNEP, a quelle più pessimistiche annunciate da Norman Myers, a quelle di ONG come Christian Aid. Si sottolinea che molte questioni riguardanti le previsioni del numero futuro di migranti ambientali rimangono irrisolte. Il loro principale difetto è che in genere si concentrano sul numero di persone che vivono nelle aree a rischio. Per questo motivo, sembrano essere intrinsecamente deterministiche, mentre in realtà la natura e l'entità della migrazione umana di fatto dipenderanno da una miriade di altri fattori, tra cui la crescita della popolazione globale e l'efficacia delle strategie di mitigazione e adattamento.

Infine, la terza sezione del primo capitolo esplora i concetti chiave nel quadro delle migrazioni e degli sfollamenti ambientali, come la distinzione tra migrazione volontaria e forzata, tra eventi a insorgenza improvvisa e a insorgenza lenta e tra migrazione interna e internazionale. Si dimostra che la migrazione ambientale può essere una combinazione di mobilità volontaria e forzata, dunque distinguere tra migrazione forzata e volontaria in questo contesto può essere complicato e fuorviante. Ciò risulta fondamentale perché la terminologia rappresenta il nucleo delle soluzioni politiche che possono essere adottate per regolamentare la migrazione proteggendo i diritti umani, e l'ambiguità che caratterizza le nozioni di migrazione volontaria e forzata è un altro elemento che ostacola l'introduzione di un termine giuridico concordato a livello internazionale per definire i migranti ambientali.

Questa riflessione permette un collegamento diretto con il secondo capitolo della tesi, dedicato al quadro giuridico. Qui il punto centrale è che attualmente non esiste una definizione giuridica, né una concordata a livello internazionale, per le persone in movimento a causa di fattori ambientali. Nel capitolo vengono presentate alcune definizioni alternative proposte da diversi attori per colmare questo vuoto. Tra queste, viene sottolineata l'importanza della definizione di *environmental migrants* proposta dall'OIM. Il suo scopo è concentrare l'azione politica su un fattore chiave della

mobilità umana spesso trascurato e fornire una definizione alternativa a ‘*environmental refugees*’.

Coerentemente con la nozione di *rifugiato* sancita dalla *Convention Relating to the Status of Refugees* del 1951, le persone che attraversano i propri confini nazionali a seguito, ad esempio, di una calamità naturale, anche nei casi più evidenti di migrazione forzata, non sono riconosciute come rifugiati dalla Convenzione. Nel dibattito giuridico e accademico sulla questione si è insistito su due punti principali: le catastrofi naturali non discriminano, mentre questo è un aspetto chiave della definizione di rifugiato, e l’identificazione di un persecutore nei casi legati all’ambiente è problematica. Il cambiamento climatico, il degrado ambientale e i disastri naturali non sono accettati come forme di persecuzione nel diritto internazionale. Dunque si dimostra che, nonostante le loro condizioni e necessità siano paragonabili a quelle dei rifugiati, le persone in movimento per fattori ambientali non rientrano esattamente in nessuna delle categorie previste dal regime giuridico internazionale vigente. Pertanto, i termini *climate refugee* e *environmental refugee* non hanno fondamento legale nel diritto internazionale sui rifugiati.

Il capitolo analizza poi alcuni strumenti di protezione regionali in America Latina e Africa che offrono una definizione più ampia di rifugiato, con i loro problemi di applicazione e le implicazioni di protezione. La definizione di rifugiato contenuta nella *OAU Convention Governing the Specific Aspects of Refugee Problems in Africa* del 1969, in particolare la clausola relativa a “events seriously disturbing public order”, è fondamentale in quanto è stata applicata anche in casi di cambiamenti ambientali dannosi o di disastri naturali che turbano l’ordine pubblico. Allo stesso modo, il riferimento a “other circumstances which have seriously disturbed public order” incluso nella definizione di rifugiato della *Cartagena Declaration on Refugees* del 1984 è cruciale perché potrebbe essere utilizzato per concedere lo status di rifugiato a una persona che fugge da catastrofi naturali o cambiamenti nocivi nelle condizioni ambientali in cui vive.

La prima sezione del secondo capitolo prosegue analizzando i *Guiding Principles on Internal Displacement*, importanti perché la loro definizione di sfollato interno (*internally displaced persons*) si applica anche ai casi di sfollamento interno innescato da eventi ambientali. I *Guiding Principles* prevedono inoltre una serie di protezioni

che sono cruciali nel contesto degli sfollamenti interni connessi ai disastri. Una delle più importanti è il divieto di sfollamento arbitrario, che include anche l'evacuazione arbitraria in caso di calamità (Principio 6), o l'obbligo per le autorità nazionali di considerare tutte le alternative praticabili prima di ricorrere allo sfollamento (Principio 7). La sezione completa la sua analisi con la *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa*, nota anche come *Kampala Convention*. Il capitolo esamina diverse disposizioni di questo strumento giuridico, come l'Articolo V (4), l'Articolo IV (2) e l'Articolo IV (4)(f). Questa Convenzione è eccezionalmente rilevante in quanto copre le protezioni per le persone sfollate all'interno del proprio paese a causa sia di catastrofi naturali che di cambiamenti climatici. Stabilisce anche requisiti minimi specifici per i disastri naturali e in particolare per i cambiamenti climatici. Inoltre, l'importanza di questa Convenzione è amplificata dal fatto che costituisce il primo trattato giuridicamente vincolante sugli sfollamenti interni che abbraccia l'intero continente africano.

Nella seconda sezione, il capitolo presenta una panoramica delle pietre miliari nella governance globale delle migrazioni e degli sfollamenti ambientali. La Nansen Initiative e la sua eredità, ovvero la *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change*, vengono esplorate, con un focus particolare sui loro contributi chiave. La Protection Agenda sviluppa un approccio di vasta portata allo sfollamento in caso di disastri che si concentra principalmente sulla protezione delle persone sfollate oltre confine a causa delle catastrofi naturali e degli impatti del cambiamento climatico, delineando contemporaneamente delle misure per mitigare i rischi di sfollamenti legati ai disastri nella nazione di origine. Offre inoltre un'ampia raccolta di pratiche utili che stati, entità regionali/subregionali e la comunità internazionale potrebbero utilizzare per garantire risposte più efficaci a questo tipo di sfollamento in futuro. Nel capitolo viene inoltre presentato il lavoro della Platform on Disaster Displacement, istituita per assistere nell'esecuzione delle raccomandazioni della Protection Agenda.

La sezione prosegue con l'analisi della *New York Declaration for Refugees and Migrants* del 2016, particolarmente significativa in quanto riconosce esplicitamente gli impatti nocivi dei cambiamenti climatici, i disastri naturali (alcuni dei quali possono essere causati o accentuati dal cambiamento climatico) o altri fattori ambientali come driver di migrazione. Il *Global Compact for Safe, Orderly and*

Regular Migration è fondamentale in quanto rappresenta il primo accordo intergovernativo che affronta tutti gli aspetti della migrazione internazionale con un approccio sistematico e integrato e prevede anche misure relative alla migrazione ambientale, coperte dall'Obiettivo 2 e dall'Obiettivo 5. L'Obiettivo 2, volto a ridurre i driver negativi e i fattori strutturali che costringono le persone a lasciare il proprio paese di origine, include una sottosezione dedicata specificamente alle catastrofi naturali, agli impatti nocivi dei cambiamenti climatici e al degrado ambientale. Viene preso in esame anche il *Global Compact on Refugees*, anche se qui la migrazione e lo sfollamento nel contesto delle sfide ambientali sono affrontati in modo meno esplicito. Piuttosto che dedicare una sezione separata all'argomento, la terminologia sul degrado ambientale, sul cambiamento climatico e sui disastri naturali è intrecciata nel GCR. Il fatto che il nesso tra migrazione e ambiente sia richiamato in modo più preciso ed esteso nel GCM ma non nel GCR dimostra che questo è visto come un problema che necessita di risposte nell'ambito della migrazione internazionale piuttosto che come una questione di protezione internazionale.

Il secondo capitolo si conclude con un focus sul *Sendai Framework for Disaster Risk Reduction 2015-2030*, successore dell'*Hyogo Framework for Action*. Pur garantendo continuità con il lavoro precedente, il Sendai Framework introduce diverse innovazioni, come una forte attenzione alla gestione del rischio di catastrofi piuttosto che alla gestione dei disastri, la definizione di sette obiettivi globali insieme a un risultato atteso e un obiettivo ambizioso, e anche importanti principi guida che includono l'obbligo primario degli stati di prevenire e ridurre il rischio di catastrofi. Il Sendai Framework definisce inoltre quattro aree prioritarie in cui gli stati devono intraprendere azioni mirate. Infine, il capitolo descrive il lavoro della Global Platform for Disaster Risk Reduction, riconosciuta dall'Assemblea Generale dell'ONU come il forum globale multi-stakeholder per valutare l'evoluzione dell'applicazione del Sendai Framework.

Il terzo capitolo di questa tesi esplora la migrazione e lo sfollamento ambientale da una prospettiva geografica. Nella prima sezione, il capitolo disegna una mappa mondiale di questo fenomeno, esaminando diverse aree come l'Asia meridionale, l'Africa, l'America Latina e i Caraibi. Il capitolo descrive nel dettaglio i processi ambientali a insorgenza lenta e improvvisa che si verificano in queste regioni, insieme ai modelli di migrazione che le caratterizzano. Queste regioni sono state selezionate

perché sono tra le aree del mondo che più assistono al fenomeno delle migrazioni e degli sfollamenti ambientali, per via degli effetti più gravi che il cambiamento climatico ha su queste aree rispetto ad altre regioni. Ciò si collega al concetto di ‘giustizia climatica’ introdotto nel capitolo: anche se il cambiamento climatico è un problema che minaccia il mondo intero, i paesi in via di sviluppo o quelli del cosiddetto Sud Globale ne sono colpiti in modo sproporzionato. I paesi più poveri, con un’impronta carbonica insignificante, e quindi i meno responsabili del cambiamento climatico, sono in realtà quelli che ne subiscono di più gli effetti.

Per quanto riguarda l’Asia meridionale, l’intera regione è pericolosamente vulnerabile. L’innalzamento del livello del mare e le inondazioni mettono in serio pericolo le nazioni costiere di India, Pakistan, Sri Lanka e Bangladesh. Nel frattempo, l’Afghanistan, il Bhutan e il Nepal stanno affrontando l’aumento delle temperature, lo scioglimento dei ghiacciai e la siccità, mentre la piccola ma densamente popolata isola delle Maldive deve affrontare la possibilità materiale di una completa sommersione. Non sorprende che quasi la metà della popolazione della regione - circa 700 milioni di persone - è stata colpita da almeno una calamità legata al clima nell’ultimo decennio. La maggior parte della migrazione indotta dal clima nell’Asia meridionale avviene all’interno della regione, dalle aree rurali a quelle urbane. Inoltre, uno studio del 2018 della Banca Mondiale prevede che nello scenario peggiore nella regione ci saranno quasi 40 milioni di migranti climatici entro il 2050.

In gran parte dell’Africa, la migrazione dalle aree rurali a quelle urbane ha sempre dominato i modelli di migrazione domestica. La migrazione stagionale dall’entroterra alla costa, così come la pastorizia nomade, svolgono un ruolo chiave nel salvaguardare i mezzi di sussistenza. Secondo un rapporto del 2021 della Banca Mondiale, nello scenario pessimistico i paesi dell’Africa occidentale potrebbero vedere fino a 32 milioni di migranti climatici interni entro il 2050 (il 4.06% della popolazione stimata per il 2050). Le persone lasceranno i luoghi con una minore disponibilità di acqua e una diminuzione della produttività delle colture e degli ecosistemi, nonché le zone colpite dall’innalzamento del livello del mare combinato con le mareggiate. Hotspot di immigrazione ed emigrazione climatica negli stati dell’Africa occidentale potrebbero sorgere già nel 2030 e diffondersi entro il 2050.

In America Latina sia la migrazione interna che l'immigrazione sono principalmente verso le città. Le aree urbane sono colpite da eventi a insorgenza lenta, cambiamenti nella disponibilità di acqua e scarsità di risorse naturali. Diverse zone tra le più rilevanti in termini di urbanizzazione e trasformazione economica subiranno il degrado degli ecosistemi marini. Pertanto, in Sud America, i residenti urbani piuttosto che quelli rurali hanno maggiori probabilità di essere colpiti dall'innalzamento del livello del mare. Secondo il *World Migration Report 2022* della OIM, i disastri, non la violenza e i conflitti, hanno causato la maggior parte dei nuovi sfollamenti interni in America Latina e nei Caraibi nel 2020. Inoltre, secondo uno studio della BM del 2018, nello scenario pessimistico, i migranti climatici interni in America Latina potrebbero raggiungere un picco di 17.1 milioni entro il 2050, rappresentando il 2.6% della popolazione totale nella regione.

La seconda sezione del terzo capitolo esplora l'uso della migrazione come possibile strategia di adattamento, analizzandone i potenziali vantaggi e problemi. Gli studiosi hanno sottolineato che la migrazione è da secoli una strategia di coping tradizionale. Migrare non è necessariamente un piano di ultima istanza, ma spesso è una decisione consapevole che fa parte di un progetto più duraturo volto a migliorare la capacità di affrontare circostanze ambientali avverse. Infatti, la migrazione offre opportunità per diversificare i mezzi di sussistenza, variare i redditi, diffondere il rischio familiare e inviare le rimesse ai membri della famiglia.

Il capitolo analizza i vantaggi dell'uso della migrazione come forma di adattamento da tre punti di vista: i migranti stessi, la comunità di origine e la comunità di destinazione. Tra gli aspetti più importanti, si sottolinea che le rimesse finanziarie regolarmente inviate ai parenti a casa possono aumentare enormemente la resilienza di questi ultimi al degrado e agli shock ambientali. Le rimesse sono fondamentali per lo sviluppo e la riduzione della povertà; a volte rappresentano flussi di capitali più generosi e sicuri degli investimenti diretti esteri o dell'assistenza internazionale allo sviluppo. Inoltre, anche le rimesse politiche e sociali sono cruciali per garantire il know-how e i collegamenti necessari allo sviluppo. I trasferimenti di capitali finanziari, intellettuali e sociali possono favorire l'adattamento in diversi modi, analizzati nel dettaglio nel capitolo.

Tuttavia, il capitolo sottolinea anche che la migrazione non porta necessariamente a una migliore capacità di adattamento per tutte le famiglie in tutte le situazioni; può avere anche esiti negativi, generando un aumento dell'impoverimento e della vulnerabilità. In particolare, potrebbero esserci effetti negativi sul benessere emotivo, sulla salute mentale e su altre variabili complicate da calcolare. Non vanno sottovalutate le cosiddette 'perdite non economiche' dovute al cambiamento climatico, come la scomparsa del patrimonio culturale e dei mezzi di sussistenza tradizionali. Il capitolo solleva inoltre un'importante questione morale in merito alla responsabilità: secondo alcuni studiosi, considerare la migrazione come adattamento attribuisce la responsabilità dell'adattamento a coloro che sono più colpiti dal cambiamento climatico e vi hanno contribuito di meno. In effetti, affermare che le persone possono migrare come tipo di adattamento può far sì che i maggiori emettitori di CO₂ sfuggano alla loro responsabilità di ridurre le emissioni. Questo e altri limiti della visione della migrazione come strumento di adattamento sono approfonditi nel capitolo.

Infine, la terza sezione del terzo capitolo presenta un case-study, incentrato sul Kiribati e la sua 'Migration with Dignity Policy', di cui si esaminano vantaggi, sfide e limiti. Prima di concentrarsi sul Kiribati, la sezione offre un'analisi generale sia degli impatti attuali che dei rischi previsti del cambiamento climatico sui piccoli stati insulari in via di sviluppo. Il capitolo fornisce poi informazioni geografiche sull'atollo del Kiribati, facendo anche alcuni esempi dei cambiamenti ambientali e climatici che il paese sta affrontando, come un innalzamento medio annuo del livello del mare di 1-4 mm, che si prevede continuerà a salire pericolosamente in futuro. Le opzioni di adattamento del Kiribati sono estremamente limitate. Mentre l'abitabilità delle sue isole basse è minacciata dall'innalzamento del livello del mare, il Kiribati non ha opzioni sostenibili di migrazione interna a lungo termine; quindi, i leader nazionali hanno cercato di creare nuove opportunità per i cittadini per migrare all'estero.

Dopo l'acquisto di un terreno situato a Vanua Levu, la seconda isola più grande delle Fiji, il Kiribati, sotto la guida dell'ex Presidente Anote Tong, ha lanciato la sua 'Migration with Dignity Policy', volta a facilitare la migrazione per lavoro volontaria, temporanea e permanente come strategia di adattamento. La strategia di migrazione di manodopera transfrontaliera progettata dal governo del Kiribati è stata scelta come il fulcro di questo case-study perché è l'esempio perfetto di una risposta governativa

su scala nazionale agli impatti dei cambiamenti climatici che cerca di sfruttare il potenziale positivo della migrazione.

La prima parte di questa politica consiste nel creare opportunità per quegli abitanti del Kiribati che desiderano migrare all'estero ora e nel prossimo futuro. Lo scopo è quello di formare comunità di espatriati in diverse nazioni accoglienti come la Nuova Zelanda e l'Australia, per consentire loro di supportare altri migranti in una prospettiva a lungo termine. La seconda componente di questa politica è migliorare i livelli delle qualifiche educative e professionali che possono essere raggiunte nel Kiribati, in modo che possano corrispondere a quelli offerti nei luoghi in cui gli abitanti del Kiribati possono trasferirsi. Tutto ciò dovrebbe creare buone prospettive e incentivi per migrare all'estero 'con dignità', sfruttando i regimi e gli accordi di lavoro transfrontalieri esistenti. Allo stesso tempo, il capitolo rileva che la 'Migration with Dignity Policy' sembra essere limitata a un piccolo gruppo di persone e potrebbe quindi non riuscire a garantire equamente misure di migrazione protettive per tutti.

Dato che esistono pochi studi sulle prospettive della popolazione locale del Kiribati sulla migrazione come strategia per affrontare gli effetti del cambiamento climatico, nel capitolo viene ampiamente esaminato uno studio dedicato a questo argomento. Da questo studio emerge che la maggior parte delle persone intervistate prenderebbe in considerazione la migrazione a causa degli effetti dei cambiamenti climatici, soprattutto la migrazione all'estero. La maggior parte degli intervistati ha sottolineato che la migrazione sarebbe una componente sconvolgente ma necessaria del loro futuro, anche se una piccola percentuale dei partecipanti ha continuato a essere fermamente contraria all'abbandono della madrepatria. Gli argomenti più comuni contro la migrazione sembrano essere il profondo attaccamento alla terra natia, allo stile di vita locale, e il rischio di perdere usanze e cultura.

Che sia considerata come un fallito adattamento o come un modo di adattarsi, la migrazione ambientale e indotta dal clima in alcuni casi può essere inevitabile. Questo ci porta ad alcune importanti considerazioni sollevate nelle conclusioni di questa tesi. Stabilito che il fenomeno delle migrazioni e degli sfollamenti ambientali continuerà, e che la tendenza a utilizzare la migrazione come strategia di adattamento aumenterà, è necessario iniziare a pensare a come gestire questo fenomeno nella pratica. È chiaro che da alcune aree del mondo questo movimento avviene e continuerà a verificarsi in

futuro in maniera molto disordinata. Pertanto, la questione di come gestire questi flussi attuali e futuri è assolutamente centrale.

Inoltre, pur affermando che le migrazioni possono essere un'efficace strategia di adattamento che deve essere pianificata e gestita, siamo anche consapevoli che i discorsi securitari rappresentano oggi una delle tendenze più diffuse. Quindi, un altro aspetto di fondamentale rilevanza è capire come la tendenza a utilizzare la migrazione come strumento di adattamento possa essere armonizzata con la crescente centralità dei discorsi securitari nei vari stati nazione. Per di più, quando supportiamo l'uso della migrazione come strategia di adattamento, è necessario anche considerare che qui il tema della 'giustizia climatica' o ambientale ritorna. È stato infatti dimostrato che non tutte le persone migrano o hanno la possibilità e i mezzi per farlo.

Alla base dell'intera questione c'è la capacità della mobilità umana di minare i principi chiave dello stato nazione, e soprattutto il principio dei confini nazionali. Infatti, il cambiamento climatico può essere definito come un fenomeno transnazionale, e i singoli stati nazione non possono affrontare questo problema, e le sue implicazioni come la migrazione, da soli e separatamente dal resto del mondo. La domanda cruciale alla quale la comunità internazionale dovrebbe rispondere è: che tipo di governance è possibile per affrontare un fenomeno di questo tipo? La governance di questi flussi, infatti, ci pone di fronte alla difficoltà di gestire l'intera questione adottando una logica di stato nazione. La logica tradizionale dello stato nazione non può funzionare in questa sfera. Occorre quindi adottare una logica diversa, che può essere la logica degli accordi bilaterali o multilaterali, della regionalizzazione e dell'organizzazione internazionale. Dunque, l'unico modo per affrontare il legame tra ambiente e migrazione e le sue manifestazioni è probabilmente l'adozione di una governance multilivello.

Per concludere, la migrazione ambientale non deve necessariamente essere vista come una crisi che può solo essere sofferta. Pur riconoscendo l'importanza delle politiche di mitigazione, la capacità di gestire questi flussi diventerà fondamentale. Dunque, piuttosto che subire le migrazioni, sarebbe saggio pianificarle come strumento di adattamento. Infatti, se gestita correttamente e nel pieno rispetto dei diritti di tutti gli interessati, la migrazione può svolgere un ruolo chiave nello sviluppo di una strategia di adattamento efficace.

Introduction

The main pillar of this thesis consists in the acknowledgment of a link between environmental and climate change and migration, which materializes itself in the phenomenon of environmental migration and displacement, the central theme of this work. It can be defined as the movement of individuals, groups of individuals or also entire communities who move either within their countries or abroad, either voluntarily or because they are obliged to do so, predominantly for reasons of sudden or progressive change in the environment that harmfully impacts their lives or living conditions. Climate migration, also defined as climate-induced migration, is a subcategory of the broader environmental migration, which refers to a specific form of environmental migration in which the environment has experienced a deteriorating change as a result of climate change. This thesis focusses on the wider environmental migration and displacement, while also referring in some cases to the more specific climate-induced migration.

This topic is acquiring increasing significance nowadays, especially for its governance implications; this is the reason why it has been chosen as the focus of the present work. Environmental degradation and climate change have always been major drivers of migration, but political awareness on this link is only recent. The connections between environmental degradation, climate change and migration are complex and multidimensional, with human mobility being affected in several ways. Climate change predictions for the XXI century reveal that even more people are expected to migrate as extreme weather-related events become more frequent and intense and variations in precipitation and temperature patterns influence livelihoods and human security.

Since environmental migration and displacement is already taking place, even if it is concentrated in several areas that are typically those most impacted by climate change, and since it is expected to increase with the worsening of climate change effects, it is fundamental to explore it in all its aspects and from different points of view. Indeed, this phenomenon has not been studied in a thorough manner yet. There are still important lacunas in the scientific, academic and political research, some of which are mentioned in the present work. It is crucial to advance the studies and research on environmental migration and displacement because it is already a reality, and

policymakers need information to develop policy measures and protection tools to address the necessities of people on the move due to environmental factors.

In the framework of climate change and environmental degradation, the traditional narrative on migration is a pessimistic one: migrants are portrayed as a problem and migration is usually perceived as the negative outcome of climate change effects, an outcome that must be avoided at all costs. In political debates on the issue, very often the disadvantages of migration for the receiving countries are those most emphasized, especially in terms of social cohesion and security. Indeed, when preliminary studies predicted future ‘waves of environmental refugees’, they triggered a debate over the security concerns of environmental migration, especially in the developed countries of the North, worried about the potential arrival of millions of people from the less developed (and more impacted by climate change) regions.

Nevertheless, this thesis seeks to convey a different idea. There is a pressing need for a new view of migration, one that recognizes the benefits that migration can bring to both the communities of origin and the communities of destination, one that is able to grasp the potential of migration as an adaptation strategy to climate change. This is precisely the second central theme of this work: migration is already being and will increasingly be used as an adaptation tool. Studying this topic is fundamental as it allows to overcome the dated view of migration as ‘the worst nightmare’ that governments must face and embrace instead a positive standpoint that acknowledges that migration, if well planned and managed, can be beneficial for all and can help build resilience and adapt to adverse environmental and climatic changes.

Specifically, this thesis pursues a double objective: the first purpose is to examine the phenomenon of environmental migration and displacement from two different perspectives, the legal and the geographical one, while the second objective is to explore the use of migration itself as a potential adaptation strategy to climate change and environmental degradation, with the intention of supporting a view of migration as a possible solution and response to adverse changes in the environmental and climatic conditions.

In order to achieve the abovementioned purposes, in the present work the analysis will be developed through three chapters. The first is an introductory chapter, dedicated to the study of the nexus between migration and the environment. The first purpose of

the thesis is expected to be attained in the second chapter, devoted to the legal perspective, and in the first section of the third chapter, focussed on the geographical perspective. Instead, the second objective of the work is expected to be achieved in the second and third sections of the third chapter. These are dedicated specifically to the study of the use of migration as a possible adaptation strategy, with the presentation of a case-study focussed on the little atoll nation of Kiribati that, with its ‘Migration with Dignity Policy’, represents a perfect case in point of the planning at the national level of the use of migration as a means to adapt to the harmful effects of climate change.

Going into detail, the first section of the first chapter explores three critical aspects that demonstrate the importance of the link between migration and the environment, namely environmental change as a driver of migration, climate change as a ‘threat multiplier’, and immobility in the context of difficult environmental conditions. Here, a particular emphasis will be put on the fact that environmental and climate change very often is not the single trigger of mobility, but interacts with the other economic, political, social, cultural drivers to generate movement, and this difficulty to isolate the environmental driver from the other root causes of migration has important legal and political implications that will be revealed in the chapter.

Afterwards, the second section presents some statistics and predictions on environmental migration and displacement, showing the difficulties of current and future estimates. Finally, the third section of the first chapter explores the key concepts in the framework of environmental migration and displacement, such as the distinction between voluntary and forced migration, between sudden-onset and slow-onset events, and between internal and international migration. Here, it will be stressed that distinguishing between forced and voluntary migration in this context can be complicated and misleading, which has, again, crucial legal and political implications that will be clarified.

The second chapter of this thesis focusses on the legal framework. In the first section, the chapter investigates the absence of an internationally recognized definition for environmental migrants, exploring the most significant legal and protection instruments in this field, with their problems of application and protection implications. The chapter starts by examining the notion of *refugee* as enshrined in

the 1951 *Convention Relating to the Status of Refugees* and explains the reasons why people crossing their national borders in the aftermath of, for instance, a natural disaster, even in the most evident cases of forced migration, are not recognized as refugees by the Refugee Convention. The chapter then investigates some regional protection tools in Latin America and Africa that offer a broader definition of a refugee, namely the 1969 *OAU Convention Governing the Specific Aspects of Refugee Problems in Africa* and the 1984 *Cartagena Declaration on Refugees*. The expanded definitions of *refugee* contained in these two regional instruments are of extreme importance as they have already been used and could be used in the future to grant protection to people compelled to cross internationally recognized borders for environmental reasons.

The first section of the second chapter continues by taking into analysis the *Guiding Principles on Internal Displacement*, which are important because their definition of *internally displaced persons* also applies to cases of internal displacement triggered by environmental events. The Guiding Principles also foresee a variety of protections which are crucial in the framework of internal displacement connected to disasters. The section completes its analysis with the *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa*, also known as the *Kampala Convention*. The chapter examines several provisions of this legal instrument, that is exceptionally relevant as it specifically covers protections for individuals who have been internally displaced as a result of both natural catastrophes and climate change. Moreover, the importance of this Convention is amplified by the fact that it constitutes the first legally binding treaty on internal displacement that embraces the whole African continent.

Afterwards, in the second section, the chapter presents an overview of the milestones in the global governance of environmental migration and displacement. The Nansen Initiative and its legacy, that is the *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change*, are explored, with a particular focus on the key contributions of the Agenda to the protection of people displaced across borders due to natural catastrophes and the impacts of climate change. The work of the Platform on Disaster Displacement (PDD), established to assist in the execution of the recommendations of the Protection Agenda, is also presented.

The section continues with the analysis of the 2016 *New York Declaration for Refugees and Migrants* that is particularly significant since it explicitly recognizes the harmful impacts of climate change, natural disasters (some of which may be caused or accentuated by climate change), or other environmental factors as drivers of migration. The *Global Compact for Safe, Orderly and Regular Migration* is critical because it represents the first intergovernmental agreement, developed under UN's auspices, addressing all aspects of international migration with a systematic and integrated approach, and it also foresees measures related to environmental migration, which are covered in Objective 2 and Objective 5. The *Global Compact on Refugees* is also examined, even if here migration and displacement in the context of environmental challenges are less distinctly and explicitly tackled with. The chapter concludes with a focus on the *Sendai Framework for Disaster Risk Reduction 2015-2030*, describing its ambitious expected outcome, goal, global targets, and also the priority areas in which states must take targeted action to achieve them. The Global Platform for Disaster Risk Reduction, which is recognized by the UN General Assembly as the global multi-stakeholder forum to assess the advancement on the Sendai Framework's application, is also mentioned.

Going on, as already anticipated, the third chapter of this thesis explores environmental migration and displacement from a geographical perspective. In the first section, the chapter depicts a world map of this phenomenon, examining several areas such as South Asia, Africa, and Latin America and the Caribbean. The chapter will go into detail in describing the slow- and sudden-onset environmental processes that these regions experience, together with the patterns of migration that characterise them. These regions have been selected because they are among the areas of the world which witness the most the phenomenon of environmental migration and displacement, which is linked to the more severe effects that climate change has on these areas compared with other regions. The description of the gradual environmental processes and sudden-onset events they experience and how these processes and events are able to trigger the displacement of millions of people serves both as an example and as a warning.

In this section the concept of 'climate justice' will be introduced: even if climate change is an existential problem that threatens the whole world, developing countries or countries of the so-called Global South are disproportionately affected by it (this is

demonstrated also by the selection of the areas to be analysed) and face enormous challenges dealing with the impacts of a changing climate. The poorer countries with very low carbon footprints, and thus the least responsible for causing climate change, are actually the ones suffering the most from its effects. The section also briefly describes the critical achievements and progress in the sectors of mitigation, adaptation, finance, and collaboration reached with COP26 and the fundamental *Glasgow Climate Pact* concluded on 13th November 2021, and the latest report of the Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, released on 28th February 2022.

The second section of the third chapter investigates the use of migration as a possible adaptation strategy, analysing the potential advantages and problems, with the aim of proposing the act of migrating as part of the solution to adverse environmental changes. Researchers have highlighted that migration has been a traditional coping strategy for ages. It offers opportunities to diversify livelihoods, vary the incomes, spread household risk, and send remittances back to family members. Moving is not inevitably a last resort plan but is frequently a voluntary decision within a more lasting project designed to improve the ability to address adverse circumstances.

The chapter will explore the advantages of using migration as a form of adaptation from three points of view: the migrants themselves, the community of origin and the community of destination. In particular, it is stressed that the financial remittances regularly sent to relatives back home can massively increase the latter's resilience to environmental degradation and shocks. These transfers are critical for development and poverty alleviation; sometimes they represent more generous and secure capital flows than foreign direct investment or international development assistance. Furthermore, political and social remittances are also crucial for guaranteeing the know-how and links necessary for development. The transfers of financial, intellectual and social capitals can encourage adaptation in different ways, analysed in detail in the chapter.

