The Socioeconomics of International Migration Decisions and Outcomes

Chinedu Temple Obi

GHENT
UNIVERSITY

UNIVERSITÀ DI PISA

Promoters:

          Prof. Fabio Bartolini

          Department of Agriculture, Food, and Environment, University of Pisa, Italy

          Prof. dr. ir. Marijke D'Haese

          Department of Agriculture Economics, Ghent University, Belgium

          Prof. Gianluca Brunori

          Department of Agriculture, Food, and Environment, University of Pisa, Italy

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THE SOCIOECONOMICS OF INTERNATIONAL MIGRATION DECISIONS AND OUTCOMES

Exploring the Nigeria – Italy Migration Corridor
through a capability-based migration framework

CHINEDU TEMPLE OBI

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Italian translation:

Analisi socio economica delle decisioni e degli outcomes delle migrazioni internazionali: un'esplorazione del corridoio migratorio Nigeria- Italia mediante l'approccio capacity-based.

Dutch translation:

De sociaal-economische aspecten van internationale migratiekeuzes en -uitkomsten: het verkennen van de Nigeria – Italië migratiecorridor door middel van een migratiekader gebaseerd op bekwaamheden

Cover page: Munachimso Obi

To my mother, my wife, and my daughter

ACKNOWLEDGMENTS

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AIC	Akaike Information Criterion
AIDA	Asylum Information Database
BIC	Bayesian Information Criterion
BMZ	Federal Ministry for Economic Cooperation and Development (German)
CAHTSEC	Coalition Against Human Trafficking and Sexual Exploitation of Children
CBN	Central Bank of Nigeria
CFA	Confirmatory Factor Analysis
CSI	Coping Strategy Index
DCAD	Devatop Centre for Africa Development
ETAHT	Edo State Agency against Human Trafficking
EU	European Union
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FIES	Food Insecurity Experience Scale
FSIN	Food Security Information Network
GDP	Gross Domestic Product
GHS	General Household Survey
GMM	Generalized Method of Moments
GSEM	Generalized Structural Equation Model
HAZ	Height-for-Age
HDDS	Household Dietary Diversity Score
HTA	Health Technology Assessment
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institution
IMF	International Monetary Funds
IOM	International Organization for Migration
IRCC	Immigration Refugees and Citizenship Canada
ISTAT	Italian Statistics
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
LDC	Low-income Developing Countries
LSMS	Living Standard Measurement Survey
NAPTIP	National Agency for the Prohibition of Trafficking in Persons
NGO	Non-Governmental Organizations
NYSC	National Youth Service Commission
ODI	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Square
RCT	Randomized Control Trial
SDG	Sustainable Development Goals
SEM	Structural Equation Modelling
SPRAR	Protection System Programme for Asylum Seekers and Refugees
SSA	Sub-Saharan Africa
SWB	Subject Well-being
UK	United Kingdom
UN	United Nations

UNDP	United Nations Development Programme
UNICEF	United Nations Children Fund
USD	United States Dollar
WAZ	Weight-for-Age
WFP	World Food Programme
WHO	World Health Organization
WHZ	Weight-for-Height
WOTCLEF	Women Trafficking and Child Labour Eradication Foundation

SUMMARY

The number of international migrants has been rising since the last decade. However, a predominant number of people are non-migrants. The increasing migration flows nevertheless have attracted the interest of the research community. Currently, there is a vast literature on the trend, drivers, and developmental impacts of international migration. In this dissertation, I argue that there is also a need to study why some people migrate, and others do not migrate and why some migrants contribute to their households' welfare while others do not. These additional questions can be addressed by researching the socioeconomics of migration decisions and outcomes of a specific group of people before and after migration. The neoclassical migration theories upon which previous research is based may be inadequate to undertake this comprehensive investigation. Hence, I adopted a novel capability-based migration framework and addressed three research questions. 1) how do capabilities influence migration decisions; 2) what are the capability-depriving constraints faced by migrants in the host countries, and 3) how do migrants contribute to capability improvement in their home countries? I explored Nigeria to Italy migration corridor and collected data from Nigerians before migration and after migration to Italy. A mixed-method approach was adopted in the research, including systematic review, secondary data analysis and, qualitative and quantitative analyses of primary data. The dissertation is divided into eight chapters. A summary of the chapters is as follows.

Chapter 1 critically reviewed the neoclassical migration theories and conceptualizes the aspiration-capability framework as a prospect in migration theory. This Chapter showed that most of the neoclassical migration theories were made in the 20th century. They, therefore, require an update to accommodate new issues in the contemporary migration dynamics. It went further to highlight six general shortcomings of these theories. These shortcomings include that they perceive migration decisions as linearly associated with hardships without considering the role of individual capabilities in migration decisions. Besides, they are too deterministic, economically centered, and origin biased. They neglect why immobility occurs and often do not consider the human agency and rights of migrants in their discussions. I, therefore, argue that a multifaceted and multidimensional capability-based approach that centralizes human agency and capabilities can address these shortcomings. Hence, I adopted the capability-based migration framework as the main framework in this dissertation.

Chapter 2 used the capability-based migration framework to explain mobility and immobility decisions. The study aims to add insights into how the capabilities one owns and freedoms of

choice one can make qualify who can migrate and who cannot afford to migrate when exposed to the same levels of hardships. The hypothesis is that financial capabilities, social capabilities, psychological capabilities, and physical capabilities are essential elements that differentiate who can migrate and who cannot migrate among populations with migration aspirations. Using exploratory data from Nigeria, I regressed these capabilities against mobility choices. The results show that capabilities have a bimodal relationship with mobility choices, revealing four distinct groups - voluntary mobility, constraint mobility, voluntary immobility, and acquiescent immobility groups. Hence, it contradicts the often-linear relationships between hardship and migration shown in previous research based on neoclassical reasoning. I, therefore, conclude that human capabilities and choices need to be accorded attention in the study of migration decisions and outcomes.

Chapter 3 investigates how the possession of insufficient capabilities may lead to wrong migration decisions. I consider information a fundamental entitlement that influences migration decisions and how it is planned and executed. I explore how individuals make their migration decisions when information is provided by informal sources like migrants' networks and social media. The study was conducted using data from individuals living in Nigeria and analyzed with a Generalised Structural Equation Model, rare for this research. I find a dual mediating role of the social media and the migrant networks in facilitating migration. These roles include reducing the threshold cost required to migrate and introducing a bias in information asymmetry. While social media and access to migrant networks directly increase migration intentions, this changes when incomplete information is provided. People who use social media and their migrant networks for information are more likely to have information about destination countries than information on the transit risk. This result implies that insufficient capabilities to access accurate information may lead to irregular migration decisions. Those who migrate irregularly can have high migration aspiration but low capability levels to migrate. They, therefore, make use of social media and networks, including traffickers and smugglers, to achieve their migration desires.

Chapter 4 demonstrates how to enhance access to information capabilities using a formal source of information - information campaigns. Information campaigns are among the several measures used to deter potential migrants from entering Europe irregularly. However, the effectiveness of information campaigns in managing irregular migration has been criticized. I question the way the information campaigns are designed and assessed so far. By unpacking the aspiration-capability framework of migration and the theories that explain learning and

planned behavior, I explained the factors that may influence information campaigns' success. Following the current trend of using randomized controlled trials in impact evaluation, I test such an approach in evaluating the effectiveness of different designs of information campaigns. I presented a proof of concept on a limited sample of youngsters in Edo State, Nigeria, exploring how information brought to them verbally, in the absence, and combined with written and video messages change their expressed intention to migrate irregularly. The result shows that information campaigns can enhance access to accurate migration information, improve risk perception and change intention to migrate irregularly. However, the design of the campaign is critical. I consider the study a worthwhile effort to open the door for more investigations on robust evidence of information campaigns' actual impact.