However, as examined in the chapter, migration does not necessarily lead to improved adaptive capacities for all families in all situations; it can also have negative outcomes, leading to an increase of impoverishment and vulnerability. In particular, there may be negative effects on emotional well-being, mental health, and other complicated-to-

calculate variables. The so-called ‘non-economic losses’ from climate change, such as the vanishing of cultural heritage and traditional livelihoods, should not be underestimated. The chapter also raises an important moral question regarding responsibility: according to some scholars, viewing migration as adaptation places the responsibility of adaptation on those who are most affected by climate change and have contributed the least to it. Indeed, claiming that people can migrate as a type of adaptation may let the biggest CO₂ emitters escape their responsibility to cut emissions. This and other problems or shortcomings of the view of migration as an adaptation tool will be thoroughly explored in the chapter.

Finally, the third section of the third chapter presents a case-study: it focuses on Kiribati and its ‘Migration with Dignity Policy’, examining the benefits and challenges of this strategy. Before concentrating on Kiribati, the section offers a general analysis of both the current impacts and projected risks of climate change on small island developing states (SIDS). The chapter then gives some geographical information on the atoll nation of Kiribati, also providing examples of some environmental and climatic changes that the country is experiencing, such as a warming trend of air temperature and an average annual rise of sea level of 1-4 mm, which is expected to keep soaring in the future. Kiribati’s adaptation options are extremely limited. While long-term habitability of its low-lying islands is threatened by sea level rise, Kiribati has no sustainable long-term internal migration option; thus, national leaders have tried to create new opportunities for citizens to migrate abroad.

After the purchase of a land located on Vanua Levu, Fiji’s second largest island, Kiribati, under the leadership of the former President Anote Tong, has launched its ‘Migration with Dignity Policy’, aimed at facilitating voluntary, temporary and permanent labour migration as an adaptation strategy. The cross-border labour migration strategy designed by the government of Kiribati has been chosen as the focus of this case-study because it is a perfect case in point of a governmental response to the impacts of climate change that seeks to take advantage of migration’s good potential.

The chapter explains this policy in detail. The first part consists in creating chances for those I-Kiribati who desire to migrate abroad now and in the close future. The purpose is to shape expatriate communities in different welcoming nations like New

Zealand and Australia in order to let them support other migrants in the long run. The second component of this policy is to enhance the levels of educational and vocational qualifications that can be attained in Kiribati, so that they can match those offered in the locations where I-Kiribati may relocate. All this is supposed to create prospects and incentives to migrate abroad ‘with dignity’, exploiting the existing cross-border labor schemes and agreements. At the same time, the chapter also notes that the ‘Migration with Dignity Policy’ seems to be limited to a small group of people and could thus fail in equitably guaranteeing protective migration measures for everyone.

Since little research has been developed on the perspectives of local I-Kiribati people regarding migration as a strategy to deal with climate change effects, a study exploring this topic is extensively examined in the chapter. From this study it emerges that most of the people surveyed would consider migration because of climate change effects, especially migrating abroad. The greatest percentage of the respondents stressed that migration would be an upsetting but necessary component of their future, although a tiny percentage of the participants continued to be adamantly opposed to abandoning their motherland. The most common arguments against migration appeared to be the deep attachment to the homeland, to the local lifestyle, and the risk of losing customs and culture.

Whether considered as a failure to adapt or as an adaptation strategy in itself, environmental and climate-induced migration may be inescapable. What is unfolding in Kiribati right now sends a clear message. Despite their insignificant contributions to greenhouse gas emissions, the people living in Kiribati are anticipated to be among the first to lose their motherland as a result of anthropogenic climate change. Therefore, the implications of inaction are deep.

As for the methodology, this thesis was developed through a very thorough study of the sources. Primary sources such as reports, scientific studies, conventions, declarations, international and intergovernmental agreements, press releases and discussion notes were utilized. The use of these primary sources was based on a very careful reading and analysis of the documents. Clearly, in the text of the thesis, only the parts necessary for the analysis purposes of the work were referred to or cited. Secondary sources, such as books and chapters of books, journal articles, glossaries, academic papers or scientific research, were extensively used, too. Also in the case of

secondary sources, the documents were read and examined in detail, and some parts of them were referred to or cited in the text of the thesis. Furthermore, in order to complete and enrich the analysis developed in the thesis, an intelligent and responsible use was made of some websites and web pages of authoritative bodies or international organizations, such as those of the UN, IOM, IPCC, UNHCR, WMO, UNDRR, or the Platform on Disaster Displacement, among others.

To conclude, environmental migration and displacement, together with the potential use of migration as an adaptation strategy, is a topic hotly debated today. It can be explored from different perspectives, and it has critical implications in more than one sphere. In particular, from the analysis developed in this work, it will emerge that this phenomenon has extremely relevant implications in terms of governance. Several considerations on these governance implications will be discussed in the conclusions of the thesis.

Chapter 1. The migration-environment nexus

The first chapter of this work is devoted to the analysis of the link between the environment and migration, which materializes itself in the phenomenon of environmental migration. In the first section of the chapter, the importance of acknowledging this nexus will be demonstrated through the examination of three distinctive aspects related to it: environmental change as a driver of migration, climate change as a ‘threat multiplier’, and immobility in the context of difficult environmental conditions. Afterwards, the second section of the chapter will present some statistics and predictions regarding the phenomenon of environmental migration, showing the difficulties of the evaluation of the current and future number of people displaced due to environmental changes. Finally, the third section examines the key concepts that constellate the scenario of environmental migration and displacement, such as the distinction between voluntary and forced migration, between sudden-onset and slow-onset events, and between internal and international migration.

1. Environmental migration: the importance of acknowledging the link between environmental and climate change and migration

Migration is a defining facet of the contemporary world order. People have always migrated to flee conflicts, poverty, or environmental change, in search of better opportunities and more amenable living conditions. Nonetheless, human mobility in the last few decades has come to have a much more universal and pervasive dimension. This is demonstrated first and foremost by the increased number of international migrants. As reported on the website of the International Organization for Migration (IOM), the most important inter-governmental organization in the United Nations System promoting humane and orderly migration, ‘the current global estimate is that there were around 281 million international migrants in the world in 2020, which equates to 3.6 per cent of the global population’ (IOM, 2021). This figure ‘was 128 million more than in 1990, and over three times the estimated number in 1970’ (IOM, 2021). Compared to previous migration patterns, contemporary movements of populations are more varied in their nature, direction, and root causes. Notably, one factor has acquired increasing significance over the last decades as a driver of migration: environmental change, and in particular climate change.

The current available evidence on migration patterns, as well as on the manifestations of climate change, its anthropogenic causes, the speed of changes and the interlinkages between different aspects of this phenomenon (e.g., global warming, sea level rise or extreme weather events) leads to the acknowledgment of the existence of a link between environmental and climate change and migration. Human migration has always related to the environment, but political awareness of the relevance of this factor is recent. Climate change contributed to a rediscovery of the environment as a driver of migration, since it has been described as a substantial threat to humanity, which would primarily materialize in massive population displacement (Ionesco, et al., 2017). Undoubtedly, the linkages between environmental degradation, climate change and migration are complex and multidimensional, with human mobility being affected in several ways. Climate change predictions for the XXI century reveal that even more people are expected to migrate as extreme weather-related events, such as floods, droughts and storms, become more frequent and intense (IPCC, 2014), and variations in precipitation and temperature patterns influence livelihoods and human security.

Ionesco, Mokhnacheva and Gemenne (2017) note that climate change started to be seriously studied only in the 1990s, particularly following the publication of the important report commissioned in 1985 to the Egyptian academic Essam El-Hinnawi by the United Nations Environment Programme. When in the 2000s the effects of climate change, especially in the form of natural disasters and extreme weather events, became horribly visible worldwide, environmental migration entered the migration studies agenda. As stressed by the authors, the fact that environmental migration stepped into the spotlight since the middle of the 2000s not only shows that the environmental factor had not been contemplated when migration law and refugee law were molded in the aftermath of World War II, but also that migration can operate as an adaptation strategy to tackle climate change.

Fortunately, in the last decades the debate on the links between environmental degradation, climate change and migration has expanded and heated up; consequently, research on this topic has increased. The migration-environment nexus is object of study since the 1980s, but in the early 2000s an increase of interest and need for evidence unleashed a new wave of research. Indeed, the number of publications on

the subject has grown from around 10 per year in the 1990s to almost 100 publications every year since 2008 (Ionesco, et al., 2017).

Nevertheless, research on the migration-environment connection, especially when empirical data and case-studies are concerned, seems geographically unbalanced: some regions of the world attract substantial attention, while other areas are less considered. The difficulties of the communities of Small Island Developing States such as Kiribati and Tuvalu struggling with sea level rise, or the challenges facing populations in South Asian countries like Bangladesh and India, today capture much academic and media attention. A few countries affected by severe desertification in West Africa and in the Greater Horn of Africa have inspired many studies, too. On the other hand, many highly vulnerable areas, such as Central and South America, Central Asia, and Central and South Africa, have not been sufficiently analyzed yet. Also in Europe, despite an increase in the frequency of small-scale calamities, and in the Middle East, despite repeated weather shocks, data are fragile and incomplete (Ionesco, et al., 2017). Another asymmetry concerns the uneven research capacity in developing and developed countries: while the majority of the investigations focuses on countries of the so-called ‘Global South’, the most of it is carried out by scholars of the states of the North (Ionesco, et al., 2017). This problem ought to be fixed: enhancing research capacity in developing regions is critical for building powerful evidence on environmental migration in those areas that are less visible but no less affected by the effects of climate change.

Despite these discrepancies, it is unquestionable that the state of knowledge on the link between migration and the environment has significantly improved over the last ten years. This is particularly due to landmark studies and publications such as the 2009 EACH-FOR project¹ or the 2011 Foresight Report, that have supported the creation of a completer and more reliable theoretical framework for the conceptualization and comprehension of migration in the context of global environmental and climate change (Ionesco, et al., 2017). This, in turn, may have

¹ The EACH-FOR (*Environmental Change And Forced Migration Scenarios*) project, funded under the EU’s FP6 research programme, was carried out between 2007 and 2009. For further information on this topic see: https://knowledge4policy.ec.europa.eu/projects-activities/each-environmental-change-forced-migration-scenarios_en and <https://cordis.europa.eu/project/id/44468/reporting/it>.

facilitated the development of legislation and global awareness, as well as the encouragement of additional research on the topic.

Before discussing the role of the environment as a triggering factor of migration, it is essential to distinguish the two concepts of environmental change and climate change. The aforementioned Foresight Report, a key study on environmental change and migration commissioned by the United Kingdom Government's Office for Science, defines *environmental changes* as the 'Changes in the physical and biogeochemical (chemical, geological, and biological) environment, over a large scale, either caused naturally or influenced by human activities' (Foresight, 2011: p.233). In contrast, *climate change* is defined as 'The change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods' (Foresight, 2011: p.233). Therefore, climate change could be considered as a subcategory of environmental change: while environmental change encompasses the shifting in the overall natural conditions of some regions or the entire planet, climate change refers specifically to changes in the regular atmospheric processes of an area. In particular, modern climate change is characterized by a rise in global average temperatures caused by an increase of greenhouse gases' concentration in the atmosphere as a result of the industrialization occurred over the last few hundred years.

The existing analyses and assessments of the current climate conditions are characterized by a rather pessimistic view. In its latest report, *State of the Global Climate 2020*, the World Meteorological Organization (WMO) points to an accelerated pace of climate change, noting that 2020 was one of the three warmest years ever documented, and that 'The past six years, including 2020, have been the six warmest years on record' (WMO, 2021: p.5). As observed in the report, despite the brief decline in emissions in 2020 due to the measures adopted in response to COVID-19 pandemic, concentrations of the main greenhouse gases - carbon dioxide, methane, and nitrous oxide - continued to rise. Furthermore, the WMO finds that the trend in sea level rise is accelerating. Additionally, ocean heat storage and acidification are growing, lessening the ocean's capacity to moderate climate change. This in turn contributes to the melting of sea ice: indeed, the Arctic minimum sea ice extent in September 2020 was the second lowest ever documented, and, for what

concerns Antarctica, currently ‘Antarctica loses approximately 175 to 225 Gt of ice per year’ (WMO, 2021: p.5). The WMO’s report also indicates that the North Atlantic hurricane season was extraordinarily vigorous in 2020: hurricanes, intense heatwaves, severe droughts and wildfires resulted in many casualties and economic losses of tens of billions of US dollars. In the meanwhile, disturbances in the agriculture sector caused by the COVID-19 pandemic worsened weather impacts along the whole food supply chain, thus raising food insecurity. As a consequence of all this, during the first half of 2020, 9.8 million people were displaced, mostly owing to hydrometeorological hazards and disasters (WMO, 2021).

When talking about the assessment of the state of the global climate system, it is fundamental to mention the Intergovernmental Panel on Climate Change (IPCC), that is the UN body for appraising the science related to climate change. Established by the UN Environment Programme and the World Meteorological Organization in 1988, the IPCC is composed by 195 Member countries (IPCC - Intergovernmental Panel on Climate Change, 2021). The IPCC prepares Assessment Reports about the status of the scientific, technical and socio-economic knowledge on climate change, its impacts and risks, proposing mitigation and adaptation strategies to tackle it.

The IPCC Working Group I report, *Climate Change 2021: the Physical Science Basis*, released on 9th August 2021, is the first instalment of the IPCC’s Sixth Assessment Report (AR6) that will be finalized in 2022 (IPCC, 2021). It represents the latest most reliable information on the state of the Earth’s climate system and climate change. According to this report, unless there are immediate, fast and sustained reductions in greenhouse gas emissions, limiting warming to close to 1.5°C or even 2°C will be unattainable. The report demonstrates that greenhouse gas emissions caused by human activities are accountable for approximately 1.1°C of warming since 1850-1900, and observes that, averaged over the next 20 years, global temperature is projected to reach or exceed 1.5°C of warming. Moreover, the report foresees that in the next decades climate changes will escalate in all regions. For 1.5°C of global warming, we will assist to intensifying heat waves, longer warm seasons and shorter cold seasons; instead at 2°C of global warming, heat extremes would be more likely to exceed crucial tolerance levels for agriculture and health (IPCC, 2021). However, it is not just a matter of temperature. As shown in the report, climate change is causing a variety of changes - to wetness and dryness, to winds, snow and ice, coastal zones and oceans

- in numerous regions, all of which will worsen as temperatures rise further. The report provides several examples. Rainfall patterns are being influenced by climate change: precipitation is expected to increase in high latitudes, whereas it is expected to decrease in the subtropics; monsoon precipitation is likely to change too, with regional variations. Throughout the XXI century sea level rise will continue in coastal locations, leading to coastal erosion and more frequent and severe coastal flooding in low-lying territories. Permafrost thawing, reduction of seasonal snow cover, melting of glaciers and ice sheets, and loss of summer Arctic sea ice will all be exacerbated by further warming. For what concerns the oceans, warming, marine heatwaves, ocean acidification, and lower oxygen levels have all been connected to human influence; these changes have an impact on both the ocean ecosystems and the people who rely on them, and they are expected to continue for the rest of the century. Finally, some impacts of climate change may be accentuated in the cities, such as heat, flooding from violent precipitations, and sea level rise in coastal cities (IPCC, 2021). Furthermore, the Sixth Assessment Report is particularly important because it offers for the first time an exhaustive regional analysis of climate change, with a focus on information useful for risk assessment, adaptation, and other policymaking (IPCC, 2021).

Therefore, it is possible to affirm that climate change is a complex phenomenon encompassing a multitude of interconnected yet separate changes, which in turn have an impact on the environment. Thus, climate change contributes to environmental changes in an increasingly strong and intricate way. The Foresight Report distinguishes between climate-related environmental changes and non-climatic environmental changes. The latter concern land degradation and coastal and marine ecosystem degradation caused by human factors (Foresight, 2011). On the other hand, climate-related environmental changes are classified into six types: sea level rise, that increases the risks of coastal flooding, erosion and salinisation of low-lying agricultural land; a rise in tropical cyclone and storm intensity; changes in rainfall regimes, influencing agricultural productivity; an increase in temperatures and related higher frequency of extreme temperatures; changes in atmospheric chemistry; and the melting of mountain glaciers (Foresight, 2011).

All these environmental changes are likely to affect the drivers of migration. The Foresight Report defines the *drivers of migration* as ‘A range of factors, the spatial

and temporal variability of which can create the conditions for migration' (Foresight, 2011: p.233). This report divides migration drivers into five categories: social, political, economic, environmental, and demographic. The International Organization for Migration in its 2019 edition of the *Glossary on Migration* offers a similar definition of the *drivers of migration*, described as the 'Complex set of interlinking factors that influence an individual, family or population group's decisions relating to migration, including displacement' (IOM, 2019: p.58). From the two definitions it clearly emerges that the concept of migration drivers is a dynamic one: it reflects the interplay of individual, social, structural, environmental and situational factors with stimuli and restrictions at the local, regional, national and international levels. Migration drivers can be very different, ranging from an optimistic desire for change, family reunification or need to work abroad, to responses to abrupt shocks, slow-onset pressures or protracted difficulties, such as those arising from poverty, persecution, human rights violations, wars, calamities, climate change, environmental degradation or food insecurity, among others.

1.1. Environmental change as a driver of migration

Thanks to available evidence, it is now possible to assert that changes in the environmental conditions impact migration dynamics, including displacement. Thus, there are clear links between environmental change and migration. Nevertheless, it is difficult to identify the precise typology of drivers that triggers movement more than other types of determinants: very often, different typologies of migration drivers interact to influence the decisions to migrate. This means that environmental and climate change works together with economic, political, social, cultural drivers to prompt movement. This difficulty to isolate the environmental driver from the other root causes of migration is, among other things, at the basis of the problem of putting forward a definition of environmental migration accepted by the entire international community and of granting protection to this type of migrants.

As highlighted in a recent review of the academic literature on the drivers of migration elaborated by Czaika and Reinprecht (2020), a myriad of quantitative and qualitative studies has analysed the role of climate change and environmental conditions as predisposing drivers of internal and international migration². It must be recognized,

² See Czaika & Reinprecht (2020).

however, that the majority of these studies has focused almost exclusively on the developing countries of the Global South. As shown by existing evidence, slow-onset variations in temperature and precipitation patterns are associated with outmigration, especially from the countries more dependent on agriculture and from rural areas (Czaika & Reinprecht, 2020). Nonetheless, as already noted, climate change alone does not shape migration motives and behaviour: several studies instead emphasize the indirect effect of climate change on migration through its repercussions on the possibilities of conflict, on the risks to health, and in particular on economic determinants, ‘such as incomes, livelihood opportunities, and food security’ (Czaika & Reinprecht, 2020: p.15). If climate change is considered in conjunction with economic factors, the latter’s impacts are frequently greater. Interestingly, individuals may continue to see the reasons at the basis of their decisions to migrate as primarily economic in nature, but the underlying motivations are de facto environmental ones (Czaika & Reinprecht, 2020). Therefore, degrading environmental conditions can be related to migration dynamics by examining how environmental change affects the economy. Moreover, environmental variables may play a role also in the typical contexts of forced displacement due to violence, war or persecution.

Together with slow-onset changes, also rapid-onset events can generate migration, namely natural disasters and environmental shocks such as earthquakes, droughts, floods, storms or man-made accidents. Also in this case, studies tend to direct their attention mostly to developing countries. Natural catastrophes cause an upsurge of internal migration, particularly from rural to urban areas, as well as an increase of (mostly temporary) international migration (Czaika & Reinprecht, 2020). Just like climate change and slow-onset environmental changes, also environmental shocks may strengthen economic determinants of migration, such as the lack of employment opportunities (Czaika & Reinprecht, 2020). Thus, again, while economic aspects such as unemployment or market inaccessibility may be cited as causes of migration, the fundamental driving force is usually environmental. For example, the flooding of factories or fields threatens the livelihoods of people in the impacted areas; the consequent decision to relocate in order to keep a family income may appear to be voluntary but is actually imposed by the conditions of environmental degradation. In addition, natural catastrophes may indirectly influence migration by raising the probability of social conflicts and instability (Czaika & Reinprecht, 2020). Thus, more

generally, disasters may influence other drivers of migration and, as a result, the ability to remain in a given location.

A similar conclusion is drawn by Berlemann and Steinhardt (2017) in their review article of the recent literature and empirical findings regarding the link between climatic factors, climate-related natural disasters and migration. For what concerns international migration, most recent studies have demonstrated that climate has a substantial impact on it: rising temperatures, especially in agriculture-based countries, tend to generate emigration. Importantly, several studies have shown that climatic conditions influence migration indirectly through the effects on wages and agricultural productivity. On the other hand, a number of macro-level studies has found no evidence that natural disasters have an impact on international migration (Berlemann & Steinhardt, 2017).

With respect to internal migration, as stressed by the authors, the assumption that climatic factors such as temperature and precipitation alter internal migration's volumes and patterns is upheld by strong empirical evidence. For example, many investigations demonstrate that rainfall shortages cause outmigration's upsurges. Concerning temperature, extremely warm weather has been especially explored, finding a consistent positive impact on internal migration (Berlemann & Steinhardt, 2017). Conversely, natural disasters present a more complex picture than climatic factors. Undoubtedly, natural catastrophes have a short-term effect on internal migration. Nonetheless, for the medium- and long-term outlook, the outcomes are more diverse, with some research revealing systematic effects of natural disasters on internal migration while others do not. At the same time, long-term migration appears to take place systematically at least in the aftermath of massive natural catastrophes, such as hurricane Katrina (Berlemann & Steinhardt, 2017).

To conclude, there is strong consensus among scientists and academics, supported by robust empirical evidence, on the fact that environmental and climate change significantly affects - often indirectly - both internal and international migration. However, empirical findings on the impacts of natural disasters seem to slightly differ. In the end whether disasters contribute to migration, and whether this is long-lasting or short-term, is determined by a variety of elements, including the ability to adapt and the presence or absence of wider socioeconomic stimuli. Therefore, the impact of

disasters, even if it may seem to be more immediate, is nonetheless moderated by the socioeconomic aspects that build individuals' and communities' vulnerability and resilience in the face of calamities.

1.2. Climate change as a 'threat multiplier'

In framing climate change and its effects, it is worth mentioning the concept of 'threat multiplier'. Indeed, the last years have been characterized by an emerging consensus at the global level that climate change will exert a growing pressure on the political, economic and social systems that constitute the pillars of each nation state. Differently from traditional security threats that see a single entity operating in a precise moment and in specific ways, climate change can potentially manifest itself through various conditions and impacts taking place all over the world simultaneously. The foreseen effects of climate change - drought, sea level rise, flooding, retreating glaciers, natural catastrophes, and the large propagation of hazardous diseases, among others - have the potential to destabilize our lifestyle and to force adjustments in the way we guarantee our security. If governments and institutions will be unable to cope with the shocks of a changing climate or to handle their consequences, the stability of states and societies will be increasingly threatened. In this sense, climate change can be defined as the supreme 'threat multiplier' exacerbating already vulnerable situations and enhancing the risks of future societal unrest.

Over time this expression has been advocated by non-governmental organizations, and remarkably by the CNA Corporation, which introduced this phrase in its 2007 report entitled *National Security and the Threat of Climate Change*, noting that 'Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world' (CNA Corporation, 2007: p.6). This term recognizes the existence of a link between climate change and security, conveying the idea that climate change interacts with a variety of different elements to aggravate security concerns and exacerbates the underlying drivers of conflict, especially in developing countries. Indeed, in numerous African, Asian, Latin American and Middle Eastern countries, whose governments are concerned about their ability to meet the population's basic needs like food, water and shelter, climate change is expected to severely worsen already critical living standards, thus increasing political instability and the probability of failed states (CNA Corporation, 2007). As food production

drops, diseases spread, clean water begins to run out, and wide groups of people in need of resources relocate, the state of the environmental and economic systems in already fragile regions will deteriorate even more drastically. Those weak governments that are already struggling to survive and that do not prove capable of addressing the problems caused by climate change and of mitigating their consequences, will favor the creation of a suitable context to fuel internal conflicts, extremism, stronger authoritarianism, as well as the development of radical ideologies (CNA Corporation, 2007).

More importantly, climate change will not disseminate its destabilizing effects only in the developing countries of the Global South. On the contrary, it will contribute to mounting pressures even in the most stable regions of the world. First of all, North America and European countries, especially those bordering the Mediterranean, will not be exonerated from the impacts of climate change. Secondly, the probable social and political outcomes of a changing climate in already weakened states - such as increased internal disputes and social unrest, incremented migrations, extended ungoverned spaces, failed states, all conditions that terrorist groups could exploit - indirectly affect also developed countries: here, they might jeopardize economic trade and create new security challenges, such as those arising from an increase of immigration and of the spread of infectious diseases (CNA Corporation, 2007). In particular, developed nations like the United States and many countries in Europe may see an augmentation of the tensions caused by the arrival of hundreds of immigrants and refugees from the most vulnerable areas, forced to leave their countries due to the shortages of food and water and the other repercussions of climate change on the environmental, economic and political systems.

Hence, while climate change is not the sole cause of conflict, it has the potential to intensify a wide range of existing non-climate risks to security, especially in those regions that most severely suffer the impacts of a changing climate and that, at the same time, are the least equipped with financial resources and practical instruments to absorb them. This role of climate change as a 'threat multiplier' is nowadays recognized by scientists and policymakers worldwide, to the point of being considered in international agreements and national security plans. For this reason, it is essential to urgently act to tackle climate change through mitigation and adaptation strategies: not only do the effects of climate change threaten to destroy the environment and

radically alter our life within it, but they also jeopardize the safety of populations and states.

1.3. Environmental change and immobility

While the media, scholars and politicians tend to focus on migration and displacement as a result of climate change and other environmental stressors, it is also central to address and comprehend the relationship between environmental change and immobility. The issue of immobility, which disproportionately impacts the poorer and more vulnerable groups and has attracted little attention so far, will become crucial in policy terms in the future. As a matter of fact, environmental change may lead to considerable degrees of immobility. As noted in the influential Foresight Report (2011), changes in the environment are just as likely to make migration more difficult as they are to make it more possible. Indeed, migration is costly and needs various forms of capital. However, the populations impacted by environmental changes may experience a decline in the very capital required to migrate. Thereupon, ‘in the decades ahead, millions of people will be *unable* to move away from locations in which they are extremely vulnerable to environmental change’ (Foresight, 2011: p.9), thus becoming ‘trapped populations’. These trapped populations will undoubtedly constitute an equal if not greater challenge to politicians as migrants.

The Foresight Report (2011) importantly highlights that if people have limited options for migration, and in the meanwhile their incomes are at risk due to degrading environmental conditions, probably they will be forced to relocate in irregular, illegal, dangerous or random ways which multiply their vulnerability. People are also likely to move to highly environmentally risky regions, ‘such as low-lying urban areas in mega-deltas or slums in water-insecure expanding cities’ (Foresight, 2011: p.13). The natural implication of the diminished ability to move in a secure and organized way in the context of high degrees of vulnerability is that the populations who are trapped may become more exposed to humanitarian crises, including unmanaged displacement (Foresight, 2011).

There is large available evidence that the level of wealth is connected to both the vulnerability to environmental change and the ability to move (Foresight, 2011). A considerable proportion of the populations residing in areas inclined to environmental degradation will lack the financial, political, social and physical assets to migrate,

whereas those who possess larger assets will move more easily. Yet, it is precisely these poorer people who are likely to be most exposed to the impacts of environmental change and least able to defend themselves. Consequently, many people living in environmentally fragile regions will confront a double jeopardy in the future: they will be unable to flee danger due to the absence of assets, ‘and it is this very feature which will make them even more vulnerable to environmental change’ (Foresight, 2011: p.29). This is the reason why it is important to study immobility in the context of global environmental change: those who are left behind may be as exposed to risk as those able to leave, if not more so.

A major point of interest in the debate and literature on trapped populations has been that people not only aspire but also feel the need to migrate for their own protection, however they lack the ability to do so (Zickgraf, 2018). The Foresight Report (2011) offers several examples of this situation, such as the case of Somali pastoralists, who, confronted with drought, could not move elsewhere due to ongoing conflict and insecurity; armed conflict hampered both the use of conventional adaptation strategies in periods of drought and the provision of humanitarian aid to the populations impacted by drought.

Nonetheless, the decision to stay rather than migrating can also be voluntary. Individuals may choose to stay because they believe that, compared with other options, this would grant them a better future. Immobility is associated to both migration aspirations and abilities, like financial resources, social capital or networks, physical abilities, and so forth. Migration aspirations, in turn, may be influenced by perceived abilities on one hand, and positive or negative place attachment on the other (Zickgraf, 2018). For example, a survey-based study conducted in a migrant-sending region of Peru’s highlands where climate-related events have harmed the population’s health and livelihood, finds three reasons at the base of the decision not to migrate: elevated degrees of satisfaction, resource barriers and scant potential for mobility; in that specific context attachment to place, rather than resource constraints, is more likely to foster immobility among dissatisfied people (Adams, 2016). This conclusion appears to question the undervaluation of individuals’ agency in the notion of ‘trapped populations’ proposed by the Foresight Report and emphasizes that also ‘trapped populations exist along a continuum’ (Adams, 2016: p.429).

Furthermore, in several contexts the decision to remain in an area despite deteriorating environmental conditions could also be a response to some favorable circumstances that emerge as a result of environmental change for particular categories of people. For example, a recent comparative study of migrants in crisis situations highlights that in Thailand in 2011, although migrants faced many difficulties due to the flooding, some people saw this event as an opportunity, at least in the beginning. Indeed, some opportunities for hourly or daily work emerged, for example assisting Thais or other migrants in preparing their homes for the rising waters; additional cleaning and clearing jobs also became available for migrants in the aftermath of the crisis (Hendow, et al., 2018). Similarly in 2011 in Libya, amid the civil turmoil, salaries for migrant workers soared, thus providing meaningful economic incentives for the migrants still present in the country and working (Hendow, et al., 2018). Therefore, in certain circumstances, crises caused by environmental and climate change may represent for enterprising migrants unique chances to exploit.

In conclusion, all available evidence demonstrates the existence of a link between environmental and climate change and migration. Environmental change affects the drivers of migration, either supporting the decision to migrate or nurturing particular factors that discourage it. In general terms, as noted in the Foresight Report (2011), out of this connection four outcomes can arise: migration, displacement, voluntary immobility and being trapped. Migration is intended as a largely voluntary movement, whereas displacement ‘implies a less voluntary movement that might involve a need for protection and/or assistance’ (Foresight, 2011: p.34). Nonetheless, environmental change may also influence non-migration: on one hand, there are those unable to leave, defined as ‘trapped’; on the other hand, there are those who choose to stay, defined as ‘immobile’ (Foresight, 2011). Clearly, in the reality the borderline between these four outcomes is frequently quite blurred, and a sharp division between involuntary and voluntary responses to environmental change could be misleading, especially when it comes to provide protection at the international level to people who suffer the impacts of environmental and climate change: whether they choose to migrate or to stay in the face of sudden or slow environmental changes, and whether their choice is voluntary or not, they should be guaranteed protection.

2. Statistics and predictions: the current and future number of people displaced due to environmental changes

In the context of environmental migration and displacement, one of the most typically debated issues is also one of the most controversial: how many people are currently displaced due to environmental degradation and how many will be displaced in the future? From international institutions' declarations to scientific reports, the proposed figures vary and often appear unrealistic. When it comes to calculating the scale of environmental migration, the real problem is that, even if we assume that the environment is one of the primary factors influencing migration at the global level, a precise figure is hard to determine. This would imply, first of all, the existence of an accurate internationally recognized definition for these migrants, and, secondly, the possibility to isolate the environmental driver from the other determinants of migration (Ionesco, et al., 2017), which is almost impossible in most situations, since, as described in the previous section of the chapter, climate change and environmental degradation intersect with the economic, social, political, cultural drivers to foster migration. Moreover, establishing the current or future number of environmental migrants is a difficult task also because this figure encompasses both voluntary and forced migrants, and both temporary and prolonged migration (Ionesco, et al., 2017).

At the global stage, complete datasets on migration induced by climate and environmental changes do not exist yet, and this absence of data represents a major challenge. Environmental migration frequently occurs across short distances and within a single country; however, numerous countries lack the necessary statistical tools to monitor internal movements of populations, and, when statistics are available, they are often incompatible: environmental and climate-related events are typically measured per square kilometer, while demographic data are normally calculated on the scale of administrative units (Ionesco, et al., 2017). Furthermore, while some quantitative information on internal (and in a lesser extent cross-border) displacement due to natural hazards is available, the same cannot be said for migration caused by slow-onset environmental processes, such as sea level rise, drought or deforestation: in this case there are mostly qualitative data and case studies, with limited comparative research (Migration Data Portal, 2021).

For what concerns the assessment of displacement within countries, the activity of the Internal Displacement Monitoring Centre (IDMC) is particularly relevant. Established in 1998, the IDMC represents the main source of data and analysis on internal displacement in the world. It compiles data through its online Global Internal

Displacement Database (GIDD), which provides information on situations of internal displacement related to conflict and generalized violence since 2003, on situations of displacement caused by sudden-onset natural hazard-related disasters since 2008, and on disaster-related displacement risk models for more than 200 countries and areas³.

The IDMC's estimates of current displacement refer to new disaster-related displacement in a certain calendar year. Moreover, the IDMC divides the data into broad hazard categories (weather-related vs. geophysical phenomena, for example); each category is then split into different hazard types, such as floods, wildfires, storms, and so forth (Kraler, et al., 2020).

The Centre also collects data on the risk of future displacement, which is defined as the probable annual displacement caused by disasters over a ten-year period (Kraler, et al., 2020). Indeed, the Disaster Displacement Risk Index, which is based on present and past trends in natural hazards and demographic expansion, allows for the prediction of an annual average number of individuals displaced by country and by disaster type (Ionesco, et al., 2017). While this risk model is important because it represents a concrete way for measuring disaster-related displacement risk in the medium term, it does not permit to evaluate the role of climate change (Kraler, et al., 2020).

The Internal Displacement Monitoring Centre divulgates its data and analysis through an official yearly publication. The *Global Report on Internal Displacement 2021* is divided into two parts. The first part presents updated information on internal displacement at the global level, while the second part examines the relevance of strong evidence and encouraging approaches for tackling disaster displacement and decreasing the harmful effects of climate change on internally displaced persons (IDPs).

According to the report, the amount of people living in internal displacement at the global level has reached the record number of 55 million as of 31 December 2020, and there were around 40.5 million new displacements in 2020, the highest figure in a decade (IDMC, 2021). At the end of 2020, around 7 million people in 104 countries and territories were internally displaced as a result of disasters occurred not only in

³ For further information on the Global Internal Displacement Database see: <https://www.internal-displacement.org/database>.

2020 but also in past years; however, considering the difficulties in the collection of data, this is probably an important underestimate (IDMC, 2021). The top five countries that registered the greatest number of IDPs due to disasters were Afghanistan (1,117,000), India (929,000), Pakistan (806,000), Ethiopia (633,000), and Sudan (454,000) (IDMC, 2021).

As stressed in the report, in the last years disasters have turned out to be the leading cause of new internal displacement at the global level, much more than conflicts and generalized violence. Specifically, ‘Disasters triggered more than three-quarters of the new displacements recorded worldwide in 2020, accounting for 30.7 million’ (IDMC, 2021: p.11). Indeed, during the COVID-19 pandemic, many people remained in their vulnerable homes during disasters because of fear of infection. The pandemic has magnified the needs and vulnerabilities of IDPs, while the measures taken to prevent the spread of the virus drastically hampered humanitarian efforts.

Additionally, the document reports that more than 98% of the 30.7 million new disaster-related displacements recorded in 2020 were triggered by weather-related hazards (like floods and storms, for example) and concentrated in South Asia and East Asia and the Pacific (IDMC, 2021). In these regions, extremely vulnerable and overpopulated areas were hit by violent cyclones, floods and monsoon rains. The hurricane season in the Atlantic was the most vigorous ever documented, while in the Middle East and sub-Saharan Africa several millions of people were uprooted due to long and continued rainy seasons. In particular, more than 60% of the new disaster-related internal displacements of 2020 occurred in five nations: China (5.1 million), Philippines (4.4 million), Bangladesh (4.4 million), India (3.9 million), and the United States (1.7 million) (IDMC, 2021). Moreover, even if internal displacement is a global issue, geolocated data demonstrates that it tends to manifest itself not only in some regions or states, but also in specific locations within them: the Bay of Bengal and the Caribbean basin, where tropical cyclones caused millions to escape, saw the greatest concentration of disaster displacement (IDMC, 2021). As a last point, it is important to remind that the *Global Report on Internal Displacement 2021* provides similar

information also on the global situation of internal displacement caused by conflicts and generalized violence⁴.

Therefore, thanks to the activity of the Internal Displacement Monitoring Centre, there exists accessible information on internal displacement related to natural hazards for almost every country. The serious problem of the IDMC's data collections is that they focus entirely on the people newly displaced internally during the year of interest: this figure reveals the *flows* of people during that year but does not take into consideration the length of the displacement, whether individuals have relocated elsewhere or come back home, and whether some people are trapped in a protracted displacement (Migration Data Portal, 2021).

Nonetheless, since 2019 the IDMC has started to compile data also on the stock of internal displacement connected to disasters. If we compare the new internal displacement linked to natural disasters with the new internal displacement caused by war and violence on one hand, and the total stock of internally displaced persons due to disasters with the stock of internally displaced persons due to conflict and violence on the other, we will notice that displacement arising from disasters is prevalently short-term (Kraler, et al., 2020). This means that, seemingly, the people forced to leave their homes or places of habitual residence to escape the impacts of natural disasters usually go back before long (as soon as the conditions make return possible), while those people obliged to flee conflicts and generalized violence usually remain displaced for a longer period. That said, according to the IDMC's stock records, there is a considerable figure of internally displaced persons due to natural disasters who remain in a condition of displacement for a more lasting period, and several people also run the risk of being caught in protracted displacement (Kraler, et al., 2020). Once again, the problem is that, to date, there is no comprehensive account that could help to compare the scale of short-term and long-term internal displacement connected to natural disasters at the global level. The shortage of information on the duration of displacement makes it hard to completely comprehend the nature and scope of protracted displacement generated by the impacts of climate change and natural catastrophes. This is a fundamental issue to solve, since the mistaken belief that the majority of IDPs come back to their homes soon after calamities may induce to

⁴ For additional information on this subject, the full report of the IDMC is accessible at: <https://www.internal-displacement.org/global-report/grid2021/>.

incorrectly think that they no longer have needs and are no longer vulnerable. However, the reality is much more nuanced and complicated. Fortunately, these initial estimates represent a first effort for closing a significant knowledge gap.

While most of the mobility in the framework of climate and environmental change, disaster displacement included, takes place within the same impacted countries, many groups also cross international borders. However, as already anticipated, global data on this type of cross-border migration or displacement linked to disasters are extremely limited. In certain circumstances, official administrative materials, such as the quantity of humanitarian visas or residence permits conceded to people fleeing natural disasters, can be utilized to acquire information on cross-border movements in the context of climate-related or environmental events more generally (Migration Data Portal, 2021). This lack of precise and comprehensive datasets also characterizes the sphere of migration or displacement occurring as a result of slow-onset environmental phenomena, such as sea level rise, deforestation or drought, which are progressively influencing people's mobility around the world, although important case studies are available (Migration Data Portal, 2021).

If quantifying the current number of environmental migrants is arduous, predicting it is an even more challenging and delicate task. Projections on future environmental migration and displacement are still very weak. They are frequently characterized by a determinist mindset, as if the figure of future migrants were solely determined by the future climate change and degradation of the environment, regardless of the political, economic, or demographic circumstances (Ionesco, et al., 2017). Numerous extravagant predictions have generated disorientation and, as a result, hampered the development of adequate political responses. In some instances, the figures have been amplified or distorted in order to bring attention to the issue, to legitimize additional border controls, or to support the financing of adaptation strategies. Therefore, Ionesco, Mokhnacheva and Gemenne (2017) note that most of the projections share two features: a fragile or absent methodology, and a tendency to exaggerate the numbers.

The United Nations Environment Programme (UNEP) was the first to attempt the difficult task of forecasting. Based on the 1985 crucial report *Environmental refugees* written by the Egyptian university researcher Essam El-Hinnawi, in 1989 the then

executive director of UNEP Mostafa Tolba estimated a figure of 50 million displaced people by 2010 (Ionesco, et al., 2017). This estimate was shared also by the subsequent executive director Klaus Töpfer, who referred to it in countless public speeches and media interviews.

A more pessimistic scenario was instead portrayed by the Oxford University's Professor Norman Myers. In his famous article *Environmental Refugees in a Globally Warmed World* published in 1993 in the journal *BioScience*, Myers envisaged a figure of 150 million displaced people by 2050. Among the causes of this future environmental displacement, Myers highlighted three important elements that are inextricably connected: environmental degradation, rising poverty, and population growth (Ionesco, et al., 2017). This prediction certainly attracted the attention of the public and the media, and has been cited in numerous prominent documents, including those prepared by the IPCC and the well-known UK government's report *The Economics of Climate Change: The Stern Review*, elaborated by the economist Nicholas Stern.

Later, Norman Myers corrected his estimate, raising it to 200 million displaced people by 2050 (Ionesco, et al., 2017): this figure has become a symbolic figure in public debates, and it has been mentioned by a wide range of media sources, government papers, NGO advocacy groups, and other organizations. Only the NGO Christian Aid has since made a new projection, suggesting that environmental changes and disruptions will cause 300 million people to be uprooted in the future. This number is based on an interview with... Norman Myers (Ionesco, et al., 2017).

Even though none of these forecasts are founded on a rigorous scientific approach, they have profoundly influenced the academic and public debates on environmental migration. Different scholars, such as Ionesco, Mokhnacheva and Gemenne (2017), tend to stress that many issues regarding the practice of predicting the future number of environmental migrants remain unsolved. First, do projections refer to the number of people uprooted during a specific year - in this case, 2050 - or to the number of persons displaced between the time the prediction is made and the year in question? This issue, as essential as it is, is still veiled in mystery. Second, which definition of displaced persons ought to be employed, and what lapse of time and distance should be considered when assessing displacement? The flaw of predictions is that they

typically overlook the fact that migration has multiple interconnected causes and focus on the number of individuals residing in at-risk areas. This is the reason why they appear to be intrinsically deterministic, while the nature and scale of human migration between now and 2050 de facto will depend on a myriad of other variables, including the expansion of the global population and the effectiveness of climate change mitigation and adaptation strategies (Ionesco, et al., 2017). Furthermore, the future trends in both demographic and environmental change are not free of doubts, and different scenarios regarding population growth, greenhouse gas emissions and global temperatures have been outlined by the IPCC, according to the policies that will be adopted (Ionesco, et al., 2017).

Even if information on environmental migration has recently advanced as a growing number of studies has been carried out in the impacted regions, there is a urgent need for comprehensive sets of comparable quantitative, longitudinal, and georeferenced data to evaluate how various types of mobility can be an advantageous adaptation strategy. Indeed, most of existing research concentrates on the link between migration and environmental change as a driver of mobility; however, more information on the effects of those movements on the ability to adapt to climate change and environmental degradation is required.

To conclude, it must be stressed that understanding how to quantify and forecast migration linked to climate change and environmental degradation is a problem that extends far beyond the realm of research: without accurate estimations and methodologies, it would be hard to come to suitable political decisions and implement appropriate measures to protect those displaced due to environmental pressure, both in the present time and in the future.

3. Key concepts in the framework of environmental migration and displacement

Before discussing in detail the legal framework of environmental migration and displacement, characterized by the lack of a definition shared by the international community and a protection gap for this kind of migrants, it is fundamental to clarify different sets of key concepts regarding migration and displacement induced by climate change and environmental degradation. Indeed, this type of migration can be analysed from different perspectives. The academic and scientific debate on this topic

typically sees the use of some distinctions, which are more empirical than practical. These distinctions are relevant as they complicate the theoretical framework and, as a consequence, hinder the development of a coherent and comprehensive legal structure for the protection of environmental migrants, as well as the pursuit of proper political responses.

One such distinction, the most significant for its political implications, is the distinction between forced and voluntary migration. As a matter of fact, some forms of movement imply a choice, while others involve an element of coercion in the moment in which calamities, violence, instability, or a lack of subsistence means hit, thus endangering survival and obliging to leave. Environmental migration can be a combination of the two (Ionesco, et al., 2017). As a result, in the reality distinguishing between forced and voluntary migration can be complicated.

It is central to ponder the specific circumstances and the variety of the factors involved in order to ascertain the chosen or obliged nature of mobility (Ionesco, et al., 2017): whether there are social networks in the origin and destination area or country, whether there is access to information and an assessment of the risks, whether there are financial resources and other kinds of capital, and so forth. This analysis is useful also for comprehending the inability of some individuals to opt for migration in the face of natural catastrophes or slow-onset adverse environmental changes. Indeed, as already explained, for many people leaving is not an option: often the most vulnerable, despite their desire to migrate, lack the means to do so. Therefore, immobility can be more or less voluntary, too. In any case, even for those who choose and have the ability to leave and relocate elsewhere, departure is no less upsetting (Ionesco, et al., 2017).

The ambiguity of the distinction between voluntary and forced migration is especially exemplified by the notion of ‘planned relocation’. In the context of natural catastrophes or environmental decline, also due to the impacts of climate change, the International Organization for Migration defines *planned relocation* as ‘a planned process in which persons or groups of persons move or are assisted to move away from their homes or place of temporary residence, are settled in a new location, and provided with the conditions for rebuilding their lives’ (IOM, 2019: p.157). The purpose of planned relocation is to safeguard individuals, families and communities

from the effects and risks related to calamities and environmental or climate change and should only be implemented as a final expedient (IOM, 2019). The term usually refers to relocations that take place within the national borders and under the control of the government, but in rare circumstances communities may also be moved to another State (IOM, 2019). This is typically the case in Island States, whose existence is threatened by sea level rise.

Therefore, as emphasized by the International Organization for Migration, the resettlement of the populations residing in places that have become uninhabitable due to the impacts of climate change, frequent disasters, or infrastructure projects should be attained through a non-coercive approach towards the communities involved. Nevertheless, is it reasonable to speak of voluntary migration when people desire to remain on their land but are forced to abandon it because now it is unfit to live in there? (Ionesco, et al., 2017) What about the individuals that choose to migrate in advance before they are obliged to do so at the last moment? Is there an element of choice in the case in which an evacuation is imposed as a precaution against a calamity? These are the questions that have been raised in the history of the most tragically known natural disasters, such as the 2005 Hurricane Katrina just to cite one, and are important as they show that the distinction between intentional and coerced migration is blurred and that applying theoretical categorizations to the reality is much more complicated.

Most importantly, it is not just a matter of semantics: terminology is at the core of the political solutions that can be adopted to govern migration while protecting human rights, and the ambiguity that characterizes the notions of voluntary and forced migration hinders the introduction of an internationally agreed legal term to define environmental migrants (Ionesco, et al., 2017). Since this kind of migrants does not fit into any of the categories outlined by the operating legal regime, at the international level there is no formal mechanism in place to meet their protection needs or to assist them in the mobility process. For example, circular migration connected to land degradation is regarded as ‘voluntary’, and for this reason almost no legal or political instrument exists to help the most vulnerable groups with their migration decisions (Ionesco, et al., 2017).

Another important set of key concepts in the framework of environmental migration and displacement is represented by the categorization of sudden-onset and slow-onset events, which in turn is linked to the difference between internal and international migration. ‘Sudden-onset events’ typically consist of extreme weather events, such as storms, flooding or hurricanes. On the contrary, ‘slow-onset events’ are the gradual changes in the environmental conditions, such as sea level rise, soil erosion or drought (Kraler, et al., 2020). Instead, for what concerns the distinction between internal and international migration, available evidence reveals that the movements induced by environmental stressors take place predominantly within the same country or region, and while the developed states of the North are worried about the possibility of large influxes of environmental migrants in the future, crossing national borders is rarely a first reaction or even an option (Ionesco, et al., 2017).

In general disasters tend to produce proximity displacement. Indeed, the first response usually is to leave momentarily the impacted area with the intention of returning, thus people hardly go far: they build temporary shelters next to the damaged houses, or they travel a few kilometers in order to reach evacuation camps or neighboring communities for assistance (Ionesco, et al., 2017). Some individuals with broader social contacts may migrate further away, searching for help from their relatives or friends in different towns, regions, or even countries. Moving to big cities or abroad may also be a risk-reduction strategy or a way to diversify the revenues in order to recover more rapidly after a disaster. Nonetheless, most of the impacted communities hesitate to abandon their homes, land, and way of life, and would rather stay despite environmental dangers (Ionesco, et al., 2017).

Migrating to other parts of the country or from rural zones to urban centers reveals itself a typical response also in the case of slow-onset changes in the environmental conditions that jeopardize livelihoods, especially for the communities that rely on the local natural resources and ecological systems (Ionesco, et al., 2017). As lands become inadequate for farming or fish stocks decline, agricultural and fishing communities may opt to relocate to different rural sites with a more amenable environment and abundant resources. Some communities may also decide to completely alter their lifestyle and relocate to cities in order to find alternative occupations. This choice may be crucial, as migration to big urban centers can sometimes represent a precursor to international migration (Ionesco, et al., 2017).

The possibility to migrate as well as the distance of the movement is decidedly influenced by situational variables, in particular by the nature and magnitude of the environmental stressors and the other push and pull factors involved (Ionesco, et al., 2017): the features of the domestic units, the space and time to travel, connectedness, the attractiveness of the origin and destination settings, the presence of other alternatives offered to the families, and the policy structures, among others. Moreover, as already noted, migration, especially moving abroad, is expensive: financing transportation and other expenses associated with departure frequently demands significant economic, social, and political capitals. As a result, this option is not open to everyone (Ionesco, et al., 2017). The presence of settled migration channels and interconnections, along with a consistent diaspora living abroad, may stimulate people to relocate to a different state; instead, their absence and the fear of the 'new' may dissuade people from doing so. Therefore, very often migration between bordering countries of the same geographic area with strong cultural and linguistic affinities is more appealing than migration to faraway continents. Additionally, migration patterns are conditioned by freedom of movement, availability of protection systems for labor migration or other mechanisms that encourage internal and cross-border migration, as well as by limitations to mobility in the origin and destination states (Ionesco, et al., 2017).

One more central dimension to take into consideration when analyzing environmental migration and displacement is timeframe. Indeed, depending on their needs and resources, individuals migrate in different ways and with varying durations. Some people may engage in daily moves, such as farmers who live near to cities and work there during the non-farming term. Seasonal migration is also common: people move to a different city or area for a fixed period each year, in order to obtain a seasonal job. This kind of migration usually lasts no more than six months (Ionesco, et al., 2017).

Another form of mobility is temporary migration, which is defined as a movement lasting at least six months per year and typically over bigger distances. This is generally undertaken for study motivations, for family reunifications, or when more reliable economic prospects arise. Even if a person moving on a temporary basis normally returns to the place of origin, personal or situational factors, especially economic ones, can transform this transitory migration into a permanent one (Ionesco,

et al., 2017). In fact, people may choose to establish themselves in another place permanently, if the new location guarantees higher and safer subsistence means, or if return is neither advantageous nor feasible. An example of this situation is represented by those people residing in regions inclined to unrepairable environmental decline or to huge hazards.

Many societies around the world have traditionally used temporary and circular mobility to adjust to the seasons: herders in Central Asia, Europe, the Arctic, South America, and Africa have long practiced seasonal transhumance, transferring their animals elsewhere between summer and winter pastures (Ionesco, et al., 2017). However, climate change, as a result of its effects on rainfall, has substantially altered these patterns, thus strongly influencing transhumance cycles. Drought, for example, is pushing pastoralists to explore different routes, to move farther and for extended periods of time, and in some cases, to relocate permanently to areas with more water and grazing grounds.

In those regions of the world in which precipitation models are being altered by climate change, temporary and seasonal migration is used as a fundamental tactic to adapt to extremely wet or dry periods. For example, societies in Thailand, Vietnam or Bangladesh commonly engage in seasonal migration to urban centers or to other rural sites in order to diversify the revenues during the monsoon season (Ionesco, et al., 2017), while in different parts of the world more affluent people relocate seasonally looking for milder temperatures.

If we make a focus on disaster displacement, it is essential to stress that its trajectories and length significantly differ depending on the type of the event that puts displacement into motion and the harm it produces. As already observed, in general after disasters individuals are displaced momentarily to transitory shelters or evacuation camps, until they are physically able to come back home once populations and assets are no longer believed to be in danger. Nevertheless, in some instances these temporary solutions can turn into a protracted displacement. Individuals stuck in this kind of displacement grow more vulnerable as time passes, since resources and aid usually begin to run out once the emergency stage of the disaster response is completed, and frequently governments do not manage to plan long-term solutions for return or relocation and to clear important hurdles, such as a restricted capacity to

provide finance, undefined land rights, potentially hazardous home environments, and so forth. Consequently, people may be obliged to live in precarious conditions in what were supposed to be makeshift shelters, in city slums or in dangerous houses for months or even years. While one might think that the phenomenon of prolonged displacement only represents a humanitarian and development issue in low- and middle-income nations, in reality it also concerns high-income states, such as Japan, Italy or the US, and their marginalized groups (Ionesco, et al., 2017).

Chapter 2. The legal framework: defining people on the move due to environmental and climate change and global governance in the context of environmental migration and displacement

The second chapter of this thesis focusses on the legal framework. In the first section, the chapter investigates the absence of an internationally recognized definition for environmental migrants, exploring the most significant legal and protection instruments in this field, with their problems of application and protection implications. Afterwards, in the second section, the chapter presents an overview of the milestones in the global governance of environmental migration and displacement.

1. The absence of an internationally recognized definition and the existing legal and protection instruments: problems and implications

In the field of environmental migration and displacement, the most pressing and worrying issue is the fact that there is still no consensus on definitions. In the academic debate and political discourses, it is possible to find a myriad of expressions, ‘such as environmental migration, climate change-induced migration, ecological or environmental refugees, climate change migrants and environmentally-induced forced migrants’ (Dun & Gemenne, 2008: p.10). As already anticipated in the first chapter of this thesis, the absence of a definition of migration induced by environmental change or decline is primarily due to the complexity of isolating the environmental variables from the other causes of migration. Another important stumbling block is the ambiguity between forced and voluntary migration. Is environmental migration intrinsically a type of coerced displacement? Can it materialize itself in a voluntary relocation? What about the states’ resettlement plans as a precaution against or after a disaster? These doubts influence the classifications of environmental migration and are difficult to avoid (Dun & Gemenne, 2008). Except for the cases in which rapid-onset environmental changes or disasters result in forced displacement, environmental migration frequently occurs when a gradual process of environmental deterioration impacts those groups who rely on the environment for their sustenance, exacerbating their livelihood stress. The problem is that when environmental change or degradation contributes to cause migration but is not the

main driver, it is debatable whether this movement can be labeled environmental migration (Dun & Gemenne, 2008). In addition, reaching a consensus on definitions at the international level is also hindered by the intensified complexity of today's migratory models. As a result, since the 1970s the debate on the topic has been characterized by a strong divide between those predicting large masses of 'environmental refugees' and those with a more suspicious viewpoint. In general, the former, who tend to focus on the environmental variables as significant migration drivers, can be classified as 'alarmists', while the latter, who emphasize the intricacy of the migration process, can be defined as 'sceptics' (Dun & Gemenne, 2008).

Therefore, there is currently no legal definition, and neither an internationally agreed one, for people on the move owing to environmental factors. Nevertheless, different actors, the International Organization for Migration included, are studying the connections between migration, environmental change and climate change, and have built useful conceptual frameworks. Specifically, IOM in 2007 proposed a working definition for *environmental migrants*, attempting to encompass all the nuances of the issues at hand: '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, 2007: p.1-2). This definition is intentionally wide and adaptable in order to account for the variety of movements caused by all kinds of environmental factors. Indeed, the IOM's definition comprises people uprooted by natural catastrophes as well as those who choose to migrate due to the degradation of the environment. Moreover, it also recognizes that this form of migration or displacement can take place both within the impacted countries and across the national borders, and can be both short-term and long-term. The purpose of the proposal of this definition, as clarified by IOM, is not to neglect the other economic, political, or social aspects that mediate the migration process, 'but rather to focus policy on a key driver of human mobility that has all too often been overlooked' (IOM, 2007: p.2). IOM stresses that the goal is also to provide an alternative definition to '*environmental refugees*', a phrase which, according to the United Nations High Commissioner for Refugees (UNHCR), has no legal foundation in international refugee law (IOM, 2007).

Amid this definitional vacuum, various other suggestions were given for classifying people's moves caused by environmental variables. They commonly offer a more limited definition by concentrating on a single form of movement (for example, displacement) or on one kind of environmental trigger (like the effects of climate change). Among these narrower classifications, it is indispensable to mention the definition of *climate migration* provided by IOM in its 2019 edition of the *Glossary on Migration*: 'The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border' (IOM, 2019: p.31). Clearly, climate migration is a subcategory of the broader environmental migration: it refers to a specific form of environmental migration in which the environment has experienced a deteriorating change as a result of climate change. In this scenario, migration, especially if it is obliged, may amplify the vulnerabilities of the impacted people; but, on the other hand, it can also be a strategy to adapt to environmental challenges, allowing individuals and communities to develop resilience (IOM, 2019). While the IOM's definition of *climate migration* serves as an analytical and advocacy tool but, at the same time, it has no legal value, this terminology is employed in the legally binding Cancun Agreements, which focus on climate change adaptation and were adopted at the 2010 Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC). Indeed, the Cancun Agreements distinguish three kinds of climate change-induced movement: migration, displacement, and planned relocation (IOM, 2020). Moreover, also the World Bank has used this term to forecast the forthcoming population movements caused by the harmful effects of climate change (IOM, 2020).

Vlassopoulos (2013) interestingly highlights that the process of defining environmental migration has evolved over time through three different definitional cause-problem-consequence-solution scenarios. The first scenario is characterized by the creation of an independent multi-causal problem of environmental migrants: environmental migration is the *problem* that must be solved with the implementation of an ad hoc public policy. However, this attempt was found to be unsuitable for the dominant political and institutional environment. As a result, the incorporation into the policy agenda of the environmental migration issue and how to address it was

unsuccessful (Vlassopoulos, 2013). In the second definitional scenario, environmental migration is narrowly redefined as climate migration: despite the endeavors to establish climate migration as a separate issue, the official rhetoric reinterpreted migration as a *consequence* of the climate change problem. The central relevance of climate change on the international policy agenda guaranteed the formal acknowledgement of migration as one of the possible aftereffects to be averted through climate change adaptation measures (Vlassopoulos, 2013). Finally, in the third definitional scenario, an important shift occurs: climate migration is not defined anymore as a problem or repercussion, but as a *solution* to the social vulnerability caused by climate change. Therefore, the alarmist narrative on environmental migration appears to be waning, while the policy significance of the topic is strengthened (Vlassopoulos, 2013).

1.1. The 1951 Refugee Convention

The *Convention Relating to the Status of Refugees*, adopted in 1951 in Geneva, represents the real foundation of international refugee law. It defines, among other things, the term *refugee*, the legal status of refugees in the country of asylum, states' obligations towards them, and the principle of *non-refoulement* that constitutes the cornerstone of refugees' protection.

The notion of *refugee*, as enshrined in the 1951 Refugee Convention, is based on three elements: being outside one's country of origin or habitual residence; a well-founded fear of being persecuted because of one's race, religion, nationality, membership of a particular social group, or political opinion; and being unable or unwilling to avail of the protection of one's country, or to return there, because of fear of persecution. For the analysis purposes of this work, it is important to focus on the second element. The Refugee Convention refers to five specific grounds for persecution: race, religion, nationality, membership of a particular social group, and political opinion. This means that not every person who is outside one's country of origin and has a well-founded fear of being persecuted falls within the scope of application of the Convention: the existence of a causal link between the fear of persecution and the five specific grounds set out by the Convention is necessary.

Therefore, the refugee status is recognized when a person fulfils all the conditions of the 1951 Geneva Convention, and it is not granted to everyone. Specifically, people

crossing their national borders in the aftermath of, for example, a natural catastrophe, even in the most evident cases of forced migration, are not recognized by the Refugee Convention. Indeed, this Convention only applies to cases in which a type of persecution can be demonstrated; however, climate change, environmental deterioration and natural disasters are not accepted as forms of persecution under international law (Ionesco, et al., 2017).

As observed by scholars such as Maria Stavropoulou (2008), the debate on the possible concession of the refugee status to environmental migrants is characterized by contrasting positions. On one hand, there are those who argue that people displaced due to climate change or environmental degradation are refugees, and that the 1951 Refugee Convention's definition of a refugee should be expanded to include them. Alternatively, others promote the introduction of new tools to secure them the same level of protection as refugees. Finally, many others contend that the idea of 'environmental refugees' and their necessity for a protection similar to that granted to Convention refugees is overblown, if not politically driven and risky. Such concepts, they claim, simply serve to confound the traditional refugee definition (Stavropoulou, 2008).

Still reflecting on this debate, Stavropoulou (2008) additionally notes that 'There is nothing inherent in the ordinary meaning of the word 'refugee' that would suggest that people fleeing flooded homes or homes destroyed by an earthquake or forest fire should not be considered as refugees' (Stavropoulou, 2008: p.12). And from an ethical - if not necessarily legal - standpoint, it is also difficult to dispute that these people should not be obliged to return to their flooded or wrecked houses unless and until it is safe to do so. Nevertheless, any resemblance to refugees as defined in the 1951 Refugee Convention stops here. Indeed, it is commonly supposed that most persons fleeing natural catastrophes stay in their own nation, and, most importantly, even if they may require humanitarian aid and protection, they do not fear persecution (Stavropoulou, 2008). There are of course some exceptions. For example, the victims of natural catastrophes may be considered refugees in the legal sense if their own governments are purposely sabotaging their environment, are discriminating against them in offering help, and/or are exploiting the repercussions of the event in a manner that corresponds to persecution for one or more of the grounds outlined in the 1951 Refugee Convention (Stavropoulou, 2008). Furthermore, another important case,

probably the most serious, should be taken into account when international protection is contemplated: there is a conceivable scenario in which eventually certain states may completely disappear (namely the small Island States of the Pacific, due to sea level rise), leaving their residents not only homeless and forced to look for asylum abroad, but also stateless. More legal instruments thus appear to be required in this area (Stavropoulou, 2008).

The terms *climate refugee* and *environmental refugee* are commonly exploited by activists or in the media to raise attention to the plight and needs of the people displaced due to environmental decline, climate change and disasters. However, it has been shown that, despite their conditions and necessities being comparable to those of refugees (such as crossing a border following a catastrophe and needing protection and support), people on the move because of environmental factors do not fall neatly into any one of the categories envisaged by the existing international legal regime. Thereby, the terms *climate refugee* and *environmental refugee* have no legal foundation in international refugee law (IOM, 2020). Concerned agencies, the International Organization for Migration and the United Nations High Commissioner for Refugees included, are also increasingly agreeing that their usage should be averted. Indeed, according to them, these terms are misleading as they ignore some fundamental facets that characterize population flows in the framework of environmental deterioration and climate change, such as the fact that environmental migration is primarily internal and not always coerced, and their use could jeopardize the international legal system for refugee protection (IOM, 2020). Moreover, involved organizations and agencies point out that international human rights law is envisaged to protect all people on the move due to environmental triggers, and that the provisions of the *Guiding Principles on Internal Displacement* address people uprooted within their own country as a result of disasters produced by natural or man-made hazards. However, the degree to which a government has adopted the Guiding Principles determines the scope of this coverage (IOM, 2020).