Chapter 5 examines the integration experience and well-being of Nigerian asylum seekers in Italy. It motivates that while the literature on migrants' integration and well-being is ample, the case of asylum seekers in a protracted asylum application system is yet to receive sufficient attention. I used a mixed-method approach, combining focus group discussions, personal interviews, observations, and surveys to analyze Nigerian immigrants waiting for their asylum decisions in two cities in Italy. I find that they evaluate their well-being by reflecting on their premigration expectations (aspirations), integration constraints, and capabilities. The respondents who had witnessed a long delay in their asylum applications report lower life satisfaction than their satisfaction in Nigeria. They are affected by several structural, economic, social, and psychological challenges and report negative aspiration gaps. These challenges affect the capability to acquire adequate housing, send remittances and make a meaningful life decision. Generally, the study describes what it is like to live in limbo and frustration, with a limited assurance for a better tomorrow. The critical point here is that those who lacked the capabilities to migrate legitimately but find a way to migrate through irregular routes also face several capabilities deprivations in host countries. These deprivations influence how they contribute to their households' well-being, which is among the top reasons for migration.

Chapter 6 investigate the contributions of international migrants to rural development in developing countries. In this study, I did not differentiate if the migrants are regular or irregular in the host country. However, I try to consider through an idealistic point of view what could happen in rural areas in developing countries if migrants are offered the opportunities and freedoms (capabilities) to integrate and assist their households at home. Using a systematic review, I examined the impacts of migration on six rural welfare indicators: labor, livelihood activities, income, food security, land use, and rural development. I studied 44 papers retained

from a pool of 1544 articles published between 2007 and 2018. I find that the impact of international migration on the selected indicators varies and is highly context-specific. The results point to heterogeneity in the impacts, creating a space of losers and winners among migrant and non-migrant households. The immediate impact is the labor loss effect. This loss leads to the feminization of agriculture and increases the number of children participating in informal labor activities. The intermediate impact involves changes in power relationships in rural areas. It briefly increases the opportunities for non-migrant households to control land. However, remittances help migrant households move up the income ladder, improve their food security, assist them in repurchasing land, and lead to a transition away from agriculture. I conclude that international migration from developing countries could create a dynamic process of structural and functional transformations in rural areas, ultimately leading to a transition away from agriculture as the primary source of income and livelihood. It is also understood through development economic reasoning that transition from agriculture is the pathway for development. It means, therefore, that successful migrants have the capabilities to develop their communities in an ideal situation.

Chapter 7 focuses on the impact of international migration on food security in Nigeria. The Chapter argues that food crises exacerbated by erratic climatic changes, violence, and other uncertainties are essential drivers of international migration. Research on the impact of migration and remittances on food security has grown lately, but it is arguably not comprehensive in its approach. The role of migrants' remittances in improving household food security capabilities during food crises is a vital stream being neglected, and the impact of remittances on food security over the long-term is yet to be studied comprehensively. To fill this gap, I analyzed Nigeria's case study using a World Bank Living Standards dataset and followed an instrumental variable approach. The results showed that remittance is valuable in meeting both short and long-term food security, and it is a veritable instrument for meeting household food security during food crises. It is particularly crucial for female-headed households who are more vulnerable to food insecurity. Although it does not significantly improve dietary diversity, households receiving remittances are less likely to adopt unhealthy coping practices such as eating less nutritious food and less likely to be worried about meeting household food requirements due to lack of money. I conclude that migrants' remittances do not only smoothen consumption; they can place households on higher food security equilibrium during food crises.

Generally, the dissertation is unique and timely. It brings knowledge on the complete migration trajectory of a particular group, looking at the decision stage, the movement, the arrival, and

the contribution. These holistic analyses of migration dynamics have lacked in migration literature. The thesis also provides a relevant methodological contribution since, at the moment, there is not yet a well-established methodology to describe a holistic migration-experience for a group of migrants or procedure for data collection of such cases. The critical contribution of this dissertation in migration literature is recognizing that migrants have human agency and capabilities. I argue that migrants should not be seen as economic tools but as human beings who desire to contribute to their family's well-being. Hence, they need to be accorded fundamental human rights, empathy, and protection. This dissertation maintains that migrants' achievements and contributions can be explained through the lens of expectations, constraints, and integration realities in host countries. Several recommendations and opportunities for future research are presented in Chapter 8.

SOMMARIO

Il processi di migrazione sono in aumento dall'ultimo decennio ed hanno attirato l'interesse della comunità di scientifica. Pertanto si sta consolidando un filone di studi sulle tendenze, i fattori trainanti e gli impatti sullo sviluppo delle migrazioni internazionali. Nonostante questo consolidamento, rimane la necessitò di studiare i meccanismi che spingono le persone a migrare, nonché di comprendere le condizioni per che consentono di raggiungere il benessere individuale e famgliare atteso. Questi temi di ricerca possono essere affrontati ricercando gli aspetti socioeconomici delle decisioni migratorie e confrontando le condizioni delle persone e delle loro famiglie prima e dopo la migrazione. Le teorie neoclassiche sulla migrazione, su cui si basano le ricerche, risultano inadeguate a spiegare i fenomeni migratori. Al fine di comprendere pienamente il processo di migrazione, nella mia tesi ho sviluppato un nuovo quadro concettuale basato sulle *capabiltiies.* Espandendo l'approccio delle *capabilities* proposto da Sen, ho affrontato i seguenti tre quesiti di ricerca:

- come le *capabilities* possono influenzare le decisioni migratorie;
- quali sono le principali privazioni che i migranti nei paesi di accoglienza devono affrontare;
- come i migranti contribuiscono acquisiscono *capabilities* nei paesi d'origine?

Nella tesi ho esplorato il corridoio migratorio dalla Nigeria all'Italia, considerato una delle principali rotte migratorie internazionali. Per rispondere ai sopramenzionati, applicando un metodo empirico, ricerca ho cercato di studiare il comportamento dei cittadini Nigeriani prima della migrazione e dopo la migrazione una volta in Italia. In mancanza di una metodologia consolidata ed idonea ad affrontare i quesiti di ricerca, ho adottato dei *mixed methods* che comprendono la revisione sistematica, l'analisi dei dati secondari e l'analisi qualitativa e quantitativa dei dati primari.

La tesi di laurea è suddivisa in otto capitoli e di seguito è riportata la sintesi di ciascun capitolo.

Il capitolo 1 esamina criticamente le teorie neoclassiche e cerca di sviluppare un quadro concettuale incentrato sulle *capabilities* (capacità di aspirazione) come prospettiva nella teoria della migrazione. Questo capitolo ha mostrato una inadeguatezza delle teorie esistenti in quanto spesso legate al periodo storico nel quale sono state sviluppare (xx secolo). Pertanto, è emersa la necessità di un "aggiornamento" teorico per comprendere le questioni emergenti nelle dinamiche migratorie contemporanee. Infatti, il lavoro di revisione ha evidenziato sei carenze principali carenze di dette teorie. Infatti, percependo le decisioni migratorie come

linearmente associate alle difficoltà dei migranti non considerano il ruolo delle *capabilties* individuali nelle decisioni migratorie. In aggiunta, sono spesso troppo deterministiche, ovvero centrate sui fattori economici e sull'origine del migrante, e finiscono per trascurare sia il motivo per cui si verifica l'immobilità e sia oi problemi di *agenticità umana* e i diritti dei migranti. Pertanto, si rende necessario sviluppare un approccio multidimensionale basato sulle *capabiltiies*, che consenta di comprendere la centralità della capacità di agire attivamente e trasformativamente nel contesto in cui si è inseriti, può affrontare queste carenze. Per questo motivo, ho adottato un quadro concettuale di riferimento basate sulle capabilities.

Il capitolo 2 ha utilizzato il detto quadro concettuale per comprendere le decisioni in materia di mobilità e immobilità. lo studio ha l'obiettivo di analizzare come sia le *capabilties* che la libertà di scelta, possano far comprendere chi può migrare e chi non può permettersi di migrare quando a parità di livelli di difficoltà. L'ipotesi di base è che le *capabilities* finanziarie, sociali, psicologiche e fisiche siano elementi essenziali che differenziano chi può migrare da chi non può migrare all'interno di una popolazione che ha aspirazioni migratorie. Utilizzando dati esplorativi provenienti dalla Nigeria, ho testato mediante una regressione le *capabilities* rispetto alle scelte di mobilità. I risultati mostrano che le *capabilities* hanno una relazione bimodale con le scelte di mobilità, rivelando quattro gruppi distinti: a) mobilità volontaria, b) mobilità vincolata, c) l'immobilità volontaria ed infine d) i gruppi di immobilità acquiescenti. Pertanto, questo capitolo confuta le relazioni spesso lineari tra disagio e migrazione mostrate nelle precedenti ricerche neoclassiche. Infine, vorrei enfatizzare che le capacità e le scelte umane devono essere oggetto di attenzione nello studio delle decisioni e degli *outcomes* dei processi migratori.