To conclude and to summarize the main points, to be eligible for the 1951 Refugee Convention's protection, a person must meet all the criteria of the refugee definition set out in the Convention. Consequently, the application of this instrument in the context of natural disasters, according to the majority of international refugee law scholars, presents several challenges. In particular, in this debate two primary points

have been insisted upon: natural catastrophes do not discriminate, whereas this is a key aspect of the refugee definition; and identifying a persecutor in environmentally driven cases is problematic (Kraler, et al., 2020). Importantly, also the former High Commissioner for Refugees and current UN Secretary-General António Guterres, recognized the inapplicability of the refugee definition for environmental claims, affirming that embracing the terms *climate refugees* or *environmental refugees* would only complicate and confound the UNHCR's endeavors to safeguard the victims of persecution and armed conflict (Kraler, et al., 2020). Nevertheless, there exist several regional protection tools in Latin America and Africa that offer a broader definition of a refugee.

1.2. The 1969 Organization of African Unity Refugee Convention and the 1984 Cartagena Declaration on Refugees

One of the regional protection instruments that adopts a wider definition of a refugee is the 1969 Organization of African Unity Refugee Convention. The Organization of African Unity (OAU) is the predecessor of the African Union (AU), which is a continental organization composed of the 55 countries that form the African continent. Born in 1963, the OAU was the incarnation of the pan-African idea of a united, free, and self-governing Africa (African Union, 2021). This organization in 1999 decided to create a new body to continue and expand its work. As a result, in July 2002 the African Union (AU) was officially launched in Durban, South Africa. This decision was the result of the consensus among African leaders that, in order to achieve Africa's potential, attention should be shifted away from the OAU's previous focus on decolonisation and the abolition of apartheid to increased cooperation and integration among African states, with the purpose of encouraging the growth and economic development of the continent (African Union, 2021).

The *OAU Convention Governing the Specific Aspects of Refugee Problems in Africa* was adopted by the Assembly of Heads of State and Government at its Sixth Ordinary Session on 10th September 1969 and entered into force on 20th June 1974. This treaty, which was the first regional refugee protection tool in the world, has been ratified by most AU member states and continues to be extremely relevant. The Convention mirrors the historical context of the end of the 1960s, when many African countries

had recently become independent, while others were still under the yoke of colonialism or under minority rule.

The 1969 OAU Refugee Convention is significant for the analysis purposes of this thesis since, together with the refugee definition contained in the 1951 Refugee Convention, this treaty also provides a regionally specific definition: ‘The term “refugee” shall also apply to every person who, owing to external aggression, occupation, foreign domination or events seriously disturbing public order in either part or the whole of his country of origin or nationality, is compelled to leave his place of habitual residence in order to seek refuge in another place outside his country of origin or nationality’ (OAU, 1969: art. I, para 2). Even if the transposition of the Convention in domestic legislations by signatory governments is not complete, this definition, and in particular the clause regarding the events that severely disrupt public order, is fundamental today in the context of environmental migration and displacement since it has been applied also in cases of harmful environmental changes or natural disasters upsetting the public order. For example, a number of African states applied the OAU Convention’s broadened definition on a prima facie basis to Somalis who were suffering starvation and could not receive aid from local authorities (Kraler, et al., 2020). Moreover, Ethiopia endorsed the Protection Agenda⁵, pledging to open its frontiers to people forced to abandon their place of habitual residence because of natural catastrophes, and Kenya admitted 200.000 Somalis who were escaping natural disasters without even invoking the 1969 OAU Convention (Kraler, et al., 2020).

Another key regional protection instrument that should be mentioned for its expanded refugee definition is the outstanding *Cartagena Declaration on Refugees*, which represents a cornerstone of refugee law in Latin America. This legal tool was adopted on 22nd November 1984 by the Colloquium on the International Protection of Refugees in Central America, Mexico and Panama, held in Cartagena de Indias, Colombia. The Cartagena Declaration laid the foundation for the development of a unique Latin American architecture for refugee protection, building on the region’s long history of asylum. At the same time, it also interacts with broader frameworks,

⁵ The Nansen Initiative and its *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change* will be analyzed in detail later in the chapter.

such as the international refugee regime enshrined in the 1951 Refugee Convention and its 1967 Protocol.

Article III of the Declaration presents seventeen Conclusions, which are the substantial contributions of the document. For the interest of this work, it is essential to focus on Conclusion 3, in which a new regional refugee definition is outlined. This definition goes beyond the international principles established by the 1951 Refugee Convention. Indeed, in light of the experience acquired from the large refugee flows in the region of Central America, according to the Colloquium, it is necessary to contemplate the expansion of the concept of refugee, taking into account the precedent set by the OAU Convention as well as the doctrine of the Inter-American Commission on Human Rights (UNHCR, 1984). Consequently, ‘the definition or concept of a refugee to be recommended for use in the region is one which, in addition to containing the elements of the 1951 Convention and the 1967 Protocol, includes among refugees persons who have fled their country because their lives, safety or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order’ (UNHCR, 1984: art. III, para 3).

The reference to “other circumstances which have seriously disturbed public order” is crucial as it could be used to concede refugee status and protection to a person who is fleeing natural catastrophes or deteriorating and damaging changes in the environmental conditions in which he/she lives. However, while this legal provision grants flexibility to the governments that may desire to apply the definition to people displaced by natural disasters or degrading environmental changes that have severely disrupted public order, this application is not mandatory (Kraler, et al., 2020). Indeed, as clarified by the Office of the United Nations High Commissioner for Refugees following an expert roundtable on the interpretation of the expanded refugee definition contained in the Cartagena Declaration held in Montevideo, Uruguay, in 2013, people forced to leave their country of origin due to natural or ecological calamities, in strict terms, are not protected pursuant to the refugee definition of the 1984 Cartagena Declaration (UNHCR, 2014).

The Office of the United Nations High Commissioner for Refugees also stresses that there is no universally agreed definition of “public order”, but in the framework of the

Cartagena Declaration this term can be understood as referring to the stability and security of the society, as well as the smooth operation of the state's institutions, both in times of war and peace (UNHCR, 2014). Moreover, several participants to the 2013 expert roundtable pointed out that the use of the word "other" could indicate a purpose to leave states some leeway in affording protection in those situations that either do not reach the violence threshold of the other four events mentioned in the definition (i.e., generalized violence, foreign aggression, internal conflicts, and massive violation of human rights), or which do not correspond to the nature of the other situations. Yet, even if it is permissible for governments to interpret the Cartagena refugee definition in such a way that it grants protection to people escaping, for instance, natural catastrophes, it was agreed that this approach is not prohibited (UNHCR, 2014).

To conclude, the *OAU Convention Governing the Specific Aspects of Refugee Problems in Africa* reveals itself a key protection tool in the framework of environmental migration and displacement, since it represents the only binding regional legal instrument on refugee protection in the developing world. Although the application of the Convention depends on its incorporation into national laws, its expanded refugee definition, especially the reference to "events seriously disturbing public order", has been used and could be used in the future to grant protection to people leaving their countries due to harmful environmental changes or natural disasters. For what concerns instead the *Cartagena Declaration on Refugees*, while not legally binding, its provisions have been integrated in the legislation of numerous Latin American states. Even if the application of the Cartagena extended refugee definition, in particular the "other circumstances which have seriously disturbed public order" element, to people forced to abandon their country of origin due to natural or ecological disasters is not mandatory, what remains extremely relevant is the fact that this regional legal tool still leaves a glimmer of protection for persons compelled to cross internationally recognized borders for environmental reasons.

1.3. The UN Guiding Principles on Internal Displacement

While the 1951 Refugee Convention, the 1969 OAU Refugee Convention and the 1984 Cartagena Declaration define protections for cross-border movements, international standards for internal displacement were only introduced in 1998.

Indeed, during the 1990s the need for international norms to protect internally displaced people (IDPs) became evident, as the number of people displaced within their own nations due to civil wars and human rights violations exploded. At that time, internal displacement was an issue that lacked precise definitions and a normative structure to lead policymakers and humanitarian actors in their responses: indeed, the 1951 Refugee Convention does not apply to IDPs, and no international agreement on internal displacement existed or exists today. Therefore, the international community started asking for a text that would outline the rights of internally displaced people and the governments' obligations towards them.

Consequently, after his appointment in 1992, the Representative of the Secretary-General on Internally Displaced Persons Francis M. Deng made it one of his top priorities to build a legal framework for IDPs. The *Guiding Principles on Internal Displacement*, presented by Mr. Deng to the United Nations Commission on Human Rights in 1998, thus represented a watershed moment in the development of a normative structure for IDPs' protection (Global Protection Cluster, 2022).

The *Guiding Principles on Internal Displacement* delineate 30 Principles that describe the rights of internally displaced people and the obligations of the national governments to protect and help them. They lay out the guarantees for the support and protection of IDPs from the moment they are uprooted until long-term solutions are found through return, reintegration, or relocation in a different place in the nation (Global Protection Cluster, 2022).

The Guiding Principles reaffirm various relevant provisions of international human rights and humanitarian law, as well as refugee law. They adapt these norms to the peculiar circumstances of IDPs. Even if they are not binding, these principles have achieved substantial authority since their adoption in 1998 and are now acknowledged as the normative starting point for addressing internal displacement. For example, they constitute the cornerstone of the Inter-Agency Standing Committee (IASC) Framework on Durable Solutions for Internally Displaced Persons (Kraler, et al., 2020). The UN General Assembly has recognized their importance for IDPs' assistance and protection and has invited all concerned players to employ them in situations of internal displacement. The Guiding Principles have also been found

valuable by many regional organizations and states, with some incorporating them into their national laws and policies (Global Protection Cluster, 2022).

In detail, the structure of the 30 Guiding Principles follows the different phases of displacement. After four General Principles, Principles 5 to 9 cover protection against displacement; Principles 10 to 23 are devoted to protection during displacement; Principles 24 to 27 shape the architecture for humanitarian assistance; finally, protection during return, local reintegration in the areas where the people have been displaced and resettlement in a different place of the state is addressed in the Principles 28 to 30 (Global Protection Cluster, 2022).

These Principles are important as they serve as a guide for all key actors, including the UN Special Rapporteur in performing his/her mandate, states, all other authorities like groups and individuals in their interactions with IDPs, and also non-governmental and intergovernmental associations.

According to the *Guiding Principles on Internal Displacement*, IDPs are afforded, without discrimination, the same rights and freedoms under international and national law as other citizens of their nation. IDPs must not be discriminated against merely because of their displacement, or on the basis of their sex, race, religion, social origin, language or other comparable aspects (Global Protection Cluster, 2022).

Importantly, the Guiding Principles reaffirm the right not to be arbitrarily displaced and forbid displacement based on racial, ethnic, or religious considerations. Thus, they make up for significant lacunas in the protection of internally displaced people by directly expressing what international law simply states in an indirect manner (Global Protection Cluster, 2022).

Moreover, the Principles emphasize that it is the primary duty of national authorities to guarantee that IDPs' basic rights to food, water, shelter, safety, and dignity are fulfilled, as well as to ease their access to all other rights. If governments lack the capacity to give support and protection to IDPs, they should welcome the help of the international community (Global Protection Cluster, 2022). IDPs are also entitled the right to seek asylum in a different state. In addition, for what concerns the return stage, the centrality of a voluntary and safe return in dignity is highlighted by the Guiding Principles, together with the necessity to aid those who have been uprooted in regaining their property and assets (Global Protection Cluster, 2022).

For the purposes of this thesis, it is important to focus on the definition of *internally displaced persons* provided by the Guiding Principles, that were officially adopted by the United Nations General Assembly in 1998: ‘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 generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border’ (OCHA, 1998: p.1). Therefore, from this definition it is clear that the Guiding Principles also apply to internal displacement triggered by environmental events.

While they do not establish a special status for internally displaced persons, the Guiding Principles foresee a variety of protections which are crucial in the framework of internal displacement, especially in the case of displacement connected to disasters. One of the most important in this sense is the prohibition of arbitrary displacement, which involves also arbitrary evacuation in cases of disasters (Principle 6), or the obligation for the national authorities to consider all viable alternatives to displacement as a priority (Principle 7).

Nevertheless, although the reference to human-made or natural disasters is fundamental, slow environmental changes, including climate change, that lead to environmental degradation are not considered, but only sudden and temporary events like natural catastrophes are mentioned. Moreover, indirect drivers of migration, such as the economic impacts of disasters, are not specifically addressed in the Guiding Principles. Consequently, who precisely falls under their umbrella is often difficult to determine (Kraler, et al., 2020). This is not merely an academic matter: it could become crucial, for instance, when states select the people to be included in IDP aid programs.

The voluntary character of the Guiding Principles implies that states can only make them mandatory if they are integrated in the domestic legislations. As of February 2022, the Global Database on IDP Laws and Policies⁶, prepared and updated by the Global Protection Cluster, has recorded 26 laws (defined as systems of rules formally recognized as binding and enforced by the pertinent authority) related to internal

⁶ The database is accessible at: <https://www.globalprotectioncluster.org/global-database-on-idp-laws-and-policies/>.

displacement in 14 countries, and 60 IDP policies (defined as texts that summarize the main goals of a government, as well as the methods and the actions to attain them) in 35 countries. However, by analyzing existing IDP laws and policies, it appears that only a minority, approximately one third of them, deals with displacement connected to disasters (Kraler, et al., 2020).

More generally, it is possible to note that, even if the Guiding Principles have been and are perceived as a vital instrument for enhancing protections for internally displaced people before, during, and after displacement, endeavors continue to be devoted mostly to protections in the cross-border displacement scenario rather than the internal one (Kraler, et al., 2020).

Most crucially, whereas the Guiding Principles offer suggestions for dealing with internal environmental displacement, there is currently no recognized global tool to manage cross-border migration resulting from climate change. Hence, the international legal framework is characterized by a protection gap concerning those persons who are compelled to abandon their country of origin or of habitual residence owing to environmental motivations and who are not covered by regional protection instruments (Kraler, et al., 2020). Therefore, it is exactly due to the absence of a dedicated legal tool that would enable individuals harmed by climate change to cross a border to find shelter abroad, that people have tried to exploit the existing international protection frameworks to seek asylum in other nations.

1.4. The Kampala Convention

It is now fundamental to put the spotlight on the *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa*, also known as the *Kampala Convention*, adopted by the Special Summit of the Union held in Kampala, Uganda on 23rd October 2009 and entered into force on 6th December 2012, as this text draws considerably on the Guiding Principles while also enhancing the incorporation of natural catastrophes and climate change, including by mentioning unambiguously people who have been uprooted as a result of climate change. Furthermore, this Convention is the perfect combination of the international human rights and humanitarian law tenets symbolized by the Guiding Principles and important facets taken from the African regional human rights frameworks (Adeola, 2018). For these reasons, it is worth spending a few words on it.

The definition of *internally displaced persons* provided in Article I of the Kampala Convention is consistent with the definition offered by the *Guiding Principles on Internal Displacement*. Indeed, it comprises individuals who have been displaced as a result of or in order to avoid the effects of natural or human-made disasters, among other events (AU, 2009).

Article II lays out the objectives of the Convention, which are critical to improving protection systems for environmentally displaced people who do not cross international borders. In particular, the Kampala Convention aims at encouraging and enhancing regional and national efforts to alleviate and eradicate the root causes of internal displacement, as well as to promote long-term solutions; it also aims at building a legal framework to avoid internal displacement, and to protect and help internally displaced people in Africa, including a framework for cooperation, solidarity and mutual assistance between the States Parties in these efforts. Finally, the Convention aims at identifying the obligations and responsibilities of the States Parties, armed groups, non-state actors and other significant players, including civil society associations, regarding the prevention of internal displacement as well as the assistance to and protection of IDPs (AU, 2009).

As already anticipated, the Kampala Convention goes further in protecting people forced to leave their places of origin or habitual residence for environmental reasons than the Guiding Principles. Indeed, under Article V (4), States Parties pledge to take steps to safeguard and help people who have been internally uprooted due to human-made or natural catastrophes, ‘including climate change’ (AU, 2009: art. V, para 4). Other relevant obligations undertaken by the States Parties concerning disaster-related displacement involve designing and putting into place disaster risk reduction strategies, and measures for improving preparedness against and the management of disaster situations (Article IV (2)). Furthermore, as for the Guiding Principles, the Parties to the Convention recognize that everyone has a right to be protected against arbitrary displacement, which comprises also forced evacuations in circumstances of natural or human-made calamities, if the evacuations are not indispensable for the safety and health of those impacted (Article IV (4)(f)).

As observed by Adeola (2018), the affirmation of the right not to be arbitrarily displaced is one aspect in which the Kampala Convention closely resembles the

Guiding Principles. Four major components of this right are considered in the Guiding Principles and, by analogy, in the Kampala Convention.

First, any action of displacement must be legitimate under international law. Following the Guiding Principles, the Kampala Convention lays forth the conditions under which international law prohibits displacement. In this respect, Adeola (2018) focusses on one aspect. Whereas the Guiding Principles prohibit female genital mutilation and gender-based violence against IDPs (Principle 11), the Kampala Convention goes even farther, forbidding harmful practices as a source of displacement. In doing so, the Convention reveals its bond with the *Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa*, famous as the African Women's Protocol (Adeola, 2018). Along with running away from the risk of female genital mutilation and child and forced marriage, some African girls flee their families to avert breast ironing, a practice that stems partially from the idea that flattening the breasts can reduce promiscuity in young girls. The ban of harmful practices like these as a driver of displacement in the Kampala Convention undoubtedly mirrors the African reality (Adeola, 2018).

The second element of the right not to be arbitrarily displaced is that, although displacement is allowed in some circumstances, it must nevertheless be performed in accordance with due process of law, which means that all minimal procedural guarantees must be met (Adeola, 2018). As described in the previous part of the chapter, Principle 7 of the Guiding Principles defines the minimum procedural standard for all kinds of displacement, establishing the obligation to explore all viable alternatives to avert displacement and the obligation to give appropriate accommodation to displaced people. While the Guiding Principles do not contain any precise minimum requirements for natural disasters and in particular climate change, the Kampala Convention does. With the role of climate change attracting more and more attention as time passes, this is one of the domains in which the Kampala Convention shows a broader scope than the Guiding Principles thanks to its specific recognition of climate change (Adeola, 2018).

The right not to be arbitrarily displaced has a third dimension: displacement must not be implemented in a way that infringes human rights. Indeed, according to both legal

instruments, States are required to observe their human rights obligations regarding the manner in which displacements are conducted (Adeola, 2018).

The last important aspect is that the Kampala Convention calls for States to take steps to mitigate the negative effects of displacement on the impacted groups. Indeed, following the example of Principle 3 (2) of the Guiding Principles, Article V (9) of the Kampala Convention enshrines the right of internally displaced persons to seek and obtain assistance (Adeola, 2018). The hearth of this provision is to assure the protection and support of those internally uprooted, and also to shield them from the adverse repercussions of displacement that may not have been predictable before and during the displacement period.

In a valuable policy briefing regarding the link between climate change and migration, Adeola (2020) explores the dimensions of climate-induced internal displacement and the protection of such internally displaced persons envisaged by the Kampala Convention. It has already been said that the Kampala Convention, contrary to the Guiding Principles, establishes specific minimum requirements for natural disasters and in particular climate change. Interestingly, Adeola (2020) notes that in the framework of climate change five key due process requirements can be distinguished.

The first requirement is appropriate planning for climate-related events through the creation of early warning systems, which is highlighted in Article IV (2). In the protection of climate IDPs, early warning is crucial for six main reasons: it allows for a better knowledge of the scale of the threat and of the possible hotspots; it enables a sufficient preparation for and answer to the emergency; it gives data that can be used to develop resilience and design resettlement strategies; it simplifies the successful involvement of important stakeholders; it encourages evidence-based interventions; finally, early warning draws attention to the possible vulnerabilities and risks that communities may face (Adeola, 2020).

The second aspect of due process in the context of climate change concerns the engagement of the local communities, conceived as a bottom-up approach and not as a top-down one. The fundamental purpose of this approach is to guarantee that resettlement projects are well-planned and that long-term solutions to climate-related displacement are found. Importantly, the participation of the local communities to planning procedures not only lends legitimacy to the process, but also assures that

particular needs are addressed (Adeola, 2020). The Kampala Convention expresses the necessity of this engagement precisely in affirming in Article IX (2)(k) that internally displaced people must be permitted to join the decisions on protection and assistance. Of course, it is critical to include especially those groups that may be most affected, like pastoralists, women, and children; for this to happen, engagement processes should take their exigencies into account (Adeola, 2020).

The third central due process requirement in the context of climate change is represented by the provision of humanitarian assistance. During displacement States Parties are required to give proper humanitarian support to internally displaced people, including ‘food, water, shelter, medical care and other health services, sanitation, education, and any other necessary social services’ (AU, 2009: art. IX, para 2, b). Likewise, humanitarian aid is fundamental also in the aftermath of displacements in order to preserve livelihoods and mitigate the negative impacts of displacement. Evidently, humanitarian support should be oriented above all towards responding to the necessities of those that have been deeply harmed and are at risk of increased vulnerability, particularly women and children. Moreover, even if the primary responsibility of assistance is in the hands of the national governments, the Convention invites to collaborate with humanitarian agencies, in order to lessen the strain on states and facilitate a suitable answer (Adeola, 2020).

According to Adeola (2020), the fourth dimension of climate-related due process is proper documentation, which is vital not only to determine the number of people who have been uprooted and distinguish specific categories among them using disaggregated data, but also for organizing evidence-based interventions and simplifying the free movement of climate IDPs and their smooth access to essential services. Indeed, the Kampala Convention requires States Parties to compile an updated register of all IDPs (Article XIII (1)), guarantee that these people are ‘issued with relevant documents necessary for the enjoyment and exercise of their rights’ (AU, 2009: art. XIII, para 2), and support the ‘issuance of new documents or the replacement of documents lost or destroyed in the course of displacement, without imposing unreasonable conditions’ (AU, 2009: art. XIII, para 3).

Finally, the fifth important element of climate-related due process is remediation, which is necessary to guarantee that the livelihood capacities of people internally

displaced due to climate change are rebuilt and that they have access to justice (Adeola, 2020). Similarly, representation and access to legal assistance is equally decisive. In this respect, Article XII (3) of the Kampala Convention establishes that when a State Party refrains from safeguarding and helping internally displaced people in the event of natural catastrophes, that State Party shall be liable to give reparations to those who have been harmed.

Hence, the Kampala Convention specifically covers protections for individuals who have been internally displaced as a result of both natural catastrophes and climate change. But what is probably most crucial for protection endeavors is the fact that this Convention is the first legally binding treaty on internal displacement that embraces the whole African continent. Therefore, it represents a landmark in the evolution of international law on IDPs (Kraler, et al., 2020).

Nonetheless, in order to be enforceable, the Convention's provisions must be integrated into national legislations by the countries that have ratified it. Up to now, of the African Union's 55 member states, 40 countries have signed the Kampala Convention and 31 have ratified it⁷. Added to the incomplete signature and ratification of the agreement, the implementation of its provisions continues to be a challenge. Thus, to facilitate application, the member states concurred on an action plan for implementing the Convention during the first Conference of State Parties in 2017 (Kraler, et al., 2020). Furthermore, in 2018 the African Union adopted a model legislation to encourage the inclusion of the provisions of the Kampala Convention into national law and accelerate its enforcement. This model legislation contains approximately 60 articles, which mirrors the Convention's vast scope (Kraler, et al., 2020).

To conclude, the rise of the *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa* as a regional benchmark on internal displacement is the clear proof of the momentousness of the Guiding Principles as a first, authoritative declaration of international norms on IDPs' safeguard and aid. Thus, the Kampala Convention, though adjusted in certain respects in order to accurately mirror the African environment, is the strongest manifestation

⁷ Updated information on the status list of the Kampala Convention is available at: <https://au.int/en/treaties/african-union-convention-protection-and-assistance-internally-displaced-persons-africa>.

so far of the Guiding Principles' contribution to subsequent binding laws regarding internal displacement.

2. Milestones in the global governance of environmental migration and displacement

After the analysis of the absence of an internationally recognized definition for environmental migrants and of meaningful regional legal instruments with their protection implications, the second section of the second chapter explores the efforts of the stakeholders to deal with environmental migration and displacement at the global level. Indeed, since the 2000s several state-led global initiatives have arisen to address the issue of environmental migration and displacement. Among them, the most significant is probably the Nansen Initiative, especially for its legacy (i.e., the Protection Agenda).

The relevant initiatives in this context are innumerable, so it was necessary to make a choice. Therefore, after the Nansen Initiative, this section will analyse, for the reasons that will be explained below, the *New York Declaration for Refugees and Migrants* adopted by the UN General Assembly in 2016, and its products, namely the two Global Compacts.

Finally, multilateral endeavours to tackle climate change and disasters, led by the UN, have continued vigorously since 2011, advancing the previous work under the IASC, the 1994 UNFCCC and the Hyogo Framework for Action 2005-2015. While largely concentrating on climate change and disasters, these tools have recognized the importance of addressing environmental displacement. Among them, this section will examine the *Sendai Framework for Disaster Risk Reduction 2015-2030* and the work of the Global Platform for Disaster Risk Reduction.

2.1. The Nansen Initiative

The Nansen Initiative was created to close the gap regarding the protection of those people displaced across borders because of disasters and climate change. It draws on the 2010 UNFCCC Cancun Agreements, which demand new measures to increase understanding and cooperation in the field of climate change and displacement, as well as on the results of the Nansen Conference on Climate Change and Displacement that took place in 2011. In the wake of this conference, the governments of Norway

and Switzerland pledged at the 2011 UNHCR Ministerial Conference to devise a more cooperative and harmonious approach for confronting the protection needs of individuals forced to cross international borders owing to disasters and climate change. Therefore, in October 2012, the Nansen Initiative was launched as a state-led venture with additional nations and partners on board (Kraler, et al., 2020).

As highlighted by Professor Walter Kälin, former Envoy of the Chairmanship of the Nansen Initiative, the leading objective of the Nansen Initiative is to develop consensus among the impacted countries on how to effectively act in response to the challenge of cross-border displacement that takes place in the context of disasters, including the negative effects of climate change. To that purpose, the Initiative conducted inter-governmental consultations held by the members of the Steering Group⁸, as well as independent gatherings with the civil society in five sub-regions (Central America, the Pacific, Southeast Asia, South Asia, and the Greater Horn of Africa). These discussions focused on the separate and various dynamics of displacement occurring across international borders and underlined the mostly regional dimension of such population movements, as well as the multiple processes in place to deal with disaster-related displacement. Even if some crucial global topics emerged from all the regional discussions, every region nevertheless set its own priorities in response to its own array of problems (Kälin, 2015).

For populations impacted by disasters and the adverse effects of climate change, the Nansen Initiative suggested a large range of protection and migration solutions, such as ‘issuing humanitarian visas, stays of deportation, granting refugee status in exceptional cases, bilateral or regional arrangements on free movement of persons, expediting normal migratory channels, or the issuance of work permits’ (Kälin, 2015: p.6). The discussions also acknowledged the necessity to assess the potential applicability of available regional treaties to deal with cross-border displacement in situations of natural disasters, or, if none exists, to contemplate creating temporary protection, admission and stay mechanisms connected to long-term solutions.

Moreover, Kälin (2015) remarks that the discussions highlighted the need for a “toolbox” of policy measures which, in addition to protecting displaced persons, also

⁸ According to Kälin (2015), the Steering Group is composed of representatives from Australia, Bangladesh, Costa Rica, Germany, Kenya, Mexico, Norway, the Philippines and Switzerland; UNHCR and IOM act as Standing Invitees.

take into account other types of mobility, for example by assisting populations in avoiding displacement, also by moving within or across the national borders before displacement happens, in planned or regular ways. For instance, ‘disaster risk reduction activities, climate change adaptation, contingency planning exercises, infrastructure improvements, relocating people at risk of displacement to safer areas, land reform and other measures to improve resiliency are all potential actions to help people stay in their homes for as long as possible’ (Kälin, 2015: p.6). It is also fundamental that the legal and policy mechanisms for IDPs are adequately enforced to guarantee a good response to disaster-related displacement altogether. Lastly, especially in the framework of slow-onset environmental disasters and the manifestations of climate change, voluntary migration to another area of the nation or, when possible, to a different state can represent a chance to find employment and decrease the menace of displacement in periods of emergencies (Kälin, 2015).

Generally speaking, the Nansen Initiative has sparked keen interest since it was able to unify stakeholders from the most disparate contexts, such as human rights preservation, humanitarian assistance, disaster risk reduction, adaptation to climate change, migration governance, refugee protection and development, to debate on how to appropriately prepare for and react to this kind of displacement. Above all, the Initiative’s consultative process emphasized the critical role of regional and sub-regional organizations in integrating the efforts of the national governments to seek solutions to the problem by relying on and enhancing existing laws, systems and practices (Kälin, 2015).

Undeniably, the Nansen Initiative has informed both regional and global processes, and, consequently, has contributed to the advancement of policies and instruments that deal with displacement triggered by environmental drivers. Regionally, for example, states have used the conclusions of the Nansen Initiative’s consultations within the December 2014 Cartagena +30 process that led to the Brazil Declaration and Plan of Action, within the process that resulted in the Strategy for Climate and Disaster Resilient Development in the Pacific, as well as in the February 2015 workshop of the Regional Conference on Migration (Puebla Process). At the world stage, the Initiative’s outcomes strengthened the central incorporation of internal and cross-border displacement connected to disasters in the Sendai Framework for Disaster Risk Reduction 2015-2030. The Initiative has also influenced the discussions

of the negotiations on the 2015 Paris Agreement on Climate Change and played a key role in the consultations undertaken as part of the 2016 World Humanitarian Summit (Kälin, 2015).

Instead of developing new legal norms or obligations, the Nansen Initiative pursued a global consensus on the elements of a protection agenda for individuals displaced across borders due to natural catastrophes and the impacts of climate change, which could then be leveraged to create legislations and arrangements at various levels. In the end, the efforts of the Nansen Initiative culminated in the *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change* (hereinafter Protection Agenda), which was endorsed by 109 government delegations on 12th-13th October 2015 in Geneva, Switzerland.

To achieve the goal of supporting States and other players in improving their preparedness and response capacity to deal with cross-border disaster displacement, the Protection Agenda first of all develops a far-reaching approach to disaster displacement that mainly aims attention at the protection of individuals displaced across borders due to natural catastrophes and the impacts of climate change, while simultaneously outlining the steps to mitigate the risks of disaster-related displacement in the nation of origin (The Nansen Initiative, 2015).

Secondly, the Protection Agenda offers a wide collection of useful practices that States, regional/sub-regional entities and the international community could employ to guarantee more successful future responses to this kind of displacement. Thirdly, it emphasizes the need to connect and combine policies and action areas, which have been disjointed rather than coordinated thus far, in the attempt to face cross-border disaster-related displacement and its core determinants, and also urges for enhanced collaboration among the actors in sectors like humanitarian aid, human rights protection, development, adaptation to climate change, disaster risk reduction, and control of migration (The Nansen Initiative, 2015).