Il capitolo 3 indaga su come la scarsa dotazione di *capabilities* possa portare a decisioni migratorie sbagliate. Infatti, le capacità di accedere alle informazioni sono un diritto fondamentale che influenza le decisioni migratorie ed anche le tipologie e rotte migratorie. In questo capitolo, infatti, esamino il modo in cui gli individui esprimo le proprie decisioni sull'intenzione a migrare quando le informazioni controllando la qualità delle informazioni ed i canali informali come la rete dei migranti e i social media. Lo studio è stato applicando un modello econometrico ad equazioni strutturali utilizzando dati primari provenienti da individui che vivono in Nigeria. I dati primari raccolti in questo modo sono una novità nella letteratura economica agraria. I risultati mostrano che i social media e le reti di migranti abbiano un duplice ruolo di mediazione nel facilitare la migrazione: la riduzione del costo soglia richiesto per la migrazione e l'introduzione di una distorsione in termini di asimmetria

dell'informazione. Diversamente, i social media e l'accesso alle reti di migranti aumentano direttamente le intenzioni migratorie, soprattutto nel caso vengano fornite informazioni incomplete. Le persone che utilizzano i social media e le loro reti di migranti per l'informazione hanno maggiori probabilità di avere informazioni sui paesi di destinazione rispetto alle informazioni sul rischio di transito. Questo risultato implica che la mancanza di accesso ad informazioni corrette può portare a migrazioni irregolari. Infatti, Si può osservare che coloro che tendono a migrare attraverso canali irregolari hanno elevate aspirazioni, ma bassi esperienza con i processi di migrazione. Essi, quindi, fanno uso dei social media e delle reti per realizzare i loro desideri migratori.

Nel Capitolo 4, dimostro come un migliore accesso alle capacità di informazione utilizzando una fonte formale di informazione (le campagne di informazione) possano far prendere decisioni consapevoli circa le migrazioni. Le campagne di informazione sono una delle varie misure utilizzate per dissuadere i potenziali migranti in Nigeria dall'entrare in Europa in modo irregolare. Tuttavia, l'efficacia delle campagne d'informazione nella gestione della migrazione irregolare è stata oggetto di critiche. Tali critiche sono rivolte soprattutto al modo in cui le campagne d'informazione sono state finora concepite. Espandendo il quadro concettuale delle capabilities alle teorie comportamentali (*theoy of planned behaviour*), sono stato in grado di spiegare i fattori che possono influenzare il successo delle campagne di informazione. Tale quesito di ricerca è stato affrontato applicando studi randomizzati controllati per la valutazione dell'efficacia dei diversi disegni delle campagne d'informazione. La metodologia si basa sulla somministrazione di un esperimento controllato su un campione limitato di giovani nello Stato di Edo, in Nigeria. Durante l'esperimento è stata testata l'efficacia delle informazioni portate loro verbalmente, in assenza e in combinazione con messaggi scritti e video sull'intenzione di migrare in modo irregolare. Il risultato dimostra che le campagne di informazione possono migliorare l'accesso a informazioni corrette sulla migrazione, migliorare la percezione del rischio riuscendo a ridurre l'intenzione a migrare irregolarmente. Tuttavia, il disegno della campagna è fondamentale. Ritengo che lo studio possa aprire un nuovo filone di ricerca per supportare mediante indagini più estese l'effettivo impatto delle campagne di informazione.

Il capitolo 5 esamina l'esperienza di integrazione e il benessere dei richiedenti asilo nigeriani in Italia. Motivo che, mentre la letteratura sull'integrazione e il benessere dei migranti è ampia, il caso dei richiedenti asilo in un sistema di domanda d'asilo che si protrae da molto tempo non ha ancora ricevuto sufficiente attenzione. Ho utilizzato una metodologia mista, combinando discussioni in focus group, interviste personali, osservazioni e sondaggi nell'analisi degli

immigrati nigeriani in attesa della decisione di asilo in due città italiane. Nell'analisi ho esplorato il loro benessere attraverso un riflesso delle loro aspettative di pre-migrazione (aspirazioni), dei loro vincoli e delle loro capacità di integrazione. Gli intervistati che hanno assistito a un lungo ritardo nelle loro domande di asilo riportano una minore soddisfazione della vita in Italia rispetto alla situazione di partenza. Queste persone affrontano da diverse sfide, economiche, sociali e psicologiche che si ripercuotono come mancanze nelle aspirazioni. Queste sfide influenzano la capacità di acquisire un alloggio adeguato, di inviare rimesse e di prendere una decisione significativa sulla vita. In generale, lo studio descrive cosa significa vivere in un limbo e frustrazione, con una garanzia limitata per un domani migliore. Il punto critico in questo caso è che coloro che non hanno le capacità di migrare legittimamente, ma trovano un modo per migrare attraverso un percorso irregolare, devono anche affrontare diverse privazioni di capacità nei paesi ospitanti. Queste privazioni influenzano il modo in cui contribuiscono al benessere delle loro famiglie, che è tra le principali ragioni della migrazione.

Il capitolo 6 ha esaminato i contributi dei migranti internazionali allo sviluppo rurale nei paesi in via di sviluppo. In questo studio non ho distinto se i migranti sono regolari o irregolari nel paese ospitante. Tuttavia, ho considerato, da un punto di vista idealistico, cosa potrebbe accadere nelle aree rurali dei Paesi in via di sviluppo se ai migranti vengono offerte le opportunità e le libertà (*capabilities*) di integrare e assistere le loro famiglie nei paesi di origine. Utilizzando una revisione sistematica, ho esaminato l'impatto della migrazione su sei indicatori di benessere rurale: lavoro, attività di sussistenza, reddito, sicurezza alimentare, uso della terra e sviluppo rurale. Ho considerato 44 articoli tratti da un pool di 1544 articoli pubblicati tra il 2007 e il 2018. I risultati suggeriscono che l'impatto della migrazione internazionale sugli indicatori selezionati varia e che è altamente specifico del contesto. I risultati mostrano una forte eterogeneità negli impatti, capace di creare uno spazio di perdenti e vincitori tra le famiglie migranti e non migranti. L'impatto immediato è l'effetto di perdita di manodopera nei paesi di origine. Questa perdita porta a un processo di femminilizzazione dell'agricoltura e aumenta il numero di bambini che partecipano ad attività di lavoro informale. Nel medio periodo, le migrazioni comportano cambiamenti nei rapporti di potere nelle aree rurali, ovvero di aumentano le opportunità di controllare la terra per le famiglie di non migranti. Tuttavia, le rimesse aiutano le famiglie di migranti a migliorare i redditi e la loro sicurezza alimentare, a riacquistare la terra e a portare a una transizione dall'agricoltura. I risultati stressano che la migrazione internazionale dai Paesi in via di sviluppo potrebbe creare un processo dinamico di trasformazioni strutturali e funzionali nelle aree rurali, che potrebbe portare alla fine a una transizione dall'agricoltura come fonte primaria di reddito e di sostentamento. Si comprende

anche, attraverso il ragionamento economico dello sviluppo, che la transizione dall'agricoltura è un percorso di sviluppo. Significa, quindi, che i migranti di successo hanno la capacità di sviluppare le loro comunità in una situazione ideale.

Il capitolo 7 si concentra sull'impatto della migrazione dei nigeriani sulla sicurezza alimentare delle famiglie nei paesi di origine. Il capitolo enfatizza che le crisi alimentari esacerbate dai cambiamenti climatici, dalla violenza e da altre incertezze sono fattori essenziali della migrazione internazionale. La ricerca sull'impatto delle migrazioni e delle rimesse sulla sicurezza alimentare è cresciuta negli ultimi anni, ma probabilmente non ha raggiunto una piena maturazione nel suo approccio. Il ruolo delle rimesse dei migranti nel migliorare le capacità di sicurezza alimentare delle famiglie durante le crisi alimentari è un flusso vitale che viene trascurato, e l'impatto delle rimesse sulla sicurezza alimentare a lungo termine deve ancora essere studiato in modo approfondito. Per colmare questa lacuna nella letteratura, ho analizzato il caso di studio della Nigeria utilizzando un set di dati secondari forniti dalla Banca Mondiale sugli standard di vita e ho applicato un modello econometrico basato sulle variabili strumentali. I risultati hanno dimostrato che le rimesse sono preziose per soddisfare la sicurezza alimentare sia a breve che a lungo termine ed è un vero e proprio strumento per soddisfare la sicurezza alimentare delle famiglie durante le crisi alimentari. È particolarmente cruciale per le famiglie senza capofamiglia che sono più vulnerabili all'insicurezza alimentare. Anche se non migliora in modo significativo la diversità alimentare, le famiglie che ricevono le rimesse hanno meno probabilità di adottare pratiche di gestione malsane, come mangiare cibo meno nutriente, e meno probabilità di preoccuparsi di soddisfare il fabbisogno alimentare delle famiglie a causa della mancanza di denaro. Concludo che le rimesse dei migranti non solo facilitano il consumo, ma hanno anche la capacità di porre le famiglie su un maggiore equilibrio di sicurezza alimentare durante le crisi alimentari.

In generale, lo studio è unico e tempestivo. Porta la conoscenza della traiettoria migratoria completa di un particolare gruppo, guardando alla fase di decisione, al movimento, all'arrivo e al contributo. Queste analisi combinate delle dinamiche migratorie mancano nella letteratura sulle migrazioni. La tesi fornisce anche un contributo metodologico rilevante, dal momento che, non esiste ancora una metodologia consolidata per descrivere anche la questione della migrazione o la procedura per la raccolta dei dati. Il contributo critico di questa tesi nella letteratura sulle migrazioni è il riconoscimento del fatto che i migranti hanno una *agenticità umana* e *capabiltiies*. Nel suo complesso la tesi suggerisce che i migranti non dovrebbero essere visti come strumenti economici, ma come esseri umani che desiderano contribuire al benessere

delle loro famiglie. Di conseguenza, devono essere riconosciuti loro il diritto umano fondamentale, l'empatia e la protezione. Questa tesi sostiene che i risultati e i contributi dei migranti possono essere spiegati attraverso la lente delle aspettative, dei vincoli e delle realtà di integrazione nei paesi ospitanti. Nel Capitolo 8 sono presentate diverse raccomandazioni e opportunità per la ricerca futura.

SAMENVATTING

Het aantal internationale migranten stijgt sinds het laatste decennium. Het grootste deel van de wereldwijde populatie is echter geen migrant. De toenemende migratiestromen hebben desalniettemin de belangstelling van de onderzoeksgemeenschap gewekt. Op dit moment bestaat er een uitgebreide literatuur over de trend, drijfveren en ontwikkelingsimpact van internationale migratie. In dit proefschrift stel ik dat het ook noodzakelijk is om te bestuderen waarom sommige mensen wel en andere niet migreren, en waarom sommige migranten bijdragen aan het welzijn van hun huishouden, en andere niet. Deze aanvullende vragen kunnen worden beantwoord door onderzoek te doen naar de socio-economische aspecten van migratiekeuzes en -uitkomsten van een specifieke groep mensen, zowel voor als na migratie. De neoklassieke migratietheorieën, waarop eerder onderzoek is gebaseerd, zijn onvoldoende om dit allesomvattende onderzoek uit te voeren. Daarom heb ik een vernieuwend migratiekader toegepast, gebaseerd op bekwaamheden, en heb ik drie onderzoeksvragen behandeld. 1) hoe beïnvloedt bekwaamheid migratiekeuzes; 2) wat zijn de bekwaamheidsbelemmerende beperkingen waarmee migranten in de gastlanden worden geconfronteerd, en 3) hoe dragen migranten bij aan een verbetering in bekwaamheden in hun thuisland? Ik onderzocht de migratiecorridor van Nigeria naar Italië en verzamelde gegevens van Nigerianen voor en na hun migratie naar Italië. Bij het onderzoek werd er gekozen voor een gemengde aanpak van dataverzameling, met inbegrip van een systematisch literatuuroverzicht, secundaire data-analyse, en kwalitatieve en kwantitatieve analyses van primaire data. Het proefschrift is onderverdeeld in acht hoofdstukken. Een samenvatting van de hoofdstukken is als volgt.

In hoofdstuk 1 worden de neoklassieke migratietheorieën kritisch onder de loep genomen en wordt het aspiratie-bekwaamheidskader geconceptualiseerd als een vooruitzicht in migratietheorie. Dit hoofdstuk laat zien dat de meeste theorieën in de 20^e eeuw zijn gevormd. Ze vereisen daarom een actualisatie, om nieuwe kwesties in de hedendaagse migratiedynamiek aan te kaarten. Vervolgens licht het hoofdstuk zes algemene tekortkomingen van deze theorieën toe. Deze tekortkomingen houden onder meer in dat migratiekeuzes lineair worden geassocieerd met tegenslagen, zonder rekening te houden met de rol van individuele bekwaamheden in migratiekeuzes. Bovendien zijn de theorieën te deterministisch, economisch georiënteerd en bevooroordeeld op herkomst. Ze verwaarlozen waarom immobiliteit optreedt en houden in hun discussies vaak geen rekening met persoonlijke '*agency*' en de rechten van migranten. Daarom pleit ik dat een veelzijdige en multidimensionale, op bekwaamheden

gebaseerde aanpak, die de persoonlijke '*agency*' en bekwaamheden centraliseert, deze tekortkomingen kan verhelpen. Het is met deze reden dat ik het migratiekader gebaseerd op bekwaamheden heb aangenomen als het voornaamste theoretisch kader in dit proefschrift.

In hoofdstuk 2 werd dit theoretisch kader gebruikt om mobiliteits- en immobiliteitskeuzes te verklaren. Het doel van deze studie is om inzichten te verschaffen in hoe de bekwaamheden die men heeft, en de keuzevrijheid die men heeft, bepaalt wie kan migreren en wie het zich niet kan veroorloven om te migreren bij eenzelfde blootstelling aan tegenslagen. De hypothese is dat financiële, sociale, psychologische en fysieke bekwaamheden essentiële elementen zijn die het onderscheid maken tussen wie kan migreren en wie niet kan migreren binnen een bevolking met migratieaspiraties. Met behulp van verkennende data uit Nigeria heb ik deze bekwaamheden tegen de mobiliteitskeuzes afgezet. De resultaten tonen aan dat bekwaamheden een bimodale relatie hebben met mobiliteitsopties, wat vier verschillende groepen aan het licht brengt. Deze zijn vrijwillige mobiliteit, belemmerde mobiliteit, vrijwillige immobiliteit en erin berustende immobiliteitsgroepen. Dit is dan ook in tegenspraak met de vaak lineaire relaties tussen tegenslagen en migratie die in eerder onderzoek zijn aangetoond en die gebaseerd zijn op neoklassieke redeneringen. Ik concludeer dan ook dat persoonlijke bekwaamheid en mobiliteitsopties aandacht moeten krijgen in de studie van migratiekeuzes en -uitkomsten.

In hoofdstuk 3 wordt onderzocht hoe het bezit van onvoldoende bekwaamheden kan leiden tot verkeerde migratiekeuzes. Ik beschouw het vermogen om toegang te krijgen tot informatie als een fundamenteel recht dat ook invloed heeft op migratiekeuzes, evenals op de manier waarop de migratiereis wordt gepland en uitgevoerd. Ik onderzoek hoe individuen hun migratiekeuzes maken wanneer informatie wordt verstrekt door informele bronnen zoals het netwerk van een migrant en sociale media. Het onderzoek is uitgevoerd met data van individuen die in Nigeria wonen en is geanalyseerd met een algemeen structureel vergelijkingsmodel, wat zeldzaam is in dit soort onderzoek. Ik stel vast dat er een dubbel bemiddelende rol is van sociale media en migranten hun netwerken bij het faciliteren van migratie. Deze rollen omvatten het verminderen van de drempelkosten die nodig zijn om te migreren en het introduceren van informatieasymmetrie. Hoewel sociale media en de toegang tot migrantennetwerken de migratie-intenties rechtstreeks verhogen, komt er hier verandering in wanneer er onvolledige informatie wordt verstrekt. Mensen die gebruik maken van sociale media en hun migrantennetwerken voor informatie, hebben meer kans op het verkrijgen van informatie over de landen van bestemming dan op informatie over het transitrisico. Dit betekent dat

onvoldoende mogelijkheden om toegang te krijgen tot accurate informatie kan leiden tot keuzes voor irreguliere migratie. Van degenen die irregulier migreren kan worden gezegd dat ze een hoge migratieaspiratie hebben, maar een laag niveau van migratie bekwaamheden. Zij maken daarom gebruik van sociale media en netwerken, waaronder mensenhandelaars en -smokkelaars, om hun migratiewensen te verwezenlijken.