Finally, another important contribution of the Protection Agenda is that it outlines three priority areas for improved action by States, regional/sub-regional associations, the international community and other interested parties like the civil society groups or the local authorities and societies, to bridge the present lacunas. These three areas are: (1) gathering data and strengthening knowledge on displacement occurring across

borders due to natural catastrophes and climate change; (2) improving the adoption of humanitarian protection measures for such displaced people, including systems for long-term solutions; (3) reinforcing the management of the risk of disaster displacement in the origin State (The Nansen Initiative, 2015).

While unquestionably focusing on cross-border displacement, considering the admission and stay of people crossing borders as well as the exclusion of returning individuals already present in a foreign nation, the Protection Agenda also covers internally displaced people. Moreover, in discussing how the risks of displacement can be reduced in the origin countries, the Agenda highlights the importance of lowering vulnerability and building resilience, including migration as a strategy to cope with the adverse effects of climate change and natural catastrophes. Indeed, when the living conditions worsen following environmental degradation, people frequently use migration as a means of seeking better possibilities in their nation or abroad, in order to avert scenarios that would otherwise lead to a humanitarian crisis and displacement in the coming years. If accurately prepared and conducted, migration has the potential to be a valid solution to tackle the impacts of climate change, other environmental deterioration and natural catastrophes. By enabling migrants to send remittances and come back home with new knowledge, technology and competences, circular or temporary migration can generate new livelihood chances, can boost economic development and enhance resilience. Permanent migration is especially crucial for low-lying small island States and other countries facing sea level rise, significant territorial loss or other negative consequences of climate change that are progressively rendering vast stretches of land unsuitable for living. Reassessing available bilateral and regional migration treaties, implementing national quotas or seasonal workers programs, and training potential migrants are all examples of measures that could promote the so-called ‘migration with dignity’ from environmentally vulnerable territories or nations⁹ (The Nansen Initiative, 2015).

Interestingly, following the desires expressed during the Nansen Initiative’s process, the Protection Agenda does not push for a new binding international treaty on the subject in question, but rather calls for States and regional organizations to incorporate

⁹ The use of migration as a climate change adaptation strategy will be analyzed in detail in chapter 3.

effective practices into their normative structures in conformity with their unique circumstances and difficulties.

The Protection Agenda fits into the broader context of the rising awareness, both at the international and regional level, of the challenges of human mobility in a background characterized by the growing impacts of climate change and natural disasters; it thus interacts with other key mechanisms, such as the Conference of the Parties to the UN Framework Convention on Climate Change, the UN's 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction 2015-2030, and the World Humanitarian Summit. Many of these processes already benefited from the Nansen Initiative's crucial findings. Therefore, by offering significant documentation and examples of valuable practices to tackle disaster displacement and its roots, the Protection Agenda strives to integrate and strengthen, rather than duplicate, these regional and international platforms and action sectors (The Nansen Initiative, 2015).

Following the endorsement of the Protection Agenda, the Platform on Disaster Displacement (PDD) was established to assist in the execution of its recommendations. Launched at the 2016 World Humanitarian Summit and currently guided by Fiji as Chair and the EU as Vice-Chair, the members of the Platform on Disaster Displacement engage in different activities with the purpose of enhancing protection for people displaced across borders in the framework of climate change and disasters. For example, they support measures to allow people at risk of displacement to remain in their homes or to help disaster-stricken people out of danger; they gather partners such as governments, international and regional bodies, research institutes, academics, non-governmental associations and other civil society groups in a community of practice on disaster displacement; they shape and nourish central messages about disaster displacement into global policy processes, including most recently the process that resulted in the *Global Compact for Safe, Orderly and Regular Migration*; they make regional initiatives easier, helping to exchange experiences and devise effective practices as well as normative structures that take local realities into account; they work to close important gaps on evidence, statistics, information and awareness about this kind of displacement; finally, the PDD's members spread the word and try to catch the interest of the public about the challenges of and possible responses to displacement in the context of climate change and natural disasters using

traditional and innovative artistic and communicative instruments (Platform on Disaster Displacement, 2022).

Hence, the work of the Platform on Disaster Displacement is very important nowadays since it builds partnerships for multi-sectoral discussions, information sharing, and policy development. In particular, it is worth mentioning the fact that, at the COP26 Climate Conference that took place in November 2021 in Glasgow, the PDD, the Norwegian Agency for Development Cooperation (Norad) and the United Nations Office for Project Services (UNOPS) signed an agreement on a joint project aimed at improving knowledge and awareness of displacement occurring in the framework of climate change as loss and damage, and aimed at strengthening action and backing for measures designed to prevent, reduce and address displacement caused by climate change's harmful impacts (Platform on Disaster Displacement, 2021). The whole project is part of the application of the UNFCCC and the Paris Agreement; however, it will work with a combining perspective across linked policy areas, like human mobility, humanitarian aid, development, human rights, reduction of disaster risk, and so forth. The project will be carried out in up to five developing nations that particularly suffer from the disastrous impacts of climate change, with small island developing states and least developed countries included (Platform on Disaster Displacement, 2021). This recently launched project is thus a good case in point of the PDD's contribution in global policy processes to the promotion of both discourses and action on displacement connected to natural disasters and the adverse effects of climate change.

2.2. The New York Declaration for Refugees and Migrants and the Global Compacts

In the midst of increasing global displacement, on 19th September 2016 the United Nations General Assembly unanimously adopted the *New York Declaration for Refugees and Migrants*, which includes a variety of pledges by Member States to improve and reinforce tools and measures to protect individuals on the move. In endorsing the New York Declaration, Member States voiced deep solidarity with people obliged to flee; confirmed their obligations to completely respect the human rights of refugees and migrants; concurred that protecting refugees and assisting the countries that welcome them are joint international responsibilities that must be shared

more equally and predictably; and promised strong support to nations that see massive movements of migrants and refugees (UNHCR, n.d.).

In the context of environmental migration and displacement, the New York Declaration is particularly significant since it explicitly recognizes the harmful impacts of climate change, natural disasters (some of which may be caused or accentuated by climate change), or other environmental factors as drivers of migration (UN General Assembly, 2016). Moreover, Member States commit to addressing the factors that cause or aggravate mass movements. In this regard, they pledge to take steps to fulfil the objectives of the 2030 Agenda for Sustainable Development, including striving against environmental degradation and guaranteeing efficient responses to natural catastrophes and other negative consequences of climate change (UN General Assembly, 2016). Finally, Member States pledge to support migrants in those nations that are facing conflicts or natural catastrophes in an impartial and needs-based manner, working in conjunction with the national governments; in relation to this, they stress the importance of the *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change* born from the Nansen Initiative and of the Migrants in Countries in Crisis Initiative (UN General Assembly, 2016).

The New York Declaration lays down the main components of a *Comprehensive Refugee Response Framework* (CRRF). It also paved the way for the adoption of two Global Compacts in 2018: one on international migration and one on refugees.

The *Comprehensive Refugee Response Framework* emphasizes the necessity of assisting those nations and communities that welcome significant numbers of refugees, fostering refugee integration into host communities, guaranteeing the early participation of development actors, and adopting a “whole-of-society” approach to refugee solutions. The four pivotal purposes of the CRRF are to reduce the strain on the receiving states and communities; to increase the self-sufficiency of refugees; to extend third-country responses; and to improve the conditions in the countries of origin so that people can return safely and with dignity (UNHCR, n.d.). Since the adoption of the New York Declaration, UNHCR has been collaborating with national governments and other interested parties to implement the CRRF worldwide. Indeed, this Framework has been implemented in a variety of refugee situations in over a

dozen countries, including several regional contexts in Central America and Africa (UNHCR, n.d.).

Annex II of the New York Declaration inaugurated a series of intergovernmental discussions and negotiations aimed at creating a *Global Compact for Safe, Orderly and Regular Migration* (GCM). Most of the UN Member States adopted the GCM on 10th December 2018 at an Intergovernmental Conference in Marrakesh, Morocco, which was followed by the formal endorsement of the Global Compact with a Resolution adopted by the UN General Assembly on 19th December 2018 (IOM, 2022).

The Global Compact for Migration is the first intergovernmental agreement, developed under UN's auspices, addressing all aspects of international migration with a systematic and integrated approach. While non-binding, it offers an excellent chance to better migration governance, to solve the issues that today's mobility poses, and to bolster migrants' contributions to sustainable development. It is structured in a way that aligns with target 10.7 of the 2030 Agenda for Sustainable Development, in which Member States committed to work together worldwide to facilitate safe, orderly and regular migration (IOM, 2022). The GCM is intended to encourage cooperation at the international level for governing migration, as well as to offer a complete array of policy options from which states can choose the most useful measures to tackle the urgent challenges brought about by international migration. It is also aimed at granting states the needed flexibility to implement the Global Compact on the basis of their realities and capabilities (IOM, 2022).

The Global Compact for Migration sets out 23 Objectives for Safe, Orderly and Regular Migration. Measures related to environmental migration are covered in Objective 2, which aims at reducing the negative drivers and structural factors that force individuals to leave their country of origin, as well as in Objective 5, which looks at improving the availability and flexibility of ways and routes for regular migration (UN, 2018).

Remarkably, Objective 2 includes a subsection (h-l) devoted specifically to natural disasters, the harmful impacts of climate change and environmental degradation. In order to minimize the adverse root causes of migration in the environmental context, signatories commit to: (1) enhance joint analysis and information sharing to better

map, anticipate and respond to migratory flows, such as those caused by sudden-onset and slow-onset natural catastrophes, the damaging impacts of climate change, environmental deterioration, and other precarious conditions; (2) realize strategies for adaptation and resilience to sudden-onset and slow-onset disasters, the negative consequences of climate change and environmental decline, considering their possible influence on migration and prioritizing adaptation in the origin countries; (3) incorporate displacement-related considerations into efforts for disaster preparedness and encourage cooperation with nearby areas and other countries involved in order to improve early warning systems, contingency programming, stockpiling, coordination tools, evacuation plans, and reception and aid measures; (4) create and align in the regional and subregional scenarios tools and approaches to confront the vulnerabilities of people impacted by rapid-onset and gradual environmental events, by making sure they receive humanitarian aid and by supporting sustainable results that boost self-sufficiency and resilience; (5) craft consistent approaches to tackle the issue of migration in the context of environmental challenges, including by leveraging important recommendations already developed by state-led initiatives, such as the *Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change* and the Platform on Disaster Displacement (UN, 2018).

Instead, under Objective 5 of the Global Compact for Migration, it is noteworthy that, in order to increase the opportunities for regular migration, signatories commit to cooperate to define, create and enhance solutions for people forced to abandon their countries of origin because of slow-onset natural catastrophes, the devastating impacts of climate change and environmental degradation, such as sea level rise, desertification, drought and land degradation, also by contemplating planned relocation and visa alternatives in those cases in which adaptation in or return to the origin country is not attainable (UN, 2018).

Even if the *Global Compact for Safe, Orderly and Regular Migration* is not binding, it represents a significant breakthrough in recognizing climate change and other environmental variables as migration drivers and in identifying sectors of collaboration at the international level to tackle the matter.

After two years of intense discussions conducted by UNHCR with Member States, international organizations, civil society groups, refugees, specialists and the private sector, the United Nations General Assembly approved the *Global Compact on Refugees* on 17th December 2018 (UNHCR, n.d.).

The *Global Compact on Refugees* (GCR) is a model for more predictable, balanced and fair responsibility-sharing, which acknowledges that it is not possible to reach a long-term solution to refugee contexts without international cooperation. It lays out a roadmap for governments, international bodies and other players to follow in order to guarantee that host communities receive the assistance they require and that refugees can have fruitful and rewarding lives. It represents an unparalleled chance to change how the world deals with refugee contexts, benefiting both refugees and the communities that welcome them (UNHCR, n.d.).

The GCR is composed of four parts. The background, guiding principles, and objectives of the Global Compact are outlined in its introduction. The second part is constituted by the *Comprehensive Refugee Response Framework*, as agreed to by Member States in Annex I of the New York Declaration. In the third part there is a programme of action that lays out the specific steps to achieve the Compact's goals, which contains a section devoted to arrangements to share burdens and responsibilities and a section dedicated to the areas in need of support. Finally, the fourth part outlines the procedures for follow-up and review, which will be carried out mainly through the Global Refugee Forum every four years, a meeting of high-level officials that gather every two years in between forums, and the annual report of the High Commissioner to the General Assembly (UNHCR, n.d.).

With respect to the Global Compact for Migration, displacement in the context of environmental challenges is less distinctly and explicitly tackled with in the *Global Compact on Refugees*. Rather than devoting a specific section to the subject, terminology on environmental degradation, climate change and natural disasters is instead intertwined into the GCR.

For instance, it is recognized that environmental deterioration, the climate and natural catastrophes interact with the drivers of the movement of refugees to a greater and greater extent. Moreover, the international community is urged to sustain endeavors

to decrease the risks of disasters, while the inclusion of disaster risk reduction efforts into national preparedness planning is also promoted (UN, 2018).

Additionally, stakeholders are encouraged to give advice and support for actions to deal with humanitarian and protection challenges, including measures to aid people forcibly displaced by natural catastrophes, considering applicable national legislation and regional tools, temporary protection, humanitarian stay arrangements or other forms of protection. Finally, host countries may seek assistance from the international community to handle the accommodation and environmental impacts of huge masses of refugees. Thus, States and other key stakeholders may provide resources and knowledge to foster an integrated and sustainable management of ecosystems and natural resources in rural and urban refugee-hosting areas. Support will also be offered to incorporate refugees in the national plans for disaster risk reduction (UN, 2018).

Noticeably, by acknowledging that environmental conditions and variables do play a role in generating displacement, the *Global Compact on Refugees* allows nations affected by environmental decline, the impacts of climate change and natural disasters to exploit its responsibility-sharing and other approaches. Notwithstanding this, the fact that the link between environmental and climate change and migration or displacement is referenced to in a more precise and extensive way in the *Global Compact for Migration* but not in the *GCR* demonstrates that this is seen as a problem that needs responses within the sphere of international migration rather than as a matter of international protection (Kraler, et al., 2020).

These intergovernmental Compacts represent two crucial landmarks in migration governance at the international level; particularly, the *GCM* enhances the profile of and awareness on environmental migration and displacement as a phenomenon that has to be dealt with more effectively through international cooperation. If the Compacts' provisions are correctly applied, they can help advance solutions to environmental displacement before and if it unfolds.

2.3. The Sendai Framework for Disaster Risk Reduction 2015-2030

On 18th March 2015 the Third UN World Conference in Sendai, Japan adopted the *Sendai Framework for Disaster Risk Reduction 2015-2030*. It represents the result of stakeholder discussions begun in March 2012 and inter-governmental negotiations that took place from July 2014 to March 2015, with the support of the United Nations

Office for Disaster Risk Reduction and upon the UN General Assembly's request (UN, 2015).

The Sendai Framework serves as the successor to the *Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters*. It is developed on the basis of components that guarantee continuity with the work undertaken by States and other players under the HFA, while also introducing several innovations. The major shifts highlighted by experts are, among others, a robust focus on the management of disaster risk rather than on the management of disasters, the setting out of seven global targets together with an ambitious expected outcome and goal, and also important guiding principles that include the states' primary obligation to avoid and decrease disaster risk, as well as all-of-society and all-of-State institutions involvement. Furthermore, the purview of disaster risk reduction has been greatly expanded to include both natural and man-made hazards, as well as associated environmental, biological and technological risks and hazards (UN, 2015).

Over 15 years, the Sendai Framework aspires to fulfill the following outcome: 'The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries' (UN, 2015: p.12). The achievement of this outcome necessitates the solid commitment and participation of the political leaders at all levels and in every nation in the Framework's execution and follow-up, as well as in guaranteeing the essential favorable environment.

In order to reach the expected outcome, the following goal must be sought: 'Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience' (UN, 2015: p.12). The pursuit of this goal calls for strengthening the implementation capabilities and capacities of developing states, especially the least developed countries, small island developing states, landlocked developing nations and African states, as well as middle-income countries confronting particular problems.

Moreover, as already anticipated, seven global targets have been established to facilitate the assessment of global advancement in reaching the expected outcome and goal of the Sendai Framework (UN, 2015).

Outstandingly, the Sendai Framework defines four priority areas in which States must take targeted action within and across domains at the local, national, regional and international level.

Priority 1 is comprehending disaster risk. Indeed, in order to manage it, there must be an adequate knowledge of disaster risk in all its aspects, including vulnerability, human and property exposure, hazard features, and the environment (UN, 2015).

Priority 2 is enhancing governance of disaster risk in order to better handle it. The governance of disaster risk at the national, regional and international level is critical for decreasing this risk in all fields and for guaranteeing the coherence of national and local legislations and public policies that lead, inspire and incentivize both the private and public sectors to take steps to tackle disaster risk (UN, 2015).

Priority 3 is making investments in the reduction of disaster risk to improve resilience. Private and public investments in the prevention and decrease of disaster risk thanks to structural and non-structural approaches are crucial for improving the cultural, health, economic, social resilience of individuals, communities, nations, assets, and the environment. These can be catalysts for new ideas, development and employment opportunities. These types of procedures are both cost-efficient and vital for saving lives, minimizing losses, and guaranteeing good recovery and rehabilitation (UN, 2015).

Priority 4 is strengthening disaster readiness in order to react effectively and “Build Back Better” in terms of recovery, rehabilitation, and rebuilding. Indeed, disaster preparedness must be enhanced for a more successful reaction. Calamities have also shown that the recovery, rehabilitation and reconstruction phases provide a chance to “Build Back Better” by incorporating disaster risk reduction techniques. During the response and rebuilding stages, women and people with disabilities should take the lead and advocate gender-equitable and universally accessible solutions (UN, 2015).

Importantly, in the face of growing global interdependence, coordinated international cooperation, a conducive global environment, and ways and instruments of

implementation are required to encourage and support the development of information, capacities, and enthusiasm for disaster risk reduction at all levels, especially in developing nations (UN, 2015).

The Sendai Framework stresses, among other things, that it is relevant to foster regular disaster readiness, response and recovery exercises, in order to guarantee a fast and successful reaction to disasters and to the displacement of people that may result from them, including their access to secure shelter, food and non-food relief supplies. Moreover, the Framework emphasises that migrants contribute to community and societal resilience, and their knowledge, abilities and competencies can be valuable in the planning and execution of disaster risk reduction strategies (UN, 2015).

The Global Platform for Disaster Risk Reduction is recognized by the UN General Assembly as the global multi-stakeholder forum to assess the advancement on the Sendai Framework's application. The UN system, governments and all other participants gather at the Global Platform to share expertise and examine the latest advancements and trends in disaster risk reduction, find gaps, and present proposals to speed up the implementation of the Framework. The UN General Assembly acknowledges the findings of the Global Platform as an important contribution to the discussions of the High-Level Political Forum on Sustainable Development (HLPF), and thus also as a fundamental tool for a risk-informed application and supervision of the 2030 Agenda for Sustainable Development (UNDRR, 2021-2022).

The Global Platform for Disaster Risk Reduction meets every two years. The first Global Platform after the approval of the Sendai Framework was held in Cancun in 2017, while the 2019 session was hosted in Geneva and focused on resilience.

The seventh session of the Global Platform (GP2022) will be organized by the UN Office for Disaster Risk Reduction (UNDRR) from the 23rd to the 28th of May 2022, in Bali, Indonesia. The Government of Indonesia and UNDRR will co-chair the event (UNDRR, 2021-2022). This session comes at a key juncture, namely seven years after the adoption of the Sendai Framework and just over two years after the outbreak of the COVID-19 pandemic. This global crisis has demonstrated how structural weaknesses and inequalities have disastrous effects on the most vulnerable people around the world. In order to build a sustainable future for all, prevention and the agenda on risk reduction are to be prioritized. The GP2022 will be a once-in-a-lifetime

chance to highlight the significance of international cooperation and solidarity, as well as to propose solutions to address underlying risk factors at the local and global level. Moreover, it will also examine ways to improve disaster risk governance and create more solid structures for dealing with all kinds of risks. Therefore, this session represents a good occasion for the UN structure, governments and other participants to compellingly recommit to step up progress on the decrease of disaster risk towards a sustainable development (UNDRR, 2021-2022).

The general theme of the 2022 Global Platform, “From Risk to Resilience: Towards Sustainable Development for All in a COVID-19 Transformed World”, will explore in what manner the traditional knowledge and perception of risk and disaster risk governance has been undermined by the COVID-19 pandemic (UNDRR, 2021-2022).

The sessions of the Global Platform are generally structured around three major sub-themes and three cross-cutting themes that guide the subject of the programme. For what concerns the GP2022, on one hand the three main topics are: (1) Disaster Risk Governance: enhancing it in order to tackle systemic risk; (2) COVID-19 recovery: ensuring economic and social recovery from the pandemic for all; (3) DRR financing: encouraging financing for DRR and risk-informed investments and growth. On the other hand, the three cross-cutting subjects are: (1) Sendai Framework Stocktaking: stocktaking and speeding up improvement in fulfilling the goal and targets of the Sendai Framework; (2) Leave no one behind: acting and investing at the local level and empowering those who are most vulnerable; (3) SDGs and climate action: incorporating the management of disaster risk into strategies for sustainable development and climate action (UNDRR, 2021-2022).

To conclude, the 2022 Global Platform for Disaster Risk Reduction will be a breakthrough moment, as it will investigate how the global crisis we are living can be used as a springboard for the essential profound renovation that is needed to fulfill the goal and targets of the Sendai Framework and of the 2030 Agenda for Sustainable Development.

Chapter 3. A geography of environmental migration and displacement and the use of migration as a possible adaptation strategy

The third chapter of this thesis explores environmental migration and displacement from a geographical perspective. Indeed, in the first section, the chapter depicts a world map of this phenomenon, examining the most impacted areas, namely South Asia, Africa, and Latin America and the Caribbean, describing their slow- and sudden-onset environmental processes and patterns of migration. The second section of the chapter investigates the use of migration as a possible adaptation strategy, analysing the potential advantages and problems, with the aim of proposing the act of migrating as part of the solution to adverse environmental changes. Finally, the third section of the chapter presents a case-study: it focuses on Kiribati and its ‘Migration with Dignity Policy’, examining the benefits and challenges of this strategy.

1. A world map of environmental migration and displacement: the areas most affected by this phenomenon. The slow- and sudden-onset environmental processes and the patterns of migration that characterise them

Climate change is an existential problem that threatens the whole world. However, developing countries or countries of the so-called Global South are disproportionately affected by it and face enormous challenges dealing with the impacts of a changing climate.

The global injustice of the climate crisis is ever more apparent: for years now, scientists and environmentalists have been warning that the poorer countries with very low carbon footprints, and thus the least responsible for causing climate change, are actually the ones suffering the most from its effects, especially regarding food insecurity and nutrient deficiencies. Basically, they are bearing the brunt of the CO₂ emissions produced by the wealthy states of the North. This is demonstrated by the fact that, according to data provided by Climate Watch, only 10 countries (namely, China, United States, India, Russia, Indonesia, Brazil, Japan, Iran, Germany, Canada)

account for about 60% of the global greenhouse gas emissions, while the 100 least emitting countries together contribute to less than 3% of global GHG emissions¹⁰.

For what concerns the latest advancements on climate action and governance, it is worth mentioning the *Glasgow Climate Pact*, agreed to on 13th November 2021 by every Party at COP26, representing almost 200 countries. This global accord is intended to hasten climate action this decade and finally concludes the Paris Rulebook. The goal of limiting the increase in global temperature to 1.5°C is maintained alive, but it will only be attained if every country follows through on its commitments immediately and concertedly (United Nations Climate Change, UK Government, 2021).

COP26 and the *Glasgow Climate Pact* led to critical achievements and progress in the sectors of mitigation, adaptation, finance, and collaboration. The IPCC's special report on the impacts of climate change revealed the dire repercussions of exceeding the Paris Agreement's 1.5-degree threshold for global warming. The extra half-degree of warming between 1.5 and 2 degrees will have disastrous consequences for societies and the natural world, with disproportionate effects on indigenous peoples, low-lying and small island countries, and vulnerable ecosystems. As a vital achievement of COP26 in the field of mitigation, net zero commitments now cover more than 90% of global GDP and around 90% of global emissions (United Nations Climate Change, UK Government, 2021). Furthermore, at COP26, 153 countries have presented new or revised emissions targets defined as Nationally Determined Contributions (NDCs), which account for approximately 80% of global GHG emissions. Consequently, the UN estimates that greenhouse gas emissions will be reduced by approximately 5 billion tons by 2030. Moreover, as part of the agreement, each country agreed to review and strengthen its present emissions targets to 2030 in 2022, and a new work programme on mitigation ambition was developed (United Nations Climate Change, UK Government, 2021). In order to meet these ambitious goals, the UK Presidency has pushed for pledges to phase out coal power, halt and reverse deforestation, cut methane emissions, and accelerate the transition to electric vehicles.

¹⁰ Climate Watch's data on GHG emissions is available at: <https://www.climatewatchdata.org/ghg-emissions?source=CAIT>.

For the purposes of this thesis, more important are the COP26's achievements in the field of adaptation and loss and damage. Indeed, people all around the world are already struggling with the destructive impacts of our changing climate, which is increasing the frequency and deepening the intensity of extreme weather events. Rising sea levels and unpredictable weather patterns pose a threat to millions of people's livelihoods and land. Despite our best efforts to limit emissions, more change is unavoidable. This is why adaptation is fundamental. Acknowledging that the most vulnerable people are the ones who are most at risk from climate change even if they are also the ones who have contributed the least to it, it is evident that greater action, especially from developed countries, to prevent, minimize and deal with loss and damage caused by climate change is needed.

At COP26, the Glasgow - Sharm el-Sheikh Work Programme on the Global Goal on Adaptation was agreed to lessen vulnerability, build up resilience and enhance individuals' and the earth's capacity to adapt to climate change effects (United Nations Climate Change, UK Government, 2021). Moreover, the creation of a national plan is a critical step in handling climate consequences. Importantly, as a result of COP26, 80 countries are now covered by either Adaptation Communications or National Adaptation Plans to boost climate risk readiness. The Adaptation Research Alliance (ARA) was also launched. Governments, businesses, and local communities will work together to strengthen the resilience of vulnerable populations through this worldwide network of more than 60 organizations across 30 countries. In its efforts, the ARA will prioritize indigenous knowledge and solutions (United Nations Climate Change, UK Government, 2021).

At the Conference in Glasgow, climate finance suppliers promised to expand their support for adaptation, both in absolute terms and as a percentage of climate finance. Record money amounts of funding for adaptation have been committed, including a pledge to double the volume of adaptation finance available in 2019 by 2025 (United Nations Climate Change, UK Government, 2021). This is the first time that a definite adaptation financing goal has ever been agreed at the global level. Moreover, several states have also formed new partnerships to guarantee a better access to finance, especially for Indigenous Peoples.

Another central accomplishment of the 2021 Conference in Glasgow in the sector of adaptation is that the Parties decided to establish a new ‘Glasgow Dialogue on Loss and Damage’ involving both countries and relevant organizations to discuss arrangements to finance programs and actions to prevent, minimize and tackle loss and damage. Finally, the Santiago Network on Loss and Damage was also created, with specific functions and financial resources being agreed (United Nations Climate Change, UK Government, 2021).

In the field of finance, developed nations have achieved progress toward the \$100 billion climate finance target, which they will meet by 2023 at the latest. Strikingly, 5 public financial institutions and 34 states will end international support for the unabated fossil fuel energy sector by the end of 2022, while trillions will be realigned by private financial organizations and central banks towards global net zero. Still in Glasgow, the Parties agreed on a path forward for the new post-2025 climate finance objective. Developed and wealthy countries also pledged important rises in financing critical funds, such as the Least Developed Countries Fund (United Nations Climate Change, UK Government, 2021).

For what concerns collaboration, one of the first concerns of COP26 was to complete the ‘Paris Rulebook’ in order for the Paris Agreement to be properly operational. The Paris Rulebook establishes the thorough regulations, procedures and systems to support the implementation of the Paris Agreement, many of which were negotiated at COP24 in Poland. Nonetheless, there was a number of points on which the Parties could not agree at previous COPs. In Glasgow, they settled their issues and agreed: (1) the three main sections of Article 6, regarding voluntary cooperation, a new carbon crediting system, and non-market measures; (2) common timeframes for achieving the goals of emissions reductions (NDCs); (3) the precise tables for the Enhanced Transparency Framework, in order to guarantee the same approach for monitoring and reporting of the countries’ emissions, support and action (United Nations Climate Change, UK Government, 2021).

Furthermore, more than 40 countries representing over 70% of global GDP adopted the Breakthrough Agenda at the COP26 World Leaders Summit, pledging to collaborate to make clean and sustainable solutions the most economical, available, and appealing alternative in every emitting sector by the end of this decade. The

Glasgow Breakthroughs will speed up collaboration between governments, companies and the civil society to meet the climate objectives more rapidly, while cooperative councils and dialogues in energy, commodities, shipping and electric vehicles will aid in accomplishing the pledges (United Nations Climate Change, UK Government, 2021).

Before concentrating on the key areas impacted by the phenomenon of environmental migration and displacement, namely South Asia, Africa, and Latin America and the Caribbean, and illustrating their slow- and sudden-onset environmental processes and patterns of migration, it is essential to focus on the latest report of the Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2022: Impacts, Adaptation and Vulnerability*, released on 28th February 2022. This is the Working Group II contribution and the second part of the Sixth Assessment Report (AR6). It investigates the impacts of climate change on ecosystems, biodiversity and human populations on a global and regional scale, while examining the vulnerabilities of human communities and the natural world, as well as their capacities and constraints in adapting to climate change. This latest IPCC report also reveals which climate adaptation strategies are the most effective and viable, as well as which communities and ecosystems are the most endangered.

According to the report, with global warming of 1.5°C (2.7°F), the globe will confront many inevitable climate hazards over the next two decades. Even momentarily going beyond this level of warming will produce further acute impacts, some of which will be irreversible. The risks to society, infrastructure and low-lying coastal areas will escalate (IPCC, 2022).

Raised droughts, heatwaves and floods are already pushing plants and animals over their tolerance limits. Indeed, climate change is undermining entire species and ecosystems. As a result of global warming, animals such as the golden toad and Bramble Cays Melomys underwent extinction. Other animals, including the flying fox, seabirds, and corals, are dying in large numbers, and many more have migrated to higher latitudes and elevations (World Resources Institute, 2022). Moreover, extreme weather events are happening at the same time, leading to cascading effects that are becoming harder to control. As a result of them, millions of people, particularly in Africa, Central and South America, Asia, Small Islands and the Arctic,

have been subjected to extreme food and water insecurity (IPCC, 2022). Meanwhile, the spread of vector-borne diseases like West Nile virus, Lyme disease, and malaria, as well as water-borne diseases like cholera, is also facilitated by rising temperatures (World Resources Institute, 2022).

The 2022 IPCC report offers further proof of the nature's ability not only to mitigate climate dangers but also to improve human life. Healthy ecosystems are more resilient to climate change and supply services like food and clean water that are essential for human existence. By helping damaged ecosystems to recover and by efficiently and evenly conserving 30 to 50% of Earth's land, freshwater and ocean habitats, humanity can profit from the nature's capacity to absorb and lock in carbon, and progress towards sustainable development can advance; but for this to happen, political backing and appropriate funding are fundamental (IPCC, 2022).

Even if decarbonization is quickly brought about, the current accumulation of greenhouse gases in the atmosphere and emissions trends will make several major repercussions of climate change inevitable through 2040. According to the IPCC, only in the next decade, 32-132 million more people will be pushed into extreme poverty due to climate change. Food security will be jeopardized by global warming, that will also raise the frequency of mortality caused by heat, heart disease, and mental health issues (World Resources Institute, 2022). For instance, in a scenario characterized by high emissions, higher risk of flooding might result in an additional 48,000 diarrhea-related deaths in children under 15 years old in 2030, while species and ecosystems will be forced to experience tragic changes too, like mangroves becoming unable to counterbalance sea level rise, important decreases in sea-ice reliant species and massive tree loss (World Resources Institute, 2022).