In hoofdstuk 4 laat ik zien hoe de toegang tot informatie bekwaamheden kan worden verbeterd met behulp van een formele informatiebron - informatiecampagnes. Informatiecampagnes zijn een van de verschillende maatregelen die worden gebruikt om potentiële migranten in Nigeria ervan te weerhouden om op irreguliere wijze naar Europa te gaan. Maar er is ook kritiek op de doeltreffendheid van informatiecampagnes bij het beheer van irreguliere migratie. Ik bevraag de opzet en beoordeling van informatiecampagnes tot nu toe. Dankzij het uitpakken van het aspiratie-bekwaamheidskader voor migratie en de theorieën die leren en doelbewust gedrag verklaren, heb ik de factoren kunnen uitleggen die het succes van zo'n informatiecampagnes kunnen beïnvloeden. In navolging van de huidige trend om gebruik te maken van gerandomiseerde, gecontroleerde studies voor impactevaluatie, test ik een dergelijke aanpak bij het evalueren van de effectiviteit van verschillende ontwerpen van informatiecampagnes. Ik presenteer een *'proof of concept'* aan de hand van een beperkte steekproef van jongeren in Edo State, Nigeria, waarbij ik onderzocht hoe informatie die hen mondeling werd verstrekt, in afwezigheid van en in combinatie met schriftelijke boodschappen en videoboodschappen, hun aangegeven intentie om irregulier te migreren verandert. De bevinding is dat informatiecampagnes de toegang tot accurate migratie-informatie kunnen verbeteren, de risicoperceptie kunnen verbeteren en de intentie om irregulier te migreren kunnen veranderen. De opzet van de campagne is echter cruciaal. Ik beschouw de studie als een waardige inspanning die deuren zou kunnen openen naar meer onderzoek met degelijk bewijs van de werkelijke impact van informatiecampagnes.

In hoofdstuk 5 wordt de ervaring met integratie en het welzijn van Nigeriaanse asielzoekers in Italië bestudeerd. Ik beargumenteer dat, hoewel er ruimschoots literatuur aanwezig is over de integratie en het welzijn van migranten, er onvoldoende aandacht is voor gevallen waarbij asielzoekers zich in een langgerekt asielaanvraagsysteem bevinden. Ik heb een gemengde aanpak gehanteerd van dataverzameling waarbij ik focusgroepgesprekken, persoonlijke interviews, observaties en enquêtes heb gecombineerd bij de analyse van Nigeriaanse immigranten die wachten op beslissingen in hun asielaanvraag in twee steden in Italië. Ik stel vast dat ze hun welzijn evalueren door middel van een overweging van hun pre-

migratieverwachtingen (aspiraties), beperkingen in integratie en bekwaamheden. De respondenten, die getuige waren geweest van een lange vertraging in hun asielaanvraag, melden een lagere voldoening in hun leven in Italië in vergelijking met Nigeria. Ze worden geconfronteerd met verschillende structurele, economische, sociale en psychologische uitdagingen en geven blijk van onvervulde verwachtingen. Deze uitdagingen beïnvloeden het vermogen om geschikte huisvesting te verwerven, geldtransfers te maken naar het land van herkomst en zinvolle beslissingen voor de toekomst te nemen. Over het algemeen beschrijft de studie hoe het is om te leven in het ongewisse en in frustratie, met een beperkte zekerheid voor een betere toekomst. Het kritieke punt hier is dat degenen die niet over de bekwaamheden beschikten om legitiem te migreren, maar een manier vinden om via een irreguliere route te migreren, ook te maken hebben met verschillende ontberingen in bekwaamheden in de gastlanden. Deze deprivaties hebben invloed op de manier waarop ze bijdragen aan het welzijn van hun gezinnen, wat een van de belangrijkste redenen voor migratie is.

In hoofdstuk 6 wordt de bijdrage van internationale migranten aan rurale ontwikkeling in ontwikkelingslanden onderzocht. In dit onderzoek heb ik niet gedifferentieerd of de migranten regulier of irregulier aanwezig zijn in het gastland. Ik probeer echter vanuit een idealistisch standpunt te bekijken wat er in rurale gebieden in ontwikkelingslanden kan gebeuren als migranten de kansen en vrijheden (bekwaamheden) krijgen om te integreren en hun gezinnen thuis te helpen. Aan de hand van een systematisch literatuuroverzicht heb ik de effecten van migratie op zes rurale welzijnsindicatoren bestudeerd, namelijk arbeid, activiteiten die voorzien in het levensonderhoud, inkomen, voedselzekerheid, landgebruik en rurale ontwikkeling. Ik heb 44 papers bestudeerd uit een pool van 1544 artikelen die tussen 2007 en 2018 zijn gepubliceerd. Ik stel vast dat de impact van internationale migratie op de geselecteerde indicatoren varieert en zeer context-specifiek is. De resultaten wijzen op het bestaan van heterogeniteit in de impact, die ruimte kan creëren voor verliezers en winnaars onder migranten- en niet-migrantenhuishoudens. De onmiddellijke impact is het effect van verlies aan arbeidskrachten. Dit verlies leidt tot een proces van feminisering in de landbouw en verhoogt het aantal kinderen dat deelneemt aan informele arbeidsactiviteiten. De intermediaire impact betreft veranderingen in de machtsverhoudingen in rurale gebieden. Het vergroot kortstondig de mogelijkheden voor niet-migrantenhuishoudens om zeggenschap over land te hebben. Geldtransfers naar het land van herkomst helpen migrantenhuishoudens echter om hoger op de inkomensladder te geraken, om hun voedselzekerheid te verbeteren, om land terug te kopen en om een transitie te maken in levensonderhoud, weg van landbouwactiviteiten. Ik concludeer dat internationale migratie uit ontwikkelingslanden een

dynamisch proces van structurele en functionele transformaties in rurale gebieden kan creëren, wat uiteindelijk kan leiden tot een transitie weg van landbouw als primaire bron van inkomsten en levensonderhoud. Ook is de redenering in de ontwikkelingseconomie dat een transitie in levensonderhoud weg van landbouwactiviteiten, het pad tot ontwikkeling vormt. In een ideale situatie betekent het dus dat succesvolle migranten de bekwaamheden hebben om hun gemeenschappen te ontwikkelen.

Hoofdstuk 7 richt zich op de impact van de migratie van Nigerianen op de voedselzekerheid van hun huishouden in eigen land. Het artikel stelt dat voedselcrisissen die worden verergerd door grillige klimaatveranderingen, geweld en andere onzekerheden, essentiële drijfveren zijn voor internationale migratie. Onderzoek naar de impact van migratie en geldtransfers naar het land van herkomst op voedselzekerheid is de laatste tijd toegenomen, maar dit onderzoek is niet alomvattend in termen van aanpak. De rol van de geldtransfers van migranten bij het verbeteren van de voedselzekerheid van huishoudens tijdens voedselcrisissen is een essentiële stroom die wordt verwaarloosd, en het effect van geldtransfers op de voedselzekerheid op lange termijn moet nog uitgebreid worden bestudeerd. Om deze leemte op te vullen, heb ik de case studie van Nigeria geanalyseerd met behulp van een dataset van de Wereldbank over levensstandaarden, en heb ik een instrumentele variabele aanpak genomen. De resultaten toonden aan dat geldtransfers waardevol zijn voor de voedselzekerheid op zowel korte als lange termijn, en dat het een waar instrument is in het tegemoetkomen aan voedselzekerheid van huishoudens tijdens voedselcrisissen. Het is met name van cruciaal belang voor huishoudens met vrouwen aan het hoofd, die kwetsbaarder zijn voor voedselonzekerheid. Hoewel het de voedseldiversiteit niet significant verbetert, is het minder waarschijnlijk dat huishoudens die geldtransfers ontvangen ongezonde '*coping*'-praktijken toepassen, zoals het eten van minder voedzaam voedsel, en dat ze zich minder vaak zorgen maken over het voldoen aan de voedselbehoeften van het huishouden door geldgebrek. Ik concludeer dat geldtransfers van migranten niet alleen de consumptie afvlakken; het heeft het vermogen om huishoudens op een hoger niveau van voedselzekerheid te brengen tijdens voedselcrisissen.