Moreover, as observed in the IPCC report, climate risks will combine and exacerbate one another as various hazards take place in the same territories simultaneously. For instance, in tropical areas, the cumulative impacts of heat and drought can cause sudden and considerable drops in agricultural production. Meanwhile, heat-related deaths will grow whereas labor productivity falls, leaving individuals unable to work harder to compensate for losses caused by drought. These effects, together, will reduce family incomes while simultaneously boosting food prices, creating a deadly mix that

compromises food security and worsens health risks such as malnutrition (World Resources Institute, 2022).

The IPCC reports that 3.3-3.6 billion people currently live in nations that are extremely exposed to climate change and its effects, with global hotspots especially located in Small Island Developing States, South Asia, the Arctic, Sub-Saharan Africa, and Central and South America (World Resources Institute, 2022). Importantly, inequity, war and development challenges like fragile governance, poverty, or restricted access to basic services, not only enhance vulnerability to dangers, but also hinder societies' ability to adapt (World Resources Institute, 2022).

The 2022 IPCC report makes a special focus on cities, assessing in a comprehensive way climate change effects, threats and adaptation in urban centers, which house more than half of the world's population. Storms, heatwaves, flooding and droughts, as well as gradual environmental changes like sea level rise, are wreaking havoc on people's lives, health, livelihoods, properties and key infrastructure, including energy and transportation systems. Increasing urbanization and climate change together pose a number of hazards, particularly for those urban centers already plagued by badly organized urban growth, high rates of poverty and unemployment, and the absence of basic services. On the other hand, cities also bring occasions for climate action; indeed, green buildings, sustainable transportation systems that link urban and rural regions, reliable provisions of clean water and renewable energy, and other such initiatives can contribute to a more inclusive and equitable society (IPCC, 2022).

The IPCC underlines that exposure to climate effects soared considerably in urban centers. The most rapid rises in urban sensitivity have been registered in informal settlements, in which precarious accommodation, limited access to essential services, and poor resources hamper resilience endeavors. This problem is particularly serious in Sub-Saharan Africa, where 60% of the urban population lives in informal settlements, and in Asia, where 529 million people reside in these vulnerable zones (World Resources Institute, 2022).

Numerous rural communities must confront mounting climate risks too, especially Indigenous Peoples and those whose subsistence relies on sectors directly affected by climate change, like agriculture or fishing. As the consequences of climate change become more severe, certain households may have no choice but to move to cities.

For example, the IPCC foresees that by 2030 harsh droughts across the Amazon will propel rural migration to cities, thus forcing Indigenous and traditional communities to live on the fringes (World Resources Institute, 2022).

These dynamics of urban and rural development make ecosystems more sensitive to climate change. Ecological resilience is being eroded by contamination, land-use change, habitat alteration, and species exploitation. And the destruction of ecosystems, in turn, exacerbates human vulnerability. For instance, urban centers that develop across coastal wetlands damage ecosystems that might have otherwise protected coastline settlements from sea level rise, storm surges, and coastal floods. This puts shoreline neighborhoods even more at risk (World Resources Institute, 2022).

If we want to avert rising losses of life, biodiversity and infrastructure, determined and faster action is needed to adapt to climate change, together with quick and profound reductions in greenhouse gas emissions. For what concerns adaptation, the IPCC report notes that adaptation is already included in the climate strategies of at least 170 nations, although several have yet to shift from planning to execution. According to the IPCC, existing efforts are still mainly narrow, incremental and reactive, and they mostly concentrate only on current effects or near-term risks. Thus, the gap between existing adaptation levels and those required to cope with the rising risks continues, owing especially to a lack of financial resources (World Resources Institute, 2022).

Fortunately, available adaptation alternatives, if adequately funded and deployed more rapidly, can lessen climate risks. The 2022 IPCC report is innovative as it explores the viability, effectiveness and potential for co-benefits, such as better health results and poverty decline, of different climate adaptation initiatives. Considered adaptation methods comprise social programs that enhance equity and justice, ecosystem-based adaptation and new technologies and infrastructure (World Resources Institute, 2022).

For example, including adaptation in social protection programs (like cash transfers or public works plans) can reduce the vulnerability of urban and rural societies to a variety of climate dangers. And when these actions are combined with initiatives to

enhance people's access to infrastructure and essential services, they are highly successful and beneficial (World Resources Institute, 2022).

On the other hand, ecosystem-based adaptation embraces a variety of methods, including ecosystems' conservation, restoration and sustainable use, as well as more sustainable agricultural techniques, such as integrating trees into farms, boosting crop diversification, and planting trees in pastures. This approach has the potential to minimize the climate risks that many groups are already suffering while simultaneously providing co-benefits in terms of biodiversity, livelihoods, health, food security, and carbon capture (World Resources Institute, 2022).

Regarding new technologies and infrastructure, recent data indicates that combining nature-based solutions with engineered ones such as flood control channels might contribute to decrease water-related and coastal dangers, especially in cities. Better technologies (for example, more resilient crop varieties, enhanced livestock breeding or solar and wind power) could boost resilience, too. Nevertheless, some of these climate adaptation measures might be detrimental if they are badly planned or deployed (World Resources Institute, 2022).

In general, the report finds that there is proof of some forms of adaptation that have had unintentional repercussions, for instance damaging nature, exposing people to danger, or raising greenhouse gas emissions. This may be prevented by integrating everyone in the planning process, focusing on justice and equality, and incorporating Indigenous and local expertise (IPCC, 2022).

A serious issue is that, with the 1.1°C of global warming the planet is already suffering, some of the most vulnerable communities and ecosystems are reaching their adaptation thresholds. In some geographic areas these limits are "soft", that means that viable adaptation solutions are available, but political, economic, and social challenges, such as poor financial resources, hamper their application. Nonetheless, in other regions, individuals and ecosystems have already reached or are rapidly getting closer to "hard" adaptation limits, where the impacts of climate change are so strong that no available adaptation strategies can successfully avert losses and damages. For example, in the tropics several coastal communities have completely lost coral reef ecosystems that formerly contributed to guarantee their food security

and livelihoods. Other societies, with rising sea levels, have been forced to leave low-lying areas and cultural locations (World Resources Institute, 2022).

As global temperatures increase, these losses and damages will escalate. For example, if global warming exceeds 1.5°C, communities that rely on glacial and snow melt will confront scarcities of water to which they will be unable to adjust. At 2°C (3.6°F), the probability of concurrent failures in maize production in crucial growing regions will rise dramatically. And above 3°C (5.4°F), several southern European zones will face alarmingly high summertime heat (World Resources Institute, 2022).

As highlighted by scientists, climate change combines with other global trends like unsustainable natural resources' consumption, expanding urbanization, social disparities, losses and damages caused by natural disasters, and a pandemic, all together compromising future development. Addressing these various challenges unites governments, the private sector and the civil society, all of which must collaborate to focus on risk reduction, as well as on equity and justice, in the decision-making process and investments. In this manner, conflicting interests, values and world perspectives can be harmonized. Solutions will be more successful if they combine scientific and technological know-how with Indigenous and local wisdom (IPCC, 2022).

The Working Group II contribution to the IPCC's AR6 also contains a wealth of regional data to help achieve Climate Resilient Development. Scientists undoubtedly argue that Climate Resilient Development is already difficult to reach at the present levels of global warming. If global warming surpasses 1.5°C (2.7°F), it will become more constrained, and, if global warming goes beyond 2°C (3.6°F), it will be impossible to attain in some areas (IPCC, 2022). This important conclusion emphasizes the need for immediate climate action. Climate change adaptation and emissions cuts will be more successful if political commitment, suitable financing, technological transfer and partnerships are in place.

Science points out that the next several years give a small window of opportunity to achieve a sustainable future for all. To change direction, urgent, considerable and coordinated endeavors are needed to reduce emissions, enhance resilience, preserve ecosystems, and drastically raise funding for adaptation and for tackling loss and damage. The COP27 that will take place in Egypt in November 2022 will represent a

critical chance for governments to make advancements on all these aspects, as well as for wealthy nations to show their solidarity with vulnerable countries.

1.1. South Asia

In May 2020, Cyclone Amphan vigorously hit Bangladesh and India. It was one of the worst storms to occur in the area in decades, resulting in three million displaced people and approximately two million wrecked or damaged houses in mainly three countries - Bangladesh, India, and Sri Lanka. Cyclone Amphan is just the latest warning that the impacts of climate change and the related environmental and climate-induced migration pose evident and tangible dangers in South Asia. The governments of the region have designed policies to address and alleviate these risks, but these endeavors are hampered by capacity, governance, and financial limitations. They absolutely need international support, which has been insufficient thus far (Kugelman, 2020).

When considering climate vulnerability in South Asia, many people automatically think of Bangladesh, a low-lying riparian country often devastated by violent floods. In reality, the whole region is perilously vulnerable. Sea level rise and flooding substantially endanger the coastal nations of India, Pakistan, Sri Lanka, and Bangladesh, in which the vast and dense urban coastal populations exacerbate the threat that climate change poses to citizens. In the meantime, landlocked Afghanistan, Bhutan, and Nepal are dealing with rising temperatures, glacial melt and drought, whereas the small yet densely populated island of Maldives, the world's lowest-lying nation, is confronted with the material possibility of complete submersion in a future that is not so distant. Not unexpectedly, almost half of the region's population - approximately 700 million people - has been affected by at least one climate-related calamity in the last decade (Kugelman, 2020).

Recently, the Global Climate Risk Index of the Germanwatch think tank has positioned India and Pakistan among the 10 countries most vulnerable to climate change. Moreover, a concerning recent study released in June 2020 by India's Ministry of Earth Sciences estimates that India - South Asia's most populated nation by far - will become much dryer and hotter in the next decades, with average temperatures destined to rise by nearly 4°C by the end of the century. The country will also suffer longer monsoon seasons and increased glacial melt, as well as rising

temperatures in the Indian Ocean and expected sea level rise of up to nearly a foot (Kugelman, 2020).

Therefore, South Asia hosts many hotspots that are extremely exposed to the impacts of climate change. People residing in coastal, river basin, and semi-arid areas are especially vulnerable to the effects of climate variability and change due to their great reliance on climate-sensitive livelihoods like agriculture and fishing. It is clear that environmental processes and events such as storm surges, droughts, cyclones, glacial lake outburst floods and heavy rainfall are common in this region, all aggravated by the current and future influence of climate change. As they witness the degradation of their livelihoods, South Asia's communities are displaced or must make a difficult choice: to migrate (either the entire household or some members) or adapt in place (Maharjan, et al., 2020).

Migration has always been a persistent aspect of life in South Asia primarily as a tactic to diversify and/or complement sources of revenue beyond basic livelihoods based on ecosystems. However, historically migration in this area has largely consisted in the labor movement of semi-skilled and unskilled people towards both domestic and international destinations. Migration trends and patterns in South Asia are varied, but internal migration considerably prevails over the international one (Maharjan, et al., 2020).

Contemporary migration dynamics in South Asia keep showing a predominance of migration triggered by economic factors. Nevertheless, depending on the situation, the extensive and inescapable impacts of climate change could result in substantial gradual or non-linear changes in migration patterns. For instance, there could be direct effects on migration caused by rapid-onset events like floods and cyclones, or indirect effects linked to slow-onset processes like drought and shifts in the yearly monsoon cycle (Maharjan, et al., 2020). In fact, even if population movement in this region has traditionally been deeply linked to labor mobility, fresh studies indicate that the repercussions of floods, droughts and instable rainfall on agricultural production and other ecosystem-based livelihoods account for increasing rates of rural to urban migration in the area. This means that in South Asian locations severely affected by climate change, migration is often exploited by households as a crucial livelihood diversification strategy (Maharjan, et al., 2020).

Leaving aside for now the use of migration as an adaptation strategy to climate change that will be analyzed in detail later in the chapter, it must be stressed that the impacts of climate change have forced to displacement millions of South Asian in the latest years. Indeed, devastating weather phenomena like Cyclone Amphan are common triggers of displacement. For example, back in 2009, 2.3 million in India and almost a million in Bangladesh were uprooted by Cyclone Aila. The 2010 floods in Pakistan led to the damage or destruction of 1.1 million houses and the displacement of approximately 11 million people, many of whom settled in the biggest cities rather than returning home, while in 2012, 1.5 million people were displaced in the Indian state of Assam as a result of floods (Kugelman, 2020).

Clearly, displacement is also triggered by slower and more progressive effects of climate change. For example, in South Asian arid rural areas, severe water shortages have prompted farmers, fishermen, and others whose livelihoods rely on water to move to urban centers. Two enabling elements contribute to exacerbate this climate-induced mass displacement: the huge quantity of individuals working in the agricultural sector, and the problem of densely populated coastal areas (Kugelman, 2020).

As already observed, the majority of climate-induced migration in South Asia takes place within the region, from rural to urban areas. According to the Asian Development Bank, flooding and the losses of agricultural land are ever more driving the decisions to migrate to the main Indian cities. Yet, cross-border migration is also occurring and is likely to increase. For example, according to new studies, ‘climate refugees’ or environmental migrants in general from rural zones in Bangladesh are more and more likely to migrate abroad, because Bangladeshi cities are becoming less appealing for displaced people due to overpopulation and the related lack of employment opportunities (Kugelman, 2020).

The Sunderbans, a UNESCO World Heritage Site that hosts the biggest mangrove forest in the world, symbolizes South Asia’s acute risk of climate-induced migration. Since it is situated along the Bay of Bengal straddling parts of Bangladesh and India, the Sunderbans is very vulnerable to sea level rise, soil erosion, catastrophic storms, and water salinity. In recent times, storms have forced many people to flee the Sunderbans Islands, and a further exodus could occur in the near future, considering

that important employment sectors, such as fishing, farming, tourism and betel leaf growing, have been seriously harmed by devastating weather phenomena (Kugelman, 2020).

A 2018 study of the World Bank predicts that by 2050 there will be almost 40 million climate migrants in South Asia in a worst-case scenario, that is a scenario in which the region is characterized by a scarcity of climate-friendly policies. According to the WB, under this scenario, almost a quarter of all internal migrants in South Asia, and about 2% of the total regional population, would be classifiable as climate migrants. Even in the best-case scenario, in which a wealth of climate-friendly policies is put into effect, the WB predicts that by 2050 there will be approximately 20 million climate migrants in the region. As the WB predicts, out-migration hotspots will vary from eastern and northern Bangladesh and coastal cities in India and Bangladesh, to the Delhi-Lahore passageway that connects India and Pakistan, while the southern Indian highlands and parts of Nepal will be the ones who will witness in-migration the most. Moreover, Bangladesh is expected to be a ground zero for climate migration in the region. Indeed, under the worst-case scenario, by 2050 the nation could see more than 13 million climate migrants, that means more than any other kind of internal migrant (Kugelman, 2020).

Escalating climate migration in South Asia is not only an approaching humanitarian crisis: it also threatens the security and stability of the entire region. Indeed, increasing rural-to-urban migration will put further strain on already overburdened cities to supply food, shelter and employment, and their failure to deliver these resources could increase the risk of radicalization in a region in which terrorist groups frequently enlist people in large Bangladeshi, Indian and Pakistani cities. Furthermore, the massive migration of vulnerable, persecuted groups or minorities, such as ethnic Pashtuns escaping floods in northern Pakistan, Muslims forced to flee rural India hit by drought, or Rohingya refugees abandoning flooded towns in Bangladesh, could fuel collective tensions and violence in the areas and communities where these groups may move to. For example, a wall constructed by India in the 2000s to block the influxes of Bangladeshi refugees has produced violence, with border police shooting and killing many migrants attempting to pass it. Future waves of climate migrants from Bangladesh could exacerbate this violence and strengthen societal tensions in the

Indian border state of Assam, in which many locals have disliked the coming of such migrants in prior decades (Kugelman, 2020).

South Asian governments have designed policies, laws and practical mechanisms to alleviate climate change impacts and address environmental and climate-induced migration. There is a variety of national responses, ranging from the punitive (fines for people who cut down trees) to the proactive ones (the building of shelters, muds or walls, and embankments to shield people and infrastructure from cyclones). In the various countries there is also a notable set of different policies in place. Nevertheless, these policies are hampered by a multiplicity of factors, including enforcement issues, poor infrastructure, corruption, and a lack of financing. While the authorities are well aware of the risks that climate migration poses to their region, and they have adopted the first measures to lessen these risks, the scale of the climate change and displacement threat accentuates the unpreparedness of the region. This is why enhanced international support is fundamental (Kugelman, 2020).

For example, endeavors to improve climate resilience in the Sunderbans, and, by implication, to decrease the risk of climate-induced migration, have stagnated due to inadequate infrastructure. This comprises water aquifers that are too deep to reach, houses made of materials like tin or asbestos that make rainwater harvesting impossible, and precarious embankment systems. Other issues involve badly coordinated and reported disaster responses and relief operations, together with a lack of financial resources for concrete installations and mangrove bio shields that would guarantee stronger climate-proofing (Kugelman, 2020).

As already stated, international endeavors have been insufficient thus far. In order to help mitigate the risk of climate-induced migration in South Asia, the international community can and should do many things. First of all, it could encourage more livelihood prospects in non-agricultural sectors. Agriculture is a major source of employment in numerous South Asian countries, but it is also the most sensitive sector to climate change in the region. As a result, agricultural workers are particularly vulnerable to climate-related displacement. While the national authorities work to relieve the threats posed by climate change to agriculture, the global community should support the development of alternative, less climate-vulnerable job opportunities. By funding vocational training and other skills-development projects,

donors may contribute to make the huge number of young people in the region more marketable for typically urban professions like those in electronics, telecommunications, and retail among others, all crucial fields with high growth potential in a fast-urbanizing region (Kugelman, 2020).

Second, the international community could empower non-federal authorities to deal with climate-induced displacement risks more effectively. Throughout much of South Asia, domestic policy is a non-federal issue. Despite this, state/provincial authorities frequently do not possess the necessary skills and resources to carry out this task. International donors could enhance the capacity of non-federal policymakers to confront the tremendous challenge of climate change and climate-related displacement for example by offering or sponsoring training or other educational activities. Support at the local level is especially important. Indeed, in several South Asian countries, decentralization reforms have made more technical and financial resources available for state/provincial authorities, but these reforms frequently do not reach the local levels, where most of the policy implementation on the ground occurs (Kugelman, 2020).

Third, the global community could promote and organize dialogues and other exchanges to develop better regional cooperation, so that South Asian nations can jointly fight the shared and transnational threats of climate change and climate-induced displacement. Diplomatic tensions abound in South Asia, due to long-established disputes and rivalries between India and Pakistan, Pakistan and Afghanistan, and India and a number of smaller countries. The lack of regional integration aggravates these divisions, due in large part to South Asia's substandard infrastructure, in particular terrible roads and malfunctioning electrical grids. Predictably, intraregional trade is limited in comparison with other regions, and this absence of commercial cooperation denies South Asia a potential route toward greater trust and goodwill. Therefore, external players, ideally from nations viewed as neutral by all South Asian countries, should organize discussions and multilateral forums to help forge a region-wide consensus on a common plan to tackle climate change and climate-related displacement (Kugelman, 2020).

1.2. Africa

The African continent is home to some of the areas most impacted by climate change in the world, and thus witnesses different manifestations of the phenomenon of environmental or climate-induced migration. In order to analyze the African areas hit by the effects of environmental and climate change and their patterns of migration, an important report will be used, which was published by the World Bank in 2021: *Groundswell Africa: Internal Climate Migration in West African Countries*. This report is critical since it focusses specifically on Africa and provides fresh information on the phenomenon of internal climate-induced migration in one of the most affected regions, namely West Africa.

In Africa internal climate migration does not occur in a homogenous way across the different countries, because climate change has a greater impact on some locations than others. As the report demonstrates, under the optimistic scenario, characterized by inclusive development and low emissions, lower figures of internal climate migrants can be observed than under the pessimistic scenario, characterized instead by high emissions and unequal development¹¹.

With its unending history of trade, nomadic pastoralism, and mobility for livelihood diversification, West Africa is one of the world's most mobile areas. Rural to urban migration has dominated the domestic migration models. Seasonal migration from inland to the coastline, as well as nomadic pastoralism, play a key role in safeguarding livelihoods. Throughout much of Africa, human mobility is the result of events stemming from the 20th-century colonial legacies and post-independence efforts and is rooted in broader geographic and climatic features. In Africa, as well as in the rest of the world, different economic, social, political, religious, environmental, and, increasingly, climate 'push and pull' variables trigger migration (Rigaud, et al., 2021).

Climate variables have long played a significant and nuanced role in West Africa, as demonstrated by the seasonal and longer-term migration between the semiarid Sahel area and the tropical coastal states in the south. These kinds of movement have represented a fundamental livelihood strategy to deal with dry seasons in the Sahel. According to studies, changes in the climate have been shown to cause sharp increases

¹¹ The results presented in the WB report are based on four plausible scenarios, which reflect various combinations of future climate change effects and development pathways, to outline the proportion and spread of climate migration by 2050. The scenarios are based on combinations of two Shared Socioeconomic Pathways (moderate development and unequal development), and two Representative Concentration Pathways (low emissions and high emissions).

in short-distance and seasonal movements. On the other hand, an extensive migration into coastal cities susceptible to sea level rise and storm surge is also occurring. Only a few locations, such as Saint-Louis (Senegal) and Cotonou (Benin), have experienced out-migration as a result of climate change. Rainfall levels and fluctuations, as well as land degradation in the north, have caused a north-to-south migration in Ghana (Rigaud, et al., 2021).

In total, under the pessimistic scenario, West African states could experience as many as 32 million internal climate migrants by 2050 (4.06% of the 2050 estimated population). Individuals will move away from locations with less water availability and diminishing crop and ecosystem productivity, and from those zones impacted by sea level rise intensified by storm surges. Importantly, adopting concrete climate and development measures could result in a decrease in the average number of migrants by 11.9 million (61.7%) by 2050 (Rigaud, et al., 2021).

Every country in West Africa will experience internal climate migration, but its magnitude in each state will vary depending on the way in which climate factors combine and relate with demographic and socio-economic aspects at the local level.

Internal climate migration in West Africa could grow between 2025 and 2050, with different rates of acceleration depending on scenarios and countries. A consistent rising trend can be observed across the scenarios, with the higher emissions scenarios exhibiting faster rates of internal climate migration over the decades. Between 2025 and 2050, the number of internal climate migrants anywhere in the region could increase by 3.3 to 5.0 times (Rigaud, et al., 2021).

Even if migration is influenced by demographic and economic trends, climate is becoming more and more a powerful factor. Among the West African coastal countries, by 2050 Nigeria is expected to witness the highest mean number of internal climate migrants under the pessimistic scenario (8.3 million), much ahead of Senegal (0.6 million) and Ghana (0.3 million). Nevertheless, also smaller nations like Benin show significant numbers of internal climate migrants as a percentage of their population: 1.62% for Benin compared to 1.93% for Nigeria and with Senegal reaching the greatest percentage at 1.98% (Rigaud, et al., 2021).

It is thus clear that by 2050 climate-induced mobility may become a crucial form of internal migration in West African states. Internal climate migrants are expected to

rise in number compared to other kinds of internal migrants across scenarios, decades, and nations, especially under the high emission scenarios, and considerably so in Benin, Senegal, and Nigeria. At the regional level, in the pessimistic scenario climate migrants could represent one third of all internal migrants as early as 2030 (Rigaud, et al., 2021).

The volume of future climate-induced human movement can be tempered by prompt and tangible climate and development measures, but the window of opportunity for optimal results is rapidly closing. More widespread and severe repercussions of climate change on water availability, productivity of crops and ecosystems, and sea level rise will have meaningful implications for human mobility. For instance, in Senegal the figure of climate migrants in 2050 could decline from 603,000 under the pessimistic scenario to 92,000 under the optimistic one. These forecasts emphasize the importance of both equitable development and low emissions for reducing the levels of future climate migration, as well as the necessity for highly resilient policies and large-scale shifts away from climate-sensitive sectors (Rigaud, et al., 2021).

Hotspots of climate in- and out-migration in West African states could arise as early as 2030 and could escalate and spread by 2050. These plausible hotspots indicate locations where population movements are predicted with a high degree of certainty in all scenarios. Human mobility is projected to shift in reaction to variations in the capacity of ecosystems to sustain livelihoods, especially in terms of water availability, crop productivity, NPP (net primary productivity), and in reaction to the habitability of coastal areas in a situation of sea level rise intensified by storm surges (Rigaud, et al., 2021).

The formation, expansion, and intensity of hotspots within West African nations demands contextualized awareness and prompt action to avoid and mitigate negative repercussions and capitalize on opportunities. Climate in-migration hotspots are expected to arise in the Sahel due to increases in water availability and pasturage. South-central Mauritania, southeastern Mali, and northern Nigeria will be huge climate in-migration hotspots in the region. By 2050 climate out-migration could be marked and extensive in the Dakar-Diourbel-Touba passageway. Moreover, even if states with large populations like Nigeria and Niger lead the hotspots map, with normalization for population, demographically minor countries like Benin, Sierra

Leone, Senegal, and Mauritania exhibit major hotspots of climate in- and out-migration (Rigaud, et al., 2021).

Climate migratory patterns that are not well-managed will not only sabotage the alleviation of poverty but can also curtail development gains in urban and growth centers. Several hotspots of climate in-migration in West Africa must confront serious environmental challenges because of climate change, such as flooding, droughts, landslides and land degradation, in addition to other development issues like elevated poverty rates, informal human settlements, and inadequate infrastructure and services. Climate in-migration hotspots predicted for the northern and northwestern Nigerian states of Kano, Katsina, and Sokoto, correspond with locations characterized by an extreme poverty rate. Contrariwise, Dakar and the west-central region of Senegal, where poverty is less pronounced, may become climate out-migration hotspots. Thus, in many situations, these dynamics run opposite to the historical pattern of development-induced migration. Any plan to mitigate the negative effects of migration and displacement should include a better management of natural and water resources, as well as of rural landscapes (Rigaud, et al., 2021).

Furthermore, the addition of non-climate factors (median age, sex, and conflict) to the analysis of the different countries offers a fuller picture of the way in which the patterns of climate-induced migration could materialize within states. For instance, higher median age, coupled with West African urban sites that attract migrants, amortizes the impacts of water stress, which would otherwise trigger climate out-migration. This has been witnessed in the coastal regions from Côte d'Ivoire to Nigeria. At the same time, conflict hotspots tend to be linked to slow rural population growth and slightly faster urban population reduction, since, when civil conflicts erupt, it may be simpler to shelter in rural areas than in urban ones (Rigaud, et al., 2021).

All these hotspots of climate migration are not predestined, but the consensus on climate in- and out-migration across scenarios emphasizes the necessity for farsighted and preemptive actions to tackle the harmful effects of migration caused by environmental and climate change.

The opportunity to decrease the level of climate migration as outlined under the low emission scenarios will be difficult to catch without strong emission cuts at the global

level to reach the Paris targets. The broad repercussions of internal climate migration imply that the international community cannot give up its endeavors. The responsibility for confronting the challenges posed by climate migration cannot be placed exclusively on the very communities that may be forced to migrate in response to the growing strength and incidence of climate effects. In the face of stalled action on greenhouse gas emissions, a solid, inclusive, and resilient development may be the first defense, but it will not be sufficient. The developed and major GHG emitting countries, directly or indirectly, must complement the impacted states' endeavors on migration caused by environmental and climate change, by providing technologies, capacity, and finance (Rigaud, et al., 2021).

The coastline of West Africa is notably exposed to sea level rise, flooding, erosion, and rising temperatures. The coast is home to the capitals and other major cities of Benin, Côte d'Ivoire, Ghana, Mauritania, Nigeria, Senegal, São Tomé and Príncipe, and Togo. Coastal cities like Dakar, Abidjan, Accra, and Lagos, notwithstanding the risks, continue to expand and offer economic opportunities to people coming from economically disadvantaged regions (Rigaud, et al., 2021).

A closer look at West Africa's 5-kilometer coastal area suggests that by 2050 between 0.3 million and 2.2 million people could be forced to migrate within their countries. For example, due to coastal subsidence, during this century Mauritania is predicted to see the highest relative sea level rise, and sections of Nouakchott that are already susceptible to flooding, seawater intrusion and rising groundwater will probably experience climate out-migration as early as 2030. Important hotspots of climate out-migration are expected to emerge in coastal Senegal and along the whole shoreline of the Gulf of Guinea. Also in Nigeria, climate out-migration is likely to occur in the south and southeast and coastal states (Rigaud, et al., 2021).

The exposure and vulnerability of West Africa's coastal infrastructure and activities to the threats of climate change will raise the likelihood of secondary reverse migration. In some nations, particularly Senegal and Ghana, sea level rise, storm surge, and dwindling water availability are expected to hinder the growth of coastal urban zones. Therefore, even if major cities like Dakar, Abidjan, Accra, and Lagos will continue to expand as they offer economic opportunities to people coming from poorer regions, population growth at the hotspots will be inhibited by climate

conditions. Timely, farsighted, and inclusive intervention to fortify the entire coastal area with green and gray infrastructure as well as a comprehensive planning are thus vital (Rigaud, et al., 2021).

According to the WB report, in Africa climate migration is a reality that can be turned into a positive factor by focusing on a core set of policy areas and domains of action. The Migration and Climate-informed Solutions (MACS) framework gathers different fields of action, supported by key policy areas, and is intended to minimize the extent of climate-induced migration across time and space, kick off economic and social renovation, and lessen vulnerabilities. This proactive approach will guarantee that the economies of the countries concerned are prepared not only to face the problems but also to exploit the opportunities of internal climate migration (Rigaud, et al., 2021).

The core policy areas advocated in the Groundswell report are of crucial importance: reduce greenhouse gas emissions now; seek climate-resilient, green and inclusive development; integrate migration into development plans; and invest in a better knowledge of migration. The five action domains to avoid migration propelled by harmful effects of climate change are: carry out spatio-temporal analytics to recognize the development of climate migration hotspots; embrace farsighted landscape and territorial techniques; exploit climate migration for encouraging employment and economic transitions; cultivate humanitarian-development-peace partnerships; and naturalize policies and fill legal gaps (Rigaud, et al., 2021).

The size, pattern, and geographical spread of climate migration in West African nations demand aimed attention and urgent action. The appropriate array of climate and development policies adopted now can contribute to avoid the unfavorable outcomes and instead capitalize on the advantages of climate-induced migration in Africa. Given its cross-cutting nature, climate migration must be tackled through policy-informed measures that are farsighted in their view and implementation.

To conclude, considering the current scope of climate migration in Africa and its potentially future one, action cannot be delayed, because the stakes are too high. By seizing new economic opportunities, the states in the region can set out on a resilient, green and inclusive development pathway, while acknowledging that structural transformations must be guided by and reactive to climate change. Climate-related migration and displacement should be factored in climate policies and planning. The

international community must do its part to limit greenhouse gas emissions, since this is fundamental for decreasing climate-induced migration. The phenomenon of environmental and climate migration is a reality all over the world and taking action now will result in long-term benefits for all concerned.

1.3. Latin America and the Caribbean

Cities, and in particular megacities, represent major hotspots of climate change impacts. Rapid urbanization, which hastens the demand for accommodations, natural resources and social and health services, puts further strain on already overburdened economic, social and administrative infrastructure, intensifying risks and vulnerability. In South America both internal migration and immigration are primarily to cities. Migrants, especially those from low socioeconomic backgrounds, are often very vulnerable since they are more likely to live in locations exposed to environmental hazards. Probably they also lack the local knowledge, networks, and assets, and thus are less able to deal with and avert the effects of such hazards. Increased migration to cities is likely to worsen pre-existing vulnerabilities associated with inequality, poverty and informality (informal settlements and work), and aggravate the condition of those people susceptible to environmental risk factors. This puts even more pressure on the cities' ability to adapt to climate change. At the same time, migration and other kinds of movement also represent typical ways for dealing with and adapting to environmental adversity, stress and threats. Migrants offer crucial contributions to the cities in which they reside, and thus migration to cities should be properly regulated and planned (WMO, 2014).

Latin America and the Caribbean is the most urbanized of the developing regions and one of the most urbanized in the world. According to the World Bank, as of 2020, the urban population of Latin America and the Caribbean represented the 81% of the total population in the region. In recent decades, urban growth in big cities and megacities within the region has been slower than expected. Conversely, growth is especially occurring in medium- to small-sized cities and urban centers, as well as in the outskirts of metropolitan areas. Cities are becoming increasingly dispersed, crossing municipal, regional, and even national borders (WMO, 2014).

For what concerns internal mobility, cities are key recipients of mainly urban-urban, rural-urban and intra-urban flows, and there are also fluxes of urban-rural, seasonal

and temporary migration. The majority of immigration is toward the most important cities, while recently migration from less prosperous to more developed cities has become relevant. Recent international immigration in South America mainly originates from the other countries of the region, but it accounts for a modest percentage of total migration in most of the region. Considerable amounts of internally displaced persons due to conflict or natural disasters can also be found (WMO, 2014).

In South America, migration is primarily motivated by a desire for better possibilities, such as work and greater wages, but it is also fueled by poverty in the locations of origin. Immigrants and migrants are typically from lower socioeconomic classes, with higher rates of poverty, fragile social conditions and slower social mobility. Cities, particularly capitals, are seen as epicenters of economic growth and job opportunities for migrants. In certain locations, migration is triggered by conflict and generalized violence, while environmental factors like desertification and land degradation also represent a significant driving force behind migration. For instance, migrants from the dryland areas in northeast Brazil make up a major section of the population of Rio de Janeiro's favelas prone to landslide and flood (WMO, 2014).

Migration dynamics are altered or intensified by climate phenomena and trends rather than being merely triggered by them. In South America, urban areas and cities are impacted by slow-onset events, shifts in water availability and the dearth of natural resources, which can also be associated with potential migration. Sea level rise, variations in rainfall patterns and in the ocean chemistry will all have a repercussion on low-lying coastal areas. Several sites among the most relevant in terms of urbanization and economic transformation will suffer from the degradation of marine ecosystems. Consequently, in South America, urban rather than rural residents are more likely to be affected by rising sea levels. As sea levels rise and the lack of water strikes the big coastal metropolitan zones, medium and small cities could attract migrants from the larger ones (WMO, 2014).

Water access and consumption is anticipated to be one of the greatest difficulties facing cities in South America. An intensified urbanization means increased use of water in cities, as well as the eventual necessity to divert water to cities to fulfill the demand. Glacier retreat and melt can worsen the existing vulnerability connected to water resources, reducing water supply and bearing on huge cities and urban

settlements. In the meanwhile, agricultural production in the periphery of big cities and urban areas necessitates an intense consumption of water. Diverting water to cities can thus damage the vitality and sustainability of local agriculture, especially in arid climates, which can also have implications for migration (WMO, 2014).

The growing frequency and strength of natural disasters and slow-onset phenomena such as extreme temperatures, heavy rains and droughts are expected to be the most direct and acute effects of climate change on cities, also associated with migration. In South America, the urban population is especially located in areas that are very vulnerable to environmental and climate threats. Cities situated in regions very prone to earthquakes, floods, and droughts, like Quito and Santiago, must confront various hazards. Quito is also exposed to landslides and a volcano (WMO, 2014).

Furthermore, an important part of urban growth is occurring in places vulnerable to environmental risks, including low-lying deltas and plains, coastal areas, stepped slopes and drylands. In coastal megacities, particularly in informal settlements, there is a growing accumulation of people in potentially dangerous sites. Since they are susceptible to flooding and seasonal storms, these areas are unsuitable for settlements, and the environmental and climatic risks are magnified by the absence of vital infrastructure and services or insufficient adaptation. For instance, in Buenos Aires there are informal settlements in low-lying neighborhoods exposed to flooding, whereas in Rio de Janeiro they can be found in hilly zones vulnerable to landslides and mudslides (WMO, 2014).

In South America, similarly to other parts of the world, people from lower socioeconomic classes are the most vulnerable to the current and expected effects of climate change. They face the biggest risks when environmental and climatic phenomena strike, as they are less able to adopt short-term measures to reduce the impacts (like moving family members or assets), while being also the least able to deal with the consequences and to adapt (by building more resilient houses or improving disaster preparedness, for example). Dangerous spots are more likely to be deficient in infrastructure and services because they are not meant for settlement from the very beginning. Women, children, the elderly, those in poor health, people with disabilities and recent migrants are exceptionally vulnerable (WMO, 2014).

Moreover, differently from locals, migrants and displaced people may not have information about the environmental conditions or previous natural disasters, and thus may stay unaware of the risks and threats, due to the lacking interaction with the more informed local communities. For example, migrants from the northeast of Brazil who live in Rio de Janeiro have no personal experience with mudslides, which could explain their fragile and unsafe building practices on the slopes above the favelas (WMO, 2014).

According to the brand-new *World Migration Report 2022*, published by the International Organization for Migration (IOM) in 2021, disasters, not violence and conflict, caused the majority of new internal displacements in Latin America and the Caribbean in 2020. Honduras documented the highest number of internal displacements generated by disasters (937,000), followed by Cuba (639,000), Brazil (358,000) and Guatemala (339,000). These massive displacements were sparked by weather-related phenomena such as Hurricane Laura in August 2020 and Hurricanes Eta and Iota in November 2020 (IOM, 2021).

The report stresses that in the subregion of Central America and the Caribbean human mobility and displacement are significantly influenced by both environmental change and disasters. Strong weather-related phenomena, like hurricanes and tropical storms, affect migration in direct or indirect ways. For instance, in 2020 Hurricane Laura prompted more than a million displacements in the Dominican Republic, Haiti, Cuba and the United States, whereas Hurricanes Eta and Iota caused about 1.7 million displacements in many nations around the subregion. In Central America, in pre-mountain areas environmental stressors vary from floods and storms to mudslides and landslides, while arid regions are mainly hit by droughts. For example, in Guatemala people commonly move because droughts and floods destroy crops, thus producing food insecurity and poverty (IOM, 2021).

Numerous states in Central America and the Caribbean are integrating mobility and migration into their climate strategies in order to better tackle the challenge of climate change and migration. A good case in point is Guatemala's climate strategy that now contains an emphasis on human mobility, or Mexico's new Nationally Determined Contribution that demands greater consideration of climate migration (IOM, 2021).

As reported by IOM (2021), in the subregion of South America, violence, conflict and disasters are crucial triggers of internal displacement. Violence emerging from political and security crises contributes to massive internal displacement. The subregion is also harshly impacted by natural catastrophes, which generate migration and displacement. Indeed, both rapid-onset and slow-onset phenomena like landslides, droughts and floods have had extensive repercussions on the subregion. An example of these huge impacts is the fact that roughly three quarters of Brazil's 358,000 disaster displacements in 2020 were caused by the country's extreme rainy season occurred between January and March (IOM, 2021).

Moreover, it should be stressed that South America is facing one of the greatest humanitarian crises in its recent history, connected to what is unfolding in Venezuela. Regularizing displaced Venezuelans continues to be a challenge for South American nations. Since 2015, more than five million people have left the Bolivarian Republic of Venezuela as a result of the enduring economic and political instability in the state. Over four million Venezuelans have emigrated to other countries in South America. Colombia hosts the biggest number of Venezuelans (more than 1.7 million, as of July 2021). As of July 2021, the other major South American nations hosting Venezuelans after Colombia were Peru, Chile and Ecuador. Since more than half of Venezuelans do not have a regular status, mass regularization measures have been conducted to help them (IOM, 2021).

It is also important to mention a report published by the World Bank in 2018, *Groundswell: Preparing for Internal Climate Migration*, which focusses on three regions, namely Latin America, Sub-Saharan Africa and South Asia, providing information and making projections on their internal climate migration situations.

Climate change will have a massive impact on Latin America, but on average it will be less severe than in Sub-Saharan Africa and South Asia. This could be due to two factors. First, while still elevated, agricultural employment is on average significantly lower in Latin America than in the other two areas. Second, Latin America is typically characterized by stronger economies, better adaptive capacity, and financial means to prioritize the weakest spots and groups (Rigaud, et al., 2018).

Yet, various million internal climate migrants in Latin America could be migrating from less viable zones with less water availability and crop productivity, as well as

from those spots impacted by sea level rise and storm surges. Under the pessimistic reference scenario, they could reach a peak of 17.1 million by 2050, accounting for 2.6% of the total population in the region (Rigaud, et al., 2018). Under the more inclusive development scenario, up to 16.2 million internal climate migrants are predicted. Instead, under the more climate-friendly scenario, there will be up to 9.4 million climate migrants. It is thus clear that investing in rigorous mitigation strategies that cut emissions worldwide, as well as in adaptation programs, could yield significant rewards in sustaining livelihoods and helping people avoid migration (Rigaud, et al., 2018).

Let's now focus on the subregion of Mexico and Central America. The climate of the subregion is dominated by extremes, such as tropical storms and drought, accompanied by heavy rainfall and violent winds. The incidence and strength of extremes have already heightened. Summer rainfall has been commencing later, becoming more erratic in location and time, and rising in intensity during the onset season. Regarding future climate trends, there is medium confidence that the precipitation in the subregion will drop during the coming century. Moreover, there is substantial evidence that future El Niño events will be more extreme. This would result in drier conditions in the south and wetter conditions in the north of the region (Rigaud, et al., 2018).

Dependence on agriculture differs within the subregion of Mexico and Central America, indicating susceptibility to climate variability. While in Mexico agricultural employment is 13%, in Guatemala, Honduras, and Nicaragua it is more than 30%. The food chain is strongly reliant on the production of maize and bean. In Honduras, El Salvador, and Nicaragua, long-term climate change and variability will have a very severe impact on the productivity of these crops, with less serious effects projected in Guatemala. The impacts of climate change will thus result in substantial economic losses for smallholder farmers, including those who grow market crops like coffee (Rigaud, et al., 2018).

Also the levels of both internal and international migration for sure will be influenced by climate change. According to studies, mobility in the subregion already varies in reaction to climate variability. Families who rely on rainfed agriculture are especially

vulnerable to droughts and cyclones and are compelled to search for alternative livelihoods in urban centers and abroad (Rigaud, et al., 2018).

Between 2020 and 2050, the number of internal climate migrants in Mexico and Central America is expected to become two times bigger. The figure of climate migrants for the subregion is anticipated to reach an average of 1.4-2.1 million by 2050, according to projections. The pessimistic reference scenario shows the highest numbers, reaching up to 3.9 million by 2050. Climate migration will not be isolated, and the subregion will also experience a significant surge in the amount of other internal migrants pushed by economic, social, or environmental causes. Climate migrants as a percentage of all internal migrants are predicted to grow across all scenarios (Rigaud, et al., 2018).

Spatial organization is climate-sensitive, and its location will become increasingly important in the future. Climate out-migration will take place in locations where climate effects are increasingly threatening livelihood systems, whereas climate in-migration will arise in places where livelihood chances are better. Climate out-migration is anticipated to occur in rainfed croplands in Mexico and Central America, particularly under the pessimistic reference scenario. This could be attributed to the growing agricultural marginality of these regions, especially in mountainous areas. Contrariwise, climate in-migration may occur in densely populated settlements as well as in pastoral and rangeland zones. This will potentially result in hotspots of climate migration that are spatially concentrated (Rigaud, et al., 2018).

Climate out-migration hotspots emerge in locations where water supply and crop productivity are worsening and, in some situations, in low-lying coastal territories and cities exposed to sea level rise. Climate out-migration frequently inhibits overall population growth in these hotspots rather than causing the population to decline. Examples of such hotspots are the lowland zones along the Gulf of Mexico and the Pacific coast of Guatemala. Even some cities like Monterrey and Guadalajara in Mexico will become points of climate out-migration (Rigaud, et al., 2018).

Climate in-migration hotspots will arise in Mexico's Central Plateau and Guatemala's highlands. Individuals will migrate from hotter, lower-lying zones in these two nations toward climatically more favorable highlands. The biggest and most important cities

of these highland areas, such as Mexico City and Guatemala City, will consequently become points of climate in-migration (Rigaud, et al., 2018).

The level of climate migration in Latin America will escalate by 2050, and hotspots of climate in- and out-migration will expand and strengthen unless coordinated and strong climate and development measures are adopted now. As climate change impacts exacerbate, these tendencies will likely speed up beyond 2050. Internal climate migration is a reality, but it does not have to be a crisis, if joint and focused action is taken now to better forecast and get ready for its possible outcomes as well as to take advantage of its potential as an adaptation strategy. All actors, at the global, national, local level, in the private sphere, civil society, and international bodies, should exploit the window of opportunity to invest in knowledge, mitigation, and adaptation and make efforts now to ensure resilience for everyone.

2. Embracing migration as an adaptation strategy: advantages and problems

As the world heats up, the attention of the international community increasingly focusses not only on the ways in which we can reduce greenhouse gas emissions (mitigation strategies), but also on how we can cope with the already devastating impacts of climate change and adapt to life on a warmer Earth (adaptation strategies).

Adapting to climate change typically does not involve any movement. When exploring climate change adaptation, usually the activities that come to mind include, for example, building dams and sea defences to face sea level rise, using drought-resistant crops, or renovating infrastructure like roads and sewers to better deal with flooding, all actions that entail individuals remaining put, while modifying the infrastructure around them to cope with the effects of climate change more efficiently.

But what if the act of migrating to a less vulnerable place became a recognised way of adapting to climate change? The idea behind migration as adaptation is exactly that people move from highly exposed areas to places in which they are less vulnerable to the repercussions of climate change, and they are assisted in doing so.

This assistance could potentially take different forms. For instance, it could comprise assisting individuals with moving costs, training them in skills useful to find jobs in the new location, or building better infrastructure in the regions where communities

may relocate. Thus, the rationale behind migration as adaptation is that, with inadequate resources to facilitate people's adaptation at home, migrating may be a better option than trying to adapt to climate change where they are.

Researchers have highlighted that migration has been a traditional coping strategy for ages, and that it may become more common due to climate change. Rather than just a last resort, migration could turn out to be a good way for individuals to diversify livelihoods (especially agricultural ones) in response to the effects of climate change. Indeed, migratory options offer opportunities to vary the incomes, spread the risk for the household, and send money (remittances) back to family members, which in turn helps boosting resilience at home.

Nevertheless, migration does not reveal itself a miraculous adaptation remedy in all cases. Moving to find different livelihoods does not always result in a more stable living. In certain instances, people who migrate - particularly into poor accommodations in cities - may be exposed to new risks.

Albeit not officially recognized by many governments, migration as an adaptation strategy is already implemented by individuals, households or entire communities that leave the areas severely impacted by climate change. For example, people usually flee rural regions where farming is becoming increasingly difficult due to drought, and they frequently relocate to adjacent towns and cities in search of non-farming employment. Even if these people may not identify themselves as 'climate or environmental migrants' and would unlikely describe their behaviour as a type of climate adaptation, they have nonetheless utilized migration as a method for adjusting to climate change consequences.

Therefore, while in the framework of climate change migrants are frequently presented as victims, empirical research reveals that, when confronting environmental and climatic stress, migration is a common household strategy intended to sustain livelihoods and help meet basic needs. Yet, most countries' migration policies tend to lessen migratory pressures, control permitted moves and prevent irregular flows. Meanwhile, climate change adaptation methods, and sustainable development in general, are usually considered by policymakers as a way to decrease the pressures to migrate, especially for rural and hazard-exposed communities (Gemenne & Blocher, 2017).

When preliminary studies predicted future ‘waves of environmental refugees’, they triggered a debate over the security implications of climate change. For instance, members of the UN Security Council have often cited migrants in discussions about climate security. Nevertheless, since the 2000s, the focus of political debates and literature has moved from the forced character and security concerns of environmental migration to the view of migration as one possible, proactive adaptation option that should be managed and promoted (Vinke, et al., 2020).

This shift has been facilitated by policy experts, scholars, and international organizations. A crucial player is the International Organization for Migration, which has included the idea of ‘migration as adaptation’ into numerous practice-oriented discussions. This allows an optimistic turn for migration as compared to the contentious narrative on ‘climate refugees’. The reframing of migration as a potential adaptation method was embraced by key actors such as the IPCC and is echoed in strategic papers like the Cancun Adaptation Framework, the Global Compact for Migration, and the Sendai Framework for Disaster Risk Reduction (Vinke, et al., 2020).

Therefore, since the late 2000s, migration has been increasingly portrayed as a potential strategy to adapt to climate change. Indeed, there is expanding consensus among scholars that migration is an important component of the positive methods resorted to for adapting to environmental and climatic change, for different reasons: for example, in areas susceptible to climatic risks, migration can diminish population pressures, while diasporas supply vital resources to assist communities in reacting to climate change through economic and social remittances, among other things (Gemenne & Blocher, 2017).

An argument of migration as adaptation is that households evaluate all alternatives to adapt and choose the ones that are best appropriate for their context, which can comprise an aware decision to migrate if the necessary resources are available. As already underlined, according to many scholars, migration has adaptive potential in terms of creating revenue, differentiating livelihoods, spreading household risks, and guaranteeing financial and social remittances. But while this idea has demonstrated to be effective in some situations, it has also revealed its limitations (Vinke, et al., 2020).

Environmental changes can potentially undermine resilience and adaptability, altering the volume of people moving as well as the nature of pre-existing patterns. Beneficial adjustments are brought about by two mechanisms. First, migrants can support recovery after unexpected shocks. Second, migration might boost adaptive capacities, which mean the individuals' and societies' ability to modify their structure, function or organization in order to have a more effective reaction to weather hazards and other undesirable events or circumstances (Gemenne & Blocher, 2017).

Perhaps, migration is not the first or unique adaptive approach chosen, nor is it necessarily the most convenient. People may travel short and long distances as a reaction to the changing world, a dynamic interaction influenced by subjective and non-environmental factors, and in which perceptions, norms and cultural values play a key role (Gemenne & Blocher, 2017).

As stressed by Gemenne and Blocher (2017), migration can be a 'successful' adaptation measure if it can boost the capacity to rely on the existing resources of the household. Adaptive responses are not linear, can vary over time, and are not always beneficial. Short-term coping actions that alleviate harm may appear adaptive, but in various circumstances have revealed themselves maladaptive in the long run. Maladaptation is described as an action taken apparently to avert or minimize climate change vulnerability, but which has a damaging impact on, or enhances the vulnerability of, other sectors, social groups or systems (Gemenne & Blocher, 2017).

In fragile regions, in which environmental degradation, aggravated by climate change, can corrode livelihoods to the fracture point, migration is crucial for the fulfilment of essential needs and preservation of life. Migration is recognized by recent empirical studies as a strong and effective adaptation measure for communities suffering environmental and climatic changes. For example, in the New Economics of Labour Migration (NELM) approach, migration is considered to be a risk management strategy implemented at the household level (Gemenne & Blocher, 2017). According to migration scholars, internal and cross-border migration is used to solve income gaps and can be exploited as an informal insurance tactic, especially among rural families heavily reliant on natural resources for household production and consumption. Moving is not inevitably a last resort plan but is frequently a voluntary decision within

a more lasting project designed to improve the capacities to address adverse circumstances (Gemenne & Blocher, 2017).

Predictably, empirical research also yields changing and context-specific results. Indeed, the social and political aspects of exposure and sensitivity to environmental factors mutate, the individual characteristics in a household change, as do the incidence of natural disasters and the availability of natural resources (Gemenne & Blocher, 2017).

Moreover, the allocation of different capitals necessary to migrate seems to be a relevant component of the household decision-making process on migration. A U-shaped relationship between migratory fluxes and deviation from average rainfall variability is found by several analyses, indicating that the capacity to move changes with the (varying) economic resources of the family (Gemenne & Blocher, 2017). Consequently, in those periods in which natural resources are relatively abundant, households manage to provide the funds needed for a family member to migrate. In periods of extreme environmental stress, households without the financial means to move are less mobile and prioritize essential needs.

Going into more detail, the present work will now explore the advantages of using migration as a form of adaptation to climate change from three points of view: the migrants themselves, the community of origin and the community of destination.

As stated by literature, migrants are commonly expected to adapt themselves to environmental stimuli in two possible ways. First, migration can be used as a solution when needs cannot be met locally, whether there are urgent necessities triggered by a 'tipping point' at which remaining in the home region becomes no longer bearable. Second, migrants also try to enhance their socio-economic condition. In fact, they usually have better access to jobs, various services, and other life chances (Gemenne & Blocher, 2017). For instance, the *Environmental Change and Forced Migration Scenarios* (EACH-FOR) project, a ground-breaking project that resulted in several empirical analyses devoted specifically to environmental migration, ascertained that, in many situations, seemingly successful migrants - a self-selecting group - were the young and socially mobile, who can have access to a relatively enhanced status during migration or following return (Gemenne & Blocher, 2017).

On the other hand, migration is also a tactic involving potential risks for migrants themselves. Indeed, sometimes they endure a lower socioeconomic status than their host community or in comparison with their former status in the society of origin. They may confront obstacles in finding job, in acquiring decent living conditions, and in securing tenure. Moreover, remittances might account for a large percentage of a migrant's income, placing them in a state of relative poverty. Thus, migrants suffer a significant pressure to succeed (Gemenne & Blocher, 2017).

For what concerns the community of origin, literature on migration and development balances the benefits of migration as a good development strategy for the areas of origin against its possible negative impacts. Communities are of course affected either by the departure of migrants or by the bonds they keep. At the most elementary level, migration can alleviate the pressure on the local scarce resources while also mitigating other risks associated with overpopulation; as a result, those who remain have a better probability of surviving. By sending a family member out of a location with limited access to capital markets, a household can also surmount production and income restrictions (Gemenne & Blocher, 2017). On the other side, migration may cause the workforce and assets of those who remain to deteriorate. Individuals who choose not to move, or who are unable to do so, significantly pay for the absence of others. For instance, women are frequently left with the responsibility of caring for elderly relatives and children, while experiencing isolation, destitution and the emotional costs of family members being far (Gemenne & Blocher, 2017).

The importance of migratory networks and personal ties to the economic and social development of origin regions is paramount. The most common form of intervention are the financial remittances regularly delivered to relatives back home, which can massively increase the latter's resilience to environmental degradation and shocks. These transfers are critical for development and the reduction of poverty; sometimes they represent more generous, regular and secure capital flows than foreign direct investment or international development assistance. Furthermore, political and social remittances, i.e., the knowledge, behaviours and abilities migrants transmit between hosting and sending regions, together with the political and civic practices, identities and bargaining, are crucial for guaranteeing the know-how and links that are necessary for development in the origin communities (Gemenne & Blocher, 2017).

The transfers of financial, intellectual and social capitals can encourage adaptation in three different ways. First of all, these transfers can boost capital investments and income-generating initiatives. Migration is for households a means to guarantee an income source in moments of difficulty. Moreover, remittances can bolster agricultural and non-agricultural investment. Overall, they contribute to a more resilient agriculture and the diversification of rural economies (Gemenne & Blocher, 2017).

Second, remittances can help in the aftermath of calamities. Generally, natural catastrophes and humanitarian crises inspire solidarity among emigrant communities, who organize themselves to contribute to relief activities in the immediate aftermath. Internal and international diaspora groups might help societies of origin maintain their livelihoods in the short run. Diaspora philanthropy can pass through personal and formal links, NGOs, associations in the origin areas, worship places, formal and informal alumni groups, and so forth (Gemenne & Blocher, 2017).

Lastly, remittances can be used to finance projects involving collective adaptation. Even if there is limited evidence of remittances being assembled to support climate change adaptation initiatives, the worsening of climate change effects may increase the likelihood of this. It is known that migratory networks usually provide resources in the wake of natural disasters. Over time these networks also deliver funds, information and abilities to assist communities in coping with changes in the environmental conditions. The availability of online social networks and the utilization of new communications technologies are supporting diaspora philanthropy more than ever before (Gemenne & Blocher, 2017).

Regarding the community of destination, the prevailing narrative about migration's repercussions on destination areas is still one of tension and competition. There are undoubtedly significant and possibly maladaptive migration fluxes towards areas that are particularly vulnerable to the effects of climate change because of resource scarcity, overpopulation and deficient infrastructure, especially towards coastal and deltaic cities. The growing magnitude and incidence of natural disasters, as well as weak disaster preparedness and response systems, worsen the risks (Gemenne & Blocher, 2017).

Despite this, migration and development scholars emphasize the advantages of migration as an element helping in a larger socio-cultural adaptation phenomenon of the communities of destination. First, internal and international migration has always been considered as a means of adjusting to market imbalances. Indeed, migrants can bridge demographic and labour gaps, especially in expanding urban regions. Moreover, migrant populations stimulate the demand for goods and services, including those produced in their home zones, boosting economic growth and building new and deeper trade relations (Gemenne & Blocher, 2017).

Second, fresh studies on multiculturalism and migration policies have stressed the cultural advantages of migration for diversity. Inclusiveness, education and innovation all benefit from the presence of a migrant community that participates to public discussion and societal progress (Gemenne & Blocher, 2017).

A third and connected aspect is that, due to the diversity that characterizes migrant groups, migration works as a vector of knowledge and technologies, and therefore can contribute to stimulate development and growth. In fact, migrants are a self-selecting group and, in comparison with the average population, might have a stronger entrepreneurial and risk-taking mentality (Gemenne & Blocher, 2017).

Therefore, to sum up, the concept of migration as adaptation arose in the academic literature, underlining migration's good potential to differentiate livelihoods and facilitate adaptation of vulnerable communities to the harmful impacts of climate change. This literary strand highlights migrants' agency and the proactive nature of migration decisions, that means the ability of migrants to act in response to risks in a proactive manner. The notion of migration as adaptation implies that there is a positive association between migration and adaptation processes, entailing some type of foresight and planning. Nonetheless, a multitude of variables, including the migration background and household capacities, determine whether or not families manage to employ migration as an adaptation approach. Indeed, migration does not necessarily result in improved adaptive capacities for all families in all situations; it can also have negative outcomes, leading to an increase of impoverishment and vulnerability (Vinke, et al., 2020).

According to Vinke et al. (2020), migration can potentially result in successful adaptation only for certain groups of people and under particular circumstances. In

practice, instead of an anticipatory method of adapting, migration is frequently used as a short-term coping. The level of agency and choice in the decisions to move can rarely be evaluated with confidence. Migration is seldom the first adaptation alternative chosen, especially when it requires a whole family moving. Migration takes many forms along a continuum that ranges from voluntary to coerced movement, but, in some cases, there is no choice but to leave the dangerous environment. For instance, in Peru's mountain areas where glaciers are melting away, long-term local adaptation is almost unattainable for those individuals missing the skills necessary to adjust to changes in the environmental conditions (Vinke, et al., 2020).

The word *adaptation* implies that households are successful in mitigating environmental dangers. However, as noted by Vinke et al. (2020), migration might fail to guarantee people's livelihoods and lead to higher vulnerabilities and decreased adaptive capacities for migrants and their families, even when planned over a longer time frame. In the literature, this type of ineffective migration is referred to as erosive or maladaptation. For example, research on Southeast Asia shows significant rates of migration but no improvements in average wealth and food security of the households.

Moreover, although some hard indicators prove that migration has improved overall conditions, there may be negative effects on people's emotional well-being, mental health, and other complicated-to-calculate variables. The so-called 'non-economic losses' from climate change, such as the vanishing of cultural heritage and traditional livelihoods, should not be underestimated. For instance, island states, as a result of anthropogenic sea level rise, might experience the destruction of their unique place-based identity. Consequently, according to many scholars, migration does not represent a 'successful' adaptation if it damages human traditions, identities, expertise, social orders, and material cultures (Vinke, et al., 2020).

Another interesting point is that migration that seems adaptive at the micro-level might paradoxically strengthen or hide systemic governmental inactivity at the macro-level. Indeed, when migration is conceived as adaptation, responsibility is tacitly transferred from societal systems to households or individuals. This unsurprisingly raises the moral issue of who is responsible for adaptation (Vinke, et al., 2020).

The problem here, as highlighted by several scholars such as Vinke et al. (2020), is that in various circumstances, migration as a way to adjust to climate change tries to bridge a governance vacuum. For example, communities who do not have enough support from their government or international assistance might exploit remittances to fill financing gaps in order to realize climate change resilience projects. In some situations, when national disaster preparedness and response mechanisms are overburdened, host families momentarily absorb persons displaced by calamities. Altogether, governance failures amplify the disparities that exacerbate the risk of disaster displacement (Vinke, et al., 2020).

Structural inequalities (re)generate socio-ecological vulnerabilities, enabling some people to move while compelling others to stay in hazardous places. At the global level, several migrants are used to produce and export value via transnational supply chains. This strengthens a neoliberal economic order that eventually has adverse implications for socioeconomic justice and climate protection. When employed improperly, a wide conceptualization of migration as adaptation can be a disguise for the inaction of government authorities rather than a useful approach to reduce harm. Overall, if migration is triggered by structural inequalities enforced by economic structures, politics of disregard and climate change, there is a risk of mislabeling it as adaptation (Vinke, et al., 2020).

It is widely agreed that considering migration as a climate change adaptation strategy is preferable to seeing climate-related migration merely as a problem. In particular, framing migration as a possible kind of adaptation has helped offset the apocalyptic predictions of “millions of climate refugees”. In this view, in the right situations, migration can be beneficial and constructive.

Nevertheless, the concept of migration as an adaptation strategy is also subject of debate and contentions. Some countries may perceive this idea as a tactic to open up new migratory pathways into their territory, and they may oppose to it due to anti-migrant sentiments among the authorities or the general population.

Migration as a form of adaptation is then disputed from other points of view. There are open issues about consent and rights. For instance, when persons choose to migrate and are empowered to do so through financial resources and education, migration as

adaptation appears to be positive. However, some experts worry that this idea could be used by governments as a pretext to forcibly relocate individuals.

Interestingly, others contend that viewing migration as adaptation puts the responsibility of adaptation on those who are most affected by climate change and have contributed the least to it. Indeed, claiming that people can migrate as a type of adaptation may let the biggest CO₂ emitters escape their responsibility to cut emissions and instead help people adjust to climate change in other ways.

Hence, scholars such as Vinke et al. (2020) argue that there is a need for a more varied framing of climate migration. Migration literature typically distinguishes between more proactive types of migration on one hand, which entail an evaluation of risk and a proactive decision to migrate, and on the other hand survival migration as a simple reaction to an environmental shock. The second kind of migration is commonly used in the wake of rapid-onset events like natural disasters, which pose a direct threat and force people to displacement. More preemptive, planned forms of migration can be effective or ineffective, and are traditionally referred to in migration literature as adaptive migration or maladaptive migration (Vinke, et al., 2020).

Clearly empirical investigations point out that migration is an intricate and multifaceted phenomenon. Yet, it is typically depicted in public discourses as the undesirable result of a failure to adapt. The characterization of migration as a problem is particularly reflected in the prevailing policy focus on influencing the modes, size and geographic boundaries of migration, rather than on exploiting its development potential. This viewpoint is also strengthened by the misconceptions and growing mistrust of migrants and asylum seekers (Gemenne & Blocher, 2017).