Over het algemeen is het onderzoek uniek en komt het op het juiste moment. Het brengt kennis over het volledige migratietraject van een bepaalde groep, waarbij er wordt gekeken naar de beslissingsfase, de beweging, de aankomst en de bijdrage. Deze holistische analyses van de migratiedynamiek ontbreken vaak in de migratieliteratuur. Het proefschrift levert ook een relevante methodologische bijdrage, aangezien er, op dit moment, nog geen gevestigde methodologie bestaat om het migratie-gerelateerde vraagstuk en de procedure voor

dataverzameling te beschrijven. De kritische bijdrage van dit proefschrift in de migratieliteratuur is het erkennen van het feit dat migranten een persoonlijke *'agency'* en bekwaamheden hebben. Ik argumenteer dat migranten niet moeten worden aanzien als instrumenten van de economie, maar als mensen die wensen bij te dragen aan het welzijn van hun gezinnen. Ze moeten daarom fundamentele mensenrechten, empathie en bescherming toegekend krijgen. Dit proefschrift pleit dat de prestaties en bijdragen van migranten kunnen worden verklaard door de lens van verwachtingen, beperkingen en integratie-realiteiten in de gastlanden. Verschillende aanbevelingen en mogelijkheden voor toekomstig onderzoek worden gepresenteerd in hoofdstuk 8.

1 GENERAL INTRODUCTION AND RESEARCH SCOPE

Abstract

This introduction Chapter critically reviewed the neoclassical migration theories and conceptualizes the aspiration-capability framework as a prospect in migration theory. This Chapter showed that most of the theories were made in the 20th century. They, therefore, require an update to accommodate new issues in the contemporary migration dynamics. It went further to highlight six general shortcomings of the neoclassical migration theories. These shortcomings include that they perceive migration decisions as linearly associated with hardships without considering the role of individual capabilities in migration decisions. Besides, they are too deterministic, economically centered, and origin biased. They neglect why immobility occurs and often do not consider the human agency and rights of migrants in their discussions. I, therefore, argue that a multifaceted and multidimensional capability-based approach that centralizes human agency and capabilities can address these shortcomings. Hence, I adopted the capability-based migration framework as the main framework in this dissertation.

1.1 INTRODUCTION

The increasing number of international migrants around the world has become a topical issue. According to the world migration report, the number of international migrants is estimated to be almost 272 million globally in 2019 (International Organization for Migration, IOM, 2019). This figure is petite (i.e., 3.5% of the world's population) compared to the vast majority of people who continue to reside in their home country. International migration does not occur uniformly across the world, but as Sachs (2016) observes, it tends to occur mainly in the corridor of lower-income countries to higher-income countries. Forecasting future migration flows could be difficult as international migration is closely connected to events such as economic, social, political, and technological differences between the country of origin and that of destination[1]. Besides, the ways human beings respond to these differences are complex and not easy to predict. However, today's international migration stock has already surpassed the projections made for the year 2050 (IOM, 2019). Hence, we know for sure that the international migration flow is rising and may continue to rise if the current issues driving international migration are to persist.

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[1] Migration flow is the number of migrants counted as moving or being authorized to move, to or from a given location in a defined period of time. Migration stock is the number of migrants residing in a country at a given point in time.

What are those issues driving international migration? This question is of utmost importance to researchers and policymakers. Recent publications in migration journals questioned why migration continues to occur despite the increasing structural constraints to restrict population movements (Ambrosini, 2017; Bauernschuster, Falck, Heblich, Suedekum, & Lameli, 2014; Migali & Scipioni, 2019; van Heelsum, 2016). The common ground in these studies is that international migration occurs due to social transformations and complex socioeconomic factors and crises (Castles, 2010; IOM, 2019). The socioeconomic factors such as poverty and hunger that create destitution and dissatisfactions in home countries. It also includes technological transformation shaped by the deepening globalization and digitalization, which improve peoples' awareness and raise migration aspirations in the process. Environmental crises and political conflicts produce distortions and destroy peoples' means of livelihood, forcing many people to seek protection in other countries. (Flahaux & De Haas, 2016; Lilleør & Van den Broeck, 2011; Migali & Scipioni, 2019; Sirkeci & Cohen, 2016). In this dissertation, however, I concentrated on the socioeconomic factors.

The question of what drives international migration has led to extensive literature, most of which focus on the factors that initiate or perpetuate migration over time (Arango, 2000). The shortcoming in this literature is that it fails to explain why many people who face challenges in their home countries refuse to migrate. While focusing on 3.5% of the world populations that are international migrants, the migration drivers' literature has invariably neglected the 96.5% that do not migrate. This negligence leads to a significant knowledge gap. I argue that this issue may be associated with the use of neoclassical theories of migration. As I explained in this dissertation, the neoclassical theories do not capture the multifaceted reasons and dynamics of contemporary migration decisions and outcomes (Arango, 2000).

Consequently, the need to go beyond what drives international migration to how people make decisions to migrate and the outcomes of those decisions cannot be overemphasized. The work of Carling (2002) and Schewel (2020) have shown that migration decision is a tricky choice that cannot be sufficiently explained by only the "drivers" of migration. Migration decisions could be made in the presence or absence of pre-existing drivers. For instance, hope and life prospects may stimulate migration decisions in the absence of the drivers of migration listed above (Kleist & Thorsen, 2016). More so, people differ in their ability to migrate, and as such, not everyone facing the driving challenges can migrate. How are migration decisions made, and what qualifies who can migrate and who cannot migrate? These two questions are of primary concern to this dissertation.

Besides, globalization and digitalization increasingly modify international migration drivers and patterns (Flahaux & De Haas, 2016). The role of traditional migration drivers such as poverty, climate change, and crises is being regulated by the availability of migration information from informal sources such as migrant networks or via social media and formal sources such as sponsored information campaigns. The regulatory role of migration information in migration decisions may become an opportunity or a challenge. On the one hand, complete migration information may enhance migration preparedness, assist migrants in transit, and improve integration in the destination countries (Cooke & Shuttleworth, 2018). People with complete migration information tend to make the right choices and achieve higher gains from migration. However, migration information can be asymmetric, incomplete, and biased by the source, overshooting migration expectations and perhaps downgrading the challenges en route (Bah & Batista, 2018; Fokkema & de Haas, 2015; Mbaye, 2014). The issue of incomplete information, which results in harrowing experiences and death for many young people, has become a great concern to policymakers in their fight to discourage irregular migration (UNICEF, 2017). In this dissertation, I looked at the role of informal sources of migration information (migrant networks and social media) and formal sources (information campaigns) in influencing Nigerian youths' migration decisions.

The studies on the outcome of migration have primarily focussed on the migrants' contributions to their households and home communities (Atamanov & Van den Berg, 2012; Davis, Carletto, & Winters, 2010). Indeed, the 2030 Sustainable Development Goals (SDGs) recognize the "positive contribution of migrants for inclusive growth and sustainable development in the home countries" (IOM, 2017a). In today's world, however, migrants face several uncertainties and constraints, which could undermine the magnitude of their contributions. For instance, the current trend of a hostile environment in several host countries tends to subject migrants to poor economic, social and cultural integration[2] (Gosselin et al., 2018; Hiam, Steele, & McKee, 2018; Semprebon, Marzorati, & Garrapa, 2017). It is common knowledge that the extent to which migrants are integrated influences their capability to contribute to societal gain (Kóczán, 2016). However, the current literature is often

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[2] According to the Glossary on Migration (IOM, 2011), economic, social, and cultural integration or rights concern the principles of equality and non-discrimination, and ensure the provision of adequate economic, social, cultural, material and intellectual welfare of persons. The effective implementation of economic, social and cultural rights often requires the active intervention of the State. They include the right to work; to just and favourable working conditions; to form and join a trade union; to strike; to social security; to protection of the family; to an adequate standard of living; to housing; to health; and to education.

disconnected from the constraints and capabilities of migrants. The data on the migration trajectory and experience of a migrant group before and after migration is lacking (Beauchemin, 2015). This dissertation contributes in this direction by shedding light on Nigeria to Italy's migration corridor. The dissertation analyses are therefore based on surveys conducted with Nigerian respondents both in Nigeria and in Italy.