Even if regularly debated, the application of migration in the sphere of adaptation has not been properly investigated. Numerous empirical studies have been produced on the subject, but still several major gaps can be detected in theoretical and empirical understandings. For example, many works focus on single recorded events or natural resources, assessing 'before' and 'after' scenarios. This represents a flaw of literature, which only reports instantaneous moments of a movement rather than progressive migratory responses. Moreover, the policy apparatus necessary to realize migration's potential has yet to be built (Gemenne & Blocher, 2017).

As the climate crisis aggravates, funding for research should be devoted to the exploration of solutions allowing a form of migration that could facilitate effective adaptation, while also tackling non-economic losses and well-being concerns that are sometimes neglected. This will necessitate considering systems as a whole, with many players and from different perspectives.

To conclude, scholars such as Gemenne and Blocher (2017) highlight that, in order to progress the knowledge base on the link between migration and the environment, it is essential to arrive at a better understanding of how migration, when used as a strategy to face climate change, influences the overall adaptive capacities of the migrants themselves, the communities of origin, and the communities of destination.

Despite all criticisms, migration as adaptation is a policy area that needs further attention. Policymakers should contemplate how they can help those who want to leave dangerous territories but are trapped and unable to do so due to rising poverty and deteriorating livelihoods. For instance, support may be channelled into education and information programs to allow people to choose migration, if needed. Improving and developing infrastructure in informal urban settlements, where newly arrived migrants frequently reside, should also be considered.

Paying more attention to migration as a possible adaptation strategy is thus fundamental, since, by overlooking migration, governments and international development organizations may be undervaluing a crucial adaptation approach, while also contributing to perpetuate power imbalances and preventing the most disadvantaged from receiving assistance. If handled properly and with full respect for the rights of all concerned, migration as an adaptation strategy does have a huge potential.

3. A case-study: Kiribati and its ‘Migration with Dignity Policy’

The previous section has analyzed the advantages and problems of the use of migration as a possible adaptation strategy. As shown in the section, migration is resorted to as a way to adjust to environmental and climatic changes especially at the individual and household level. However, in extreme situations, the impacts of climate change may require the relocation of entire communities and thus the consideration of migration as an adaptation strategy also at the national level. This is particularly the case of small island states, which are explicitly discussing migration and

resettlement as a response to global warming, with the atoll nation of Kiribati leading the way.

Small island developing states (SIDS) have historically been considered as being particularly at risk to climate change. These countries are frequently referred to as being on the “frontlines of climate change” or as “hotspots of climate change” (Thomas, et al., 2020). SIDS have long tried to attract the attention of the international community to their extreme vulnerability to climate change and have been at the forefront of the support for more ambitious goals to reduce global warming through the United Nations Framework Convention on Climate Change (UNFCCC). The Alliance of Small Island States (AOSIS) has been a prominent negotiator in the UNFCCC, emphasizing that, while these countries are negligible contributors to anthropogenic climate change, they are among the most vulnerable to its effects (Thomas, et al., 2020).

At the international level, SIDS are a group of 38 UN Member States and 20 Non-UN Member/Associate Members situated in three regions - the Caribbean, the Pacific, and the Atlantic, Indian Ocean, Mediterranean and South China Seas (AIMS) - with an overall population of around 65 million people (Thomas, et al., 2020). These countries are not homogenous, since they present substantial differences in territory, economic development, governance structures and geographic features. But they do share several characteristics that have led to the UN classifying them as a special group, such as limited resource bases, physical distance, centrality of economic sectors heavily dependent on the natural environment, restricted industrial activity, and narrow scale economies (Thomas, et al., 2020).

Both rapid-onset events like flooding and storms and slow-onset phenomena, such as sea level rise, land degradation and major shifts in the water cycle, are known as already having huge effects and posing substantial risks to SIDS. Marine inundation of low-lying sites, saline intrusion into terrestrial environments, deteriorating ecosystems, coral bleaching, habitat loss, species shifts, diseases that spread due to climate change, and mortality from catastrophic events are all examples of this (Thomas, et al., 2020).

For what concerns the current impacts of climate change on SIDS, the most worrying problem is undoubtedly sea level rise, which has led to habitats' recession,

biodiversity loss, shifts in the geographic position of coastal species, and a decrease of ecosystem services. As a result of rising sea levels, tidal flooding, in which low-lying coastal regions are momentarily flooded during high tides, is more frequent. Moreover, the salinity of coastal aquifers has increased, and this is a problem because, for low-lying Pacific islands and atolls, coastal aquifers are the only source of freshwater, and the rise in sea levels has lowered the water quality of this supply (Thomas, et al., 2020).

Extreme weather events, connected to tropical storms, massively affect island countries. The recent Atlantic Hurricanes Irma (2017), Maria (2017), and Dorian (2019), strong storms that showed rapid intensification prior to making landfall, caused major damage in many Caribbean SIDS.

Extensive coral bleaching episodes are becoming more common as a result of marine heatwaves and ocean acidification, and they have caused reef deterioration. Coral reefs represent crucial fish habitats and provide important fishing grounds for island populations. Coral reef degradation has had cascading effects on related living resources, affecting both the direct consumption by local inhabitants and the wider food webs. The loss of coral reefs has already impacted in a substantial way the SIDS fisheries, with fish getting increasingly scarce and creating difficulties to fisheries governance and fishing regulation between national jurisdictions (Thomas, et al., 2020).

Changes to ocean features, such as acidification and warming caused by climate change and human activities, have resulted in the loss of nearly 50% of the world's coastal wetlands, while marine species are diminishing and/or moving away from the tropics and toward the poles, causing variations in ecosystem structure and functioning. In SIDS, these ecosystems, mangrove forests and seagrass included, offer critical ecosystem services. They serve as carbon sinks, avoid coastal erosion, protect against catastrophic sea level events, and help preserve biodiversity.

For several small island developing states, the secure, sustainable and inexpensive access to potable water remains a crucial problem. Groundwater and surface water, which are usually refilled during the wetter season, represent common sources of drinkable water for SIDS populations. However, these sources have been impacted by storms, sea level rise and variations in precipitation patterns, putting additional strain

on freshwater availability. In the meanwhile, many Caribbean islands have faced droughts, longer dry seasons with shorter rainy seasons, and rising land temperatures (Thomas, et al., 2020).

Regarding instead the projected risks of climate change for SIDS, the frequency of coastal flooding is projected to increase the most in tropical areas, including small islands, with the occurrence of extreme water-level events expected to double in small islands by 2050. In addition, under all predictions of global warming, historically rare extreme sea levels will come to be more frequent, and small islands are predicted to face such phenomena each year by 2050. As coral reefs deteriorate and sea levels rise, the risk of wave-driven coastal flooding for reef-lined islands might grow. Thomas et al. (2020) reports that the nonlinear interactions between the rise in sea levels and wave dynamics were investigated in a study of sea level rise threats to low-lying atoll islands, and it was discovered that, given the current emissions trends, the majority of atoll islands will suffer overwash each year by the middle of the century. As a result of damages to infrastructure and depletion of freshwater aquifers, these recurrent events would make atoll islands uninhabitable.

Furthermore, SIDS are expected to face greater economic risks from climate change than the global average, with estimated average annual losses ranging from 0.75% to 6.5% of GDP by 2030 for Pacific SIDS, compared to the global average of 0.5% (Thomas, et al., 2020). Especially in subtropical and tropical areas where many SIDS are situated, climate change will exacerbate the risks for coastal tourism, on which most SIDS rely economically, through an increase of violent storms, heat extremes, and/or loss of coral reef assets and beach.

An estimated 30 million people around the world are almost completely dependent on coral reefs and their ecosystem services to support their livelihoods. Coral reefs are predicted to decrease by 70-90% at 1.5°C of global warming, and bigger declines are expected at warming above 2°C (Thomas, et al., 2020). Additional adverse impacts are projected on the fisheries and tourism sectors, due to the fact that coral reefs are popular tourist destinations in many tropical islands.

In small island developing states, climate change is widely acknowledged as one of the most significant aspects influencing water supply in agriculture and food security. Food supply insecurity, disturbance to food access, and variations in crop production

and food availability all represent important risks. On several little islands, SIDS included, freshwater stress is likely to come about due to future shift in aridity, and SIDS are extremely vulnerable since a substantial section of their population relies on agricultural production for a living (Thomas, et al., 2020).

Finally, also human health risks will grow because of climate change. With probable alterations in their geographic reach, longer transmission periods, and higher biting rates, the greater risk of vector-borne diseases like dengue fever and malaria is particularly worrying for SIDS. Food- and water-borne infections like cholera are also more likely, while decreased food production is projected to cause undernutrition. These harmful health risks will be especially severe in low- and middle-income communities (Thomas, et al., 2020).

The analysis of the current impacts and projected risks of climate change for small island developing states has been necessary to better understand the situation of Kiribati, the focus of the case-study that is presented in this section.

The remote Pacific island nation of Kiribati - it is pronounced *Kiribaas* and its people and language are known as I-Kiribati (*ee-Kiribaas*) - is the only country to straddle all four hemispheres of the Earth. Kiribati is also along the International Date Line with its easternmost islands, and it intersects the Earth's equator. Since it is on the International Date Line, the nation had the line shifted in 1995 for all its islands to experience the same day at the same time.

Kiribati is made up of 33 islands, of which only 20 are inhabited, scattered over a wide swath of the central Pacific Ocean, even if the total land area is only 810 km² (313 square miles). It includes three different island groups: the Gilbert Islands, the Line Islands, and the Phoenix Islands. More than half of the country's population live on the densely populated islets in the southern portion of Tarawa Atoll in the Gilbert Group; Tarawa is in fact Kiribati's capital. Kiritimati (formerly Christmas Island) is the world's biggest coral atoll.

Kiribati's physical geography implies that arable land and potable water are scarce, which hinders human development and enhances vulnerability to climate change. In particular, the salinization of soil and freshwater resources together with sea level rise are heavily compromising the country's food and water security, as well as the general

sustainability of the livelihoods of the people living in Kiribati (Allgood & McNamara, 2017).

Due to its isolation, Kiribati has managed to preserve a relatively traditional culture, with the capital of Tarawa having a stronger cash economy than most of the outer islands, which rely on barter. Given its economic vulnerability, low income per capita and low life expectancy, Kiribati continues to be one of the least developed countries in the Pacific (Allgood & McNamara, 2017).

Short-term internal migration is currently taking place from the outer islands to Tarawa, and this further aggravates challenges associated with land and water availability, employment, waste and sanitation (Allgood & McNamara, 2017).

According to the World Bank, by 2050, 55% of Kiribati will be exposed to flooding. Other forecasts indicate that migration may be needed prior to this date, owing to the declining security of water and food supplies and climate change's repercussions on housing and other important social and economic infrastructure (Allgood & McNamara, 2017).

Examples of environmental and climatic changes that Kiribati is experiencing comprise a warming trend of air temperature that has been recorded in Tarawa since 1950 and is projected to continue. Average rainfall is expected to rise, while droughts are likely to become less frequent. Moreover, since 1993 satellite altimeters have been observing sea level fluctuations around Kiribati, reporting an average annual rise of 1-4 mm, with sea level expected to keep soaring in the future. All these physical climate changes have a variety of effects on the economic and social structures and processes of the country. For instance, agricultural productivity and infrastructure are endangered by the rise in sea levels, coastal erosion and saltwater intrusion, whereas rainfall irregularity affects water availability all the year. The World Bank has predicted that, without effective adaptation, the economic impact of climate change on Kiribati will range from 17 to 34% of the country's GDP by 2050 (Allgood & McNamara, 2017).

In an effort to prepare for the climate-related challenges ahead, several policies and programs have arisen to lessen the country's vulnerability to climate change. The problem is that Kiribati's adaptation options are extremely limited. While long-term habitability of these low-lying islands is threatened by sea level rise, Kiribati,

differently from other states, has no sustainable long-term internal migration option: with most islands being less than three meters above sea level, there is simply no higher ground to move to. Hence, the nation's leaders have tried to create new opportunities for citizens to migrate abroad.

First of all, in response to economic and food security concerns associated with climate change, in 2014 Kiribati purchased a land of 5,460 acres for almost \$9 million USD from the Church of England. This acreage is located on Vanua Levu, Fiji's second largest island, which is characterized by a territory higher above sea level, with abundance of natural resources such as fresh water, stone and wood (Kraler, et al., 2020). The purpose of this government investment was to provide for possible agricultural, fishing, and other activities to encourage economic development. Although the government of Kiribati recognized that relocating all its citizens to this territory would not be ideal, in theory it would be feasible, if necessary. The Maldives had contemplated purchasing territory in another state before, but Kiribati was the first to actually do so.

In conjunction with this land acquisition, Kiribati, under the leadership of the former President Anote Tong, has launched its 'Migration with Dignity Policy', which is based on the belief that climate change will require the permanent relocation of some people, and that labor migration opens a crucial pathway for this (Kraler, et al., 2020). The aim of the policy is to facilitate voluntary, temporary and permanent labor migration as an adaptation strategy. It is also intended to nurture the expansion of the country's diaspora, with the goal of enabling its members to help future migrants. Likewise, the government is backing endeavors to upskill the population by improving their educational and vocational achievement in order to allow people to easily exploit opportunities for labor migration. These initiatives help create routes for people willing and able to migrate.

Therefore, the cross-border labor migration strategy designed by the government of Kiribati is a perfect case in point of a governmental response to the impacts of climate change, in which the demographic focus is at the individual or household level. The 'Migration with Dignity Policy' is a component of Kiribati's long-term nation-wide relocation plan (McNamara, 2015).

Going into more detail, the first part of this policy consists in generating chances for those I-Kiribati who desire to migrate abroad now and in the close future. The purpose is on one hand to shape expatriate communities in different welcoming nations like New Zealand and Australia in order to let them support other migrants in the long run, and on the other hand to increase the possibility that remittances will be sent back to those remaining in Kiribati, with all the beneficial effects of this, already analyzed in the previous section. Then, the second component of this policy, which is mainly financed by the government, is to enhance the levels of educational and vocational qualifications that can be attained in Kiribati, in order to have them corresponding with those offered in the locations where I-Kiribati may relocate. The goal is to make I-Kiribati competitive and marketable at international labor markets, with options for labor mobility developed over time. Therefore, this training and upskilling is supposed to create prospects and incentives to migrate abroad ‘with dignity’, exploiting the existing cross-border labor schemes and agreements (McNamara, 2015). Indeed, several international migration opportunities have already been created, predominantly in New Zealand and Australia under the Pacific Access Category and other schemes, so as to allow individuals who want to migrate to have an early possibility to do so. This has the dual benefit of boosting remittances sent back to Kiribati, while preserving and perpetuating the I-Kiribati culture outside the nation (Allgood & McNamara, 2017).

Nevertheless, it could be noted, as many scholars such as McNamara (2015) do, that the ‘Migration with Dignity Policy’ does not reach everyone: it mainly assists and opens doors to individuals that are ready and willing to migrate, while leaving behind other categories of people, particularly those with weak literacy skills or with very basic subsistence livelihoods. Since this alternative to preserve livelihoods seems to be limited to a small group of people, this policy could fail in equitably guaranteeing protective migration measures for everyone (McNamara, 2015). Moreover, another factor to ponder is whether or not such a strategy will have long-term good consequences and benefits in both sending and receiving states. In this case however, as extensively explored in the previous section, development and migration scholars tend to stress that the advantages that arise from migrants’ communities for both the areas of origin and destination generally outweigh the disadvantages.

Little research has been developed on the perspectives of local I-Kiribati people regarding migration as a strategy to deal with climate change effects. There is a bigger quantity of studies on the impacts of climate change and adaptation in Kiribati in general, as well as analyses that suggest that migration may be unavoidable for several small island developing states. For this reason, it is crucial to mention a study elaborated by Lacey Allgood and Karen E. McNamara, which explores the local perspectives on climate-induced migration in Kiribati.

For their study, Allgood and McNamara used a questionnaire as the main method of data collection. The gathering of data was carried out between July and August 2015 in four villages situated in Tarawa. The selected villages, namely Betio, Bikenibeu, New Road and Bonriki, were spread across South Tarawa, and the total sample size was of 60 local community members.

The study of Allgood and McNamara first of all tried to place the role of the impacts of climate change as a general everyday concern for livelihoods in the framework of a variety of issues (15 in total). It emerges that the effects of climate change are the most worrying concern for respondents, immediately followed by disasters. Considering the interconnectedness of climate change, the growing intensity of disasters, and the recent experiences of Cyclone Pam in Kiribati (March 2015), it is evident that environmental change, both sudden and gradual, is a top concern for the people surveyed. It must be taken into account that the Kiribati Government and external agencies have focused their adaptation efforts on raising awareness about climate change among local populations, which may explain why respondents ranked climate change as their most serious livelihood issue (Allgood & McNamara, 2017).

Given this remarkable perception of the impacts of climate change at the household level, it is critical to assess the measures adopted by the households to lessen such effects. Therefore, the study took into analysis how the households of the people surveyed have adapted to gradual environmental changes or rapid-onset events. The overwhelming majority of the participants stated that they have built physical defenses, such as seawalls, mangroves and vegetation, to react to the enduring repercussions of climate change. Temporary or permanent relocation and seeking government assistance were the next two most frequent answers. For what concerns instead overseas remittances, while they may represent a crucial way for families to

sustain their livelihoods, they have not been specifically used or regarded by participants as a means to cope with climate change and its effects (Allgood & McNamara, 2017).

Interestingly, as dominant adaptation strategies, the government of Kiribati and other external agencies have tended to strengthen the adaptive capacity, resorting to initiatives like rainwater harvesting and education, which are deemed as more ‘softer’ adaptation approaches. For instance, from 2003 to 2016 the government carried out the three-phase Kiribati Adaptation Program. Its overarching objective was to lessen the country’s vulnerability to the effects of climate change by controlling inundation, evaluating and handling water resources, and implementing community awareness raising activities. Equally, the World Bank, European Union, Australian Aid and New Zealand Agency for International Development have all funded projects to improve adaptive capacities, minimize the physical exposure, and increase climate change consciousness among local communities (Allgood & McNamara, 2017). Thus, it can be noted that this attention to softer adaptation methods contrasts with that of the household respondents, who mentioned the construction of physical defenses (‘harder’ adaptation approaches) as the main way to protect themselves from climate change impacts.

Before investigating the viewpoints on migration provided by the respondents and the influencing role of climate change on these moves, the study of Allgood and McNamara offers some information about the people’s past experiences of migration. Most of the people surveyed had employed migration as a livelihood strategy before, whether it be within Kiribati or abroad, short-term, seasonal, or permanent. As the most popular reason for migration in the past respondents mentioned education, followed by employment, family reunification and retirement (Allgood & McNamara, 2017).

In terms of potential future migration, 81% of the participants claimed that they were planning to migrate in the future. According to the study, the most common reason for contemplating future migration was due to environmental conditions, with employment and family reunification being other popular motivations. Therefore, a clear-cut difference can be found between people’s past and future reasons at the basis

of migration, in which it is easy to identify the stronger importance of environmental and climate change (Allgood & McNamara, 2017).

People were asked if their household would contemplate abandoning the local area if conditions rapidly or progressively deteriorated as a result of climate change effects. 74% stated they would consider migration. These people were then asked where they would go to, and the majority said they wanted to migrate abroad (Allgood & McNamara, 2017). In general then, the study found that the largest part of the respondents was concerned about the future impacts of climate change on Kiribati's habitability and was thus open to contemplate migration.

Participants were also invited to offer more detailed opinions on the likelihood of moving due to climate change. They provided different motivations for migration: tangible effects of climate change, preoccupations about how future generations could make a living, as well as heightened poverty and insecurity (Allgood & McNamara, 2017).

Even if these more favorable attitudes towards migration constituted the majority of the responses, there were still some people surveyed who expressed reservations about migration. Participants were reluctant to leave mainly because of attachment to their home country; loss of lifestyle, traditions and culture; fear of a different lifestyle at the destination area; denial of climate change; religious beliefs; and potential loss of sovereignty and traditional skills. Participants also expressed concerns regarding employment, housing, and life in general if they migrated to another country. As a matter of fact, the 'Migration with Dignity Policy' promoted by the government of Kiribati would help build I-Kiribati expatriate communities abroad, relieving some of the anxiety associated with relocation. Nevertheless, the loss of a traditional Kiribati way of life, attached to a physical location, could never be fully reproduced or restored (Allgood & McNamara, 2017).

Afterwards, participants were invited to give suggestions as to what they think the Kiribati Government should do to assist them in dealing with the effects of climate change. Among the most popular suggestions, many people suggested that the government should look for a new site to resettle, while others recommended that the government should undertake more in-situ adaptation programs across the country (Allgood & McNamara, 2017).

While their current adaptation strategies seem to differ, when it comes to plans and actions for Kiribati in the future, the viewpoints of the government and of the people surveyed accurately match. Indeed, the vast majority of the respondents acknowledged that adaptation measures are limited in their effectiveness, and, as an option of last resort, migration will probably be part of their futures. These people also stated that the Kiribati government should search for a new area to settle, and in doing so, should take part in bilateral and international dialogues to obtain and guarantee support from other nations for future adaptation financing and migration corridors (Allgood & McNamara, 2017).

To conclude, up to now the literature on climate-induced migration in the Pacific Small Island Developing States is characterized by minimal empirical research conducted at the local community level exploring the perspectives of the people affected. The study of Allgood and McNamara is thus critical precisely because it has contributed to increase research capacity in this field by capturing the views and perceptions of the local inhabitants of South Tarawa regarding the adaptation measures of their households and the use of migration as a potential strategy to adapt to changing environmental and climate conditions.

Summing up the findings of the study, the majority of the people surveyed stated that they would consider migration because of abrupt or progressive effects of climate change. Of those people contemplating migration, the largest part affirmed that migrating abroad would be most beneficial, over relocating to a neighboring village or to another island in Kiribati. The greatest percentage of the respondents stressed that migration would be an upsetting but necessary component of their future, although a tiny percentage of the participants continued to be adamantly opposed to abandoning their motherland. The most common arguments against migration appeared to be the deep attachment to the homeland, to the local lifestyle, and the risk of losing customs and culture. Even for those people who claimed they would move, it was evident that the migration and resettlement process would still be destructive. Staying in Kiribati was the most preferable future outcome for respondents, although most of them were aware that this would not be realistically feasible in the long run.

Whether considered as a failure to adapt or as an adaptation strategy in itself, environmental and climate-induced migration may be inescapable if climate

projections come true (as they are actually doing). When or if adaptation reveals itself inadequate or unsuccessful, the relocation process of the I-Kiribati people, though still a huge mission, will optimistically be conducted in a way that prioritizes human rights, dignity, and self-determination. What is unfolding in Kiribati right now, and the repercussions that will likely be suffered in the near future, send a clear message and serve as a lesson to the rest of the world. Despite their insignificant contributions to greenhouse gas emissions, the people living in Kiribati are anticipated to be among the first to lose their motherland as a result of anthropogenic climate change. The implications of inaction are deep, and the greatest cost is likely to be the loss of the lifestyle of the I-Kiribati communities in the place they call home.

Conclusions

This thesis has sought to attain a double objective: the first purpose was to analyze the phenomenon of environmental migration and displacement from two different perspectives, the legal and the geographical one, while the second objective was to explore the use of migration itself as a potential adaptation strategy to climate change and environmental degradation, with the intention of supporting a view of migration as a possible solution and response to adverse environmental and climatic changes.

One of the central highlights of this work is that there is currently no legal definition, and neither an internationally agreed one, for people on the move due to environmental factors. Connected to this, a crucial aspect that has been stressed in this thesis and that is important to remind is that environmental and climate change, although it is now recognized as a fundamental migration driver, very often is not the single trigger of mobility, but interacts with the other economic, political, social, cultural drivers to generate movement. This difficulty to isolate the environmental driver from the other root causes of migration is, among other things, at the basis of the problem of putting forward a definition of environmental migration accepted by the entire international community and of granting protection to this type of migrants.

Moreover, throughout the thesis another critical point has been emphasized: environmental migration can be a combination of voluntary and forced mobility, thus distinguishing between forced and voluntary migration in the reality can be complicated and misleading. This is crucial because terminology is at the core of the political solutions that can be adopted to govern migration while protecting human rights, and the ambiguity that characterizes the notions of voluntary and forced migration is another element that hinders the introduction of an internationally agreed legal term to define environmental migrants. It has been demonstrated that, despite their conditions and necessities being comparable to those of refugees (such as crossing a border following a catastrophe and needing protection and support), people on the move because of environmental factors do not fall neatly into any one of the categories envisaged by the existing international legal regime. Therefore, at the international level there is no formal mechanism in place to meet their protection needs or to assist them in the mobility process.

Going on, the present work has explored several geographical areas, namely South Asia, Africa, Latin America and the Caribbean, and with the case-study focused on Kiribati also the Pacific Small Island Developing States, that are among those that experience the most the phenomenon of environmental migration and displacement, because they are among the regions most impacted by environmental and climate change. This is linked to the concept of 'climate justice' that has been stressed in the third chapter: even if climate change is an existential problem that threatens the whole world, developing countries or countries of the so-called Global South are disproportionately affected by it and face enormous challenges dealing with the impacts of a changing climate. The poorer countries with very low carbon footprints, and thus the least responsible for causing climate change, are actually the ones suffering the most from its effects, especially regarding food insecurity and nutrient deficiencies. Basically, they are bearing the brunt of the CO₂ emissions produced by the wealthy states of the North.

The recapitulation of the central highlights analyzed throughout the thesis has been necessary to grasp the real meaning of the questions that will be raised in the conclusions.

In the context of climate change and environmental degradation, the traditional narrative on migration is a negative one: migrants are depicted as a problem and migration is generally perceived as the outcome of climate change impacts, an outcome that, considering its disadvantages, especially in terms of security, must be avoided at all costs. Indeed, as analyzed in the third chapter, when preliminary studies predicted future 'waves of environmental refugees', they triggered a debate over the security concerns of environmental migration. For instance, members of the UN Security Council have often cited migrants in discussions about climate security.

However, the intention of this thesis is to convey another idea: there is a need for a different narrative on the theme of migration. We are entering a period in which we cannot continue to think of migration as the unexpected or unwanted outcome of something, in this case climate change. As emerges from the analysis carried out throughout the thesis, migration is and will increasingly become a fundamental adaptation strategy. And if we take it for granted that in some cases and given certain

conditions migration can be an adaptation tool, then what are the implications from a governance point of view?

The point is that there is a need to start thinking about how to manage this phenomenon in the practice. The fundamental question is not whether there will be 200 million migrants by 2050 as Myers predicted, or whether there will be fewer. Having established that the tendency to use migration as an adaptation strategy will increase, which has both positive and negative implications as analyzed, the key point is precisely how this phenomenon can and should be managed. How can the flow of these migrants be controlled, how can the channels through which these migrants move be organized? It is clear that these fluxes of migrants will not all travel by plane. In the case of Kiribati, if there is an agreement in place with Australia or New Zealand, the people leaving the country will be for sure managed in a more organized and logistically efficient way. But it is evident that from Africa or some Asian countries this movement occurs and will continue to occur in the future in a very undisciplined and disorderly manner. One might ask, for example, what kind of services can be offered in transit corridors to these migrants who may take years to pass from the country of origin to the final country of destination. Therefore, the issue of how to manage these current and future flows is an absolutely central one.

Another aspect of critical relevance is to understand how the tendency to use migration as an adaptation tool can be harmonized with the increasing centrality of security discourses within the various nation states. In fact, on one hand it is stated that migrations can be an effective adaptation strategy that must be planned and managed - Kiribati and its 'Migration with Dignity Policy' is a perfect example of a planning of this type - but, on the other hand, we are aware that discourses such as that of 'America First', of migrants who create problems, of migrants that should be helped yes, but in their own countries, represent one of the most widespread trends today. After all, the European case is a clear example of this.

Therefore, the crucial question the international community should answer is: what kind of governance is possible in order to address a phenomenon of this kind? At the bottom of the whole issue is human mobility - which is not the unexpected outcome of something but a matter of fact that we can plan and manage - and how this human mobility undermines the key principles of the nation state, and, above all, the principle

of national borders. In fact, climate change can be defined as a transnational phenomenon, which crosses the borders of states, and which causes, for example, the effects of greenhouse gas emissions produced in Europe to spill with a much more severe strength on the countries of South Asia or Sub-Saharan Africa rather than on Europe itself. The communities of South Asia or Sub-Saharan Africa thus leave their lands due to droughts, hurricanes, or floods that damage their livelihoods and go, for example, to Europe. At that point, how could the different European states individually manage such an influx of environmental migrants? It is evident that the single nation states cannot, neither theoretically nor practically, tackle this problem alone and separately from the rest of the world.

Both in the present and in the future, given that migration is expected to increase with the intensification of the impacts of climate change, the governance of these flows confronts us with a dilemma, or rather with the difficulty of managing the phenomenon of environmental migrations and the use of migration as an adaptation strategy by adopting a nation state logic. The traditional logic of the nation state cannot work in this sphere. Thereby, there is a need to adopt a different logic, which can be the logic of bilateral or multilateral agreements, the logic of regionalization, that is of regional blocs that begin to discuss the issue to find effective practical solutions, and the logic of international organization. What is needed is a multi-level logic: this is probably the only way to address the link between environmental and climate change and migration, and its manifestations. It is clear that there are and there will be flows of migrants, but how can we manage them? How does this phenomenon affect the relationship between the nation state and multi-level governance? This is the crucial theme, and the international community should soon find an answer to these questions.

Finally, it is necessary to focus on one aspect that is emphasized throughout the thesis and that also emerges from the case-study on Kiribati, namely that of the redistributive effects. Not all people migrate or have the possibility and the means to do so. Generally speaking, we know that the poorest do not migrate, or at least have great difficulty in migrating. Therefore, when we state that migration can be an instrument of adaptation and we express support for this view, it is also necessary to consider that here the issue of environmental or 'climate justice' returns. In fact, as examined in the first chapter, environmental change can also lead to significant levels of immobility,

because migration is expensive and requires various forms of capital. However, the impacted populations may experience a decline in the very capital required to migrate. As a result, in the future millions of people will be unable to move away from areas in which they are extremely vulnerable to environmental and climate change, thus becoming 'trapped populations'. Wealth is connected to both the vulnerability to environmental change and the ability to move. An important percentage of the populations living in areas inclined to environmental degradation will lack the financial, political, social and physical assets to migrate, whereas those who possess larger assets will move more easily. Yet, it is precisely these poorer people who are likely to be most exposed to the impacts of environmental change and least able to protect themselves.

To conclude, given the current scope of environmental migration and its potentially future one, action cannot be delayed, because the stakes are too high. The international community must do its part to limit greenhouse gas emissions, since this is fundamental for reducing the scale of climate-induced migration and displacement. Environmental migration and displacement is a reality all over the world, but it does not have to be a crisis: joint and focused action must be taken now to better forecast and prepare for its possible outcomes, as well as to take advantage of its potential as an adaptation strategy. All actors, at the global, national, local level, should exploit the window of opportunity to invest in knowledge, mitigation, and adaptation: acting now will result in long-term benefits for all concerned. In particular, focusing on migration as a possible adaptation strategy is decisive, especially in light of the great difficulty of implementing effective mitigation strategies. Governments, regional and international organizations should not underestimate this approach since it has proven to be a crucial way to build resilience and adapt to adverse changes in the environment. In many situations, its benefits have been demonstrated to be much higher than the disadvantages. As widely demonstrated, the increase in migratory flows will represent one of the most important consequences of climate change. While recognizing the importance of mitigation policies, the ability to manage these flows will become fundamental. Thus, rather than endure migrations, it would be wise to plan them as an adaptation tool. Indeed, if managed properly and with full respect for the rights of all concerned, migration can play a key role in the planning and development of an effective adaptation strategy.

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