Another area of concern to this dissertation is the theoretical background for discussing migration decisions and outcomes. I argue that to understand the socioeconomics of migration decisions and outcomes properly, there is a need to go back to the drawing board. Revisiting the neoclassical migration theories that are mostly made from host countries' views is my starting point. Most of these theories are outdated and insufficient to explain the contemporary migration dynamics, such as why some people do not migrate. Reviewers of the neoclassical migration theories found them to be too economic-centered, creating a space where migrants are seen from the perspective of their economic relevance rather than on their human agency and capabilities (Arango, 2000; Castles, 2010; Massey et al., 1993). Human agency is the capacity of human beings to think, make choices, and take actions based on their capabilities (Mayr, 2012). The human agency invests a moral component into the migration discourse, providing a contrast to the literature that mainly focuses on migration drivers (Bonfanti, 2014).

Recently, some scholars advocated for pursuing Sen's capability approach into migration theory (Bonfanti, 2014; Carling, 2002; Carling & Schewel, 2018; De Haas, 2014; Flahaux & De Haas, 2016; Gosselin et al., 2018; Preibisch, Dodd, & Su, 2016; Schewel, 2020). In this dissertation, I adopted a novel capability-based migration framework as a normative framework that centers on human agency and capabilities. The capability-based migration framework explains migration from the agents' capabilities to convert conditions and resources into mobility functioning opportunities. The capability-based migration framework offers an opportunity to place migrants' agency freedom and capabilities in the center of migration discussion, which is novel. The literature on the capability-based migration framework is still scant and mostly limited to a conceptual framework (Schewel, 2020). Few authors have used the capability-based migration framework in the studies of migration decision making (Carling & Collins, 2018; Carling & Schewel, 2018; Flahaux & De Haas, 2016; Schewel, 2018; van Heelsum, 2016), the integration processes (Boccagni, 2017; Borselli & van Meiji, 2020; Gosselin et al., 2018; van Heelsum, 2017), and the contribution of migrants to development (Preibisch et al., 2016). While these researches are conducted in silos, a multifaceted and multidimensional capability-based migration framework that could model different facets of

migration dynamics is possible but yet to be developed and operationalized. This dissertation contributes to this area.

Before going into the details of the study's methods and results, I first critically reviewed the existing migration theories, focusing on their limitations. I then present the capability-based migration framework as a novel dynamic model that places migrants' agency and capabilities in the center of migration inquiry.

Box 1.1 Brief definitions of basic concepts

Human agency is the ability to express freedom of choice in the presence of constraints and alternatives (Mayr, 2012). The human agency invests a moral component into the migration discourse, providing a contrast to the literature that mainly focus on the economic drivers of migration.

Functionings and capabilities are important elements in the capability approach. Functionings are 'beings and doings', which are the various states of human beings and the activities a person can undertake (Robeyns, 2017; Sen, 2003). There are different types of functioning. Mobility is an example functioning which act as resources to achieve other functionings like improved wellbeing or happiness (Binder & Coad, 2011). Mobility functioning can be the being of the migrant or the doing of migrating. The being in mobility functionings can be the state of the migrants. E.g. potential migrants, regular or irregular migrant, economic or asylum seeker. The doing in mobility functioning is the various alternatives choices available along the migration dynamics. Such as the decision to migrate or to stay, the decision to migrate legally or irregularly, as well as the decision to contribute to households wellbeing or not. Hence, someone making a migration decision is undergoing a mobility functioning, as well as someone experiencing the outcome of such decision. Kronlid (2008) considered functioning as part of capabilities to achieved individuals desires.

Capabilities are the real opportunities or entitlements available to the person to achieve the desired functionings in the presence of constraints (Robeyns, 2017; Sen, 2003). There are several capabilities that individuals should have to achieve their goals (Anand et al., 2009; Nussbaum, 2003). Some of these capabilities include information, financial, social, physical, psychological, health capabilities.

1.2 A CRITICAL REVIEW OF EXISTING MIGRATION THEORIES

1.2.1 Neoclassical theories of migration

The neoclassical migration theories are based on rational choice and utility maximization hypotheses (Arango, 2000). The neoclassical theories explain that migration decisions mainly arise because of human behavioral responses to economic differences between countries. People are considered knowledgeable about the expected income in a destination country and are expected to make rational decisions to maximize utilities. The individuals' decision-making process can then be captured as choices based on the subjective expected utility (Harris & Todaro, 1970; Massey et al., 1993; Sjaastad, 1962). A highlight of the neoclassical theories is given below.

a) Push and pull theory: One of the first neoclassical theories is the push and pull theory, which was first proposed by Ravenstein in 1885 and expanded by Lee (1966). The push and pull

theory's fundamental assumption is that migrations occur due to unfavorable push factors in origin countries such as conflicts, poverty, and persecutions that make people migrate. It also explains the attractive pull factors in destination countries, such as economic opportunities and promising better lifestyles. The critics of this theory argue that as push and pull factors occur jointly, it is difficult to disentangle the dominant factors propelling migration at any given time (De Haas, 2008). The theory is also limited in explaining why a significant number of people do not migrate even when considerable push or pull factors exist (Schoorl et al., 2000).

b) Wage differentials theory: The wage differentials theory observes migration to be driven by the wage differences between economies. The key proponents of the theory include Harris & Todaro (1970), Lester (1952), and Smith (1979). They assume that migrants are economic-rational beings who consider the value of potential destinations' expected income and migrate if it is higher than current income. The theory explains a linear relationship between wage differentials and migration flows and holds that migration may likely continue to occur until an equilibrium is reached. Equilibrium is achieved when the expected income at destination equals the average income at the origin country. There are several criticisms of the wage differentials theory. Katz & Stark (1986) and Stark & Levhari (1982) expressed the most prominent ones and argued that the expected income theory incorrectly implied that the utility function is linear. Such linear relationships would indicate that international migration might not occur when the wage differentials between origin and potential destinations are similar. Another argument they raised is that decision-makers, although rational to economic issues, also consider risk.

c) Dual labor market theory: The dual labor market theory is an extension of the wage differentials theory, and it was proposed by Doeringer & Piore (1971). The theory explains a dual pattern of economies' occupational structure that propels collective migration to high productive countries. Duality exists when economies are differentiated into the primary or secondary sector, formal or informal, and the low or high productive economies. The economics of globalization and the ease of market penetration attract cheap labor from low productive to high productive economies. Policies that facilitate labor migration are made through bilateral migration workers agreements with origin countries, e.g., seasonal farming agreement, rather than individual cost and benefit decisions (Massey et al., 1993). The critics of this theory argue that while focusing on the collective labor movement, the theory ignores the micro-level factors or the human agency in migration decisions (Arango, 2000; Kurekova, 2011).

d) Human capital theory: The human capital theory of migration is another improvement to the wage differentials theory. It includes human characteristics as factors explaining migration decisions. The theory was developed by Sjaastad (1962), who observed that migration could not be viewed in isolation. Instead, it needed to be examined in association with complementary investments in human capital, such as micro-level human factors like education and skills. The theory sees migrants as both economic and risk rational beings who migrate to maximize their gains while paying attention to the risk it may bring to their personal and financial life. Therefore, migration is self-selective and is often those with high human capital that are positively selected to migrate (Borjas, Bronars, & Trejo, 1992; Chiquiar & Hanson, 2005; Constant & Massey, 2003; Valsecchi, 2014). The theory has been criticized for being too optimistic about the positive selection. It pays less attention to factors like crises, social media, and social networks like friendship networks or trafficking gangs that force or facilitate the poor and the 'unselected' to migrate (Kurekova, 2011).

e) The New Economics of Labour Migration: The new economics of labor migration improved the human capital theory by its peculiar attention on why the poor in the global South migrate. The theory was proposed by Stark & Bloom (1985), who argue that isolated individuals do not make migration decisions, but a mutual interdependence unit, typical the household, makes migration decisions for risk diversification purposes. The households act together to maximize expected income, minimize risks and loosen financial constraints caused by several market failures. These failures include labor, insurance, and credit constraints. Households differ in their ability to compete in the local economy. Some can afford to assign labor to local economic activities; others may choose to send labor abroad to gain income and send remittances to support the household. The primary purpose of sending a member abroad is not only to increase income in absolute terms but to improve income relative to other households, relaxing the credit constraints that impede production (Taylor, 1999). Although being used in examining the determinants and effects of migration simultaneously, the new economics theory of migration has been criticized for being biased to sending countries. It has limited applicability, as it concerns itself mainly with migration drivers in sending countries (Arango, 2000). It is mainly future-oriented and overlooks the power dynamics within the households, for instance, the limited power of females in family decisions (Kurekova, 2011). Moreover, the empirical evidence of the theory is uneven and contradictory and mostly limited to research from countries that engage in agricultural seasonal labor migration, such as Mexico (De Haas, 2010; Preibisch et al., 2016).

F) System theory: The system theory started with evaluating rural-urban migration as circular, independent, progressive, and self-modifying systems of events (Mabogunje, 1970). It was later developed into the world system theory by Wallerstein (1974). The world system theory relates the determinants of international migration to global systems changes, including market creation and the structure of the global economy that has developed over time. These include capitalism, colonialism, globalization, and the liberalization of the world economy. Capitalism is driven by the desire to achieve higher wealth, which endears wealthy economies to entering other countries searching for land, raw materials, labor, and market. The capitalists dislodge the traditional system and create disruptions in the market, which make the first groups of proletariats to migrate. In particular, the theory shows a strong connectivity of capital and labour in migration flows by holding that migration is inevitable when there are disruptions or inequalities in capital and labour market. There are two major criticisms of the theory. One is the difficulty in deriving testable hypotheses (Kurekova, 2011). The second is that the world system theory is seen as a historical generalization, reductionist, and only applicable at the macro level reasoning (Arango, 2000).

1.2.2 The social capital theories of migration
Aside from the neoclassical theories, a new set of theories have emerged to explain why migration is perpetuated over time. The social capital theory is used as a conglomeration of the three distinct theories of this perspective. They include the migrant network theory, the cumulative causative theory, and the transnational migration theory (Faist, 2000; Massey & Aysa-Lastra, 2011). These social capital theories center on the intermediaries that facilitate or perpetuate migration rather than on the factors that initiate migration. The theories use the institutional framework to explain the continued occurrence of migration.

a) Migrant network theory: The migrant network theory explains how family and friends, as well as neighborhood peers, influence the migration decision of individuals (Garip & Asad, 2015; Haug, 2008a; Liu, 2013; E. Taylor, 1986). Migration networks can influence people's intention to migrate by providing information (Dekker & Engbersen, 2014; Haythornthwaite, 2002). The information provided through face-to-face communication or social media helps decrease the cost and risk to the migrants.

b) Cumulative causative theory: The cumulative causative theory argues that migration is self-perpetuating and self-sustaining through the activities of networks, culture, and distribution of human capitals (Massey, 2009).

c) Transnational migration theory: The transnational migration theory emphasizes the collective forms, the integration of migrants in destination countries, and the role of migrants in maintaining communication with their origin countries. Through the diaspora or transnational groups, migrants are expected to promote social, political, and economic changes in their home countries (Faist, 2000).

The social capital theories have been criticized for being too optimistic, bringing limited insights into how networks undermine migration. For instance, through incomplete information, networks could motivate irregular migration decisions, increasing the risk to the migrants. The operationalization of network theories neglects those that are not part of any network. They overlook that people may have access to information through other sources, which are not necessarily within their network (e.g., latent networks like human traffickers). Social capital theories are also found to be limited to conceptual frameworks (Arango, 2000).

1.2.3 General limitations in the migration theories

Most of the theories, especially the neoclassical theories, were made in the 20th century. They, therefore, require an update to accommodate new issues in the contemporary migration dynamics. Aside from the criticisms highlighted in the specific theories above, I emphasize five general shortcomings of the traditional migration theories. I argue that a new approach that considers human agency and capabilities is needed in migration theory.

a) The traditional theories often have a linear perception of migration drivers and decisions. The neoclassical theories often suggest a linear association between the driving factors raised by theory (e.g., income differentials, hardships, networks) and migration. In reality, the relationships are complex and may not be linear. For instance, traditional theories have argued that human beings are rational and make migration decisions to maximize utility. Nevertheless, there may be a lack of information to make informed decisions, even among rational people. Besides, even when people decide to migrate, they may be limited by capabilities to carry out such decisions effectively. Migration should be seen from a multidimensional, multifaceted and multidisciplinary perspective (De Haas, 2008).

b) The traditional theories are too deterministic: The traditional theories of migration are deterministic as they focus mostly on the factors that drive migration. Determinism is a philosophical idea, which explains that everything that happens in the world is entirely determined by previously existing causes (Franklin, 2017). In economics, it could be associated with the causal explanation of behavior. The neoclassical theories of migration are often concerned with how people react to economic, social, political, and technological differences in

different places (Castles, 2010; Hear, Bakewell, & Long, 2012). These differences are attributed to the factors that initiate or perpetuate population movement over time (Massey et al., 1993). This deterministic approach's challenge is the negligence of choices and free will that characterizes human agency (Franklin, 2017). According to Bonfanti (2014), the deterministic approach often conceives migrants as abstract subjects devoid of human attributes and capabilities to make choices.

c) The traditional theories are economically centered: Most traditional migration theories are focused on economic rationality and utility maximization (Arango, 2000). The literature fails to include the new realities brought in by digitalization, such as the speed of information flow, networking, and virtual friendships that create some social transformation, interdependency, and mobility aspirations among individuals in both the global North and South (Flahaux & De Haas,2016; Castles, 2010). These realities create new challenges, such as rumors and incomplete information that may lead to risky journeys. While the issue of risky irregular migration has dominated the contemporary migration discourse, the theories of migration have, unfortunately, not captured them.

d) The theories are origin biased: Most traditional theory often relates migration as the movement from low-income to high-income economies for the welfare improvement of the migrants and their households. This way of thinking portrays the origin countries negatively, such as poverty infested, violence driven, and underdeveloped. They provide bases for the native populations to see the migrants as poor people coming to depend on the welfare packages in their countries. Unfortunately, this mindset could lead to sociocultural exclusion and exploitation of migrants (Massey, 2009).

e) The traditional migration theories neglect why immobility occurs: Although migration has been occurring since the existence of life, more people are not moving than the people moving. Currently, less than 4% of the global population are international migrants (IOM, 2019). However, the explanation of immobility in traditional migration theories is non-existing. Subtly, the traditional theories may have implied that immobility exists in high-income economies since their wages are often higher. However, economic differences alone cannot explain why migrations occur, and they are not sufficient to explain immobility. Immobility may be voluntary, partially due to a lack of aspiration to migrate and partially due to satisfaction with the current state despite its challenges. It could also occur involuntarily due to the inability to realize migration aspirations due to incapacitation or restrictive policies such as border controls and visa requirements (Schoorl et al., 2000). By neglecting the many people who freely

choose not to migrate and the many reasons that cause immobility, migration theories tend to provide a limited understanding of the migration dynamics.

f) The traditional theories neglect human agency and rights: Most migration theories do not consider the human agency that influences the migrants' decisions and outcomes. They assume that migrants are rational and are in full awareness before migrating. This assumption may result from the economic rationale and utility maximization reasoning adopted in most theories. However, several human agency factors can create unequal opportunities in the social system. For instance, there could be a power dynamic in a family that favors men's access to information and migration more than women's (Arango 2000). This unfair power relationship may give unequal gendered freedom towards migration and result in more men choosing migration than women. Secondly, through their self-selective hypothesis, the migration theories encourage the segmentation of migrants into those that are positively selected and those not selected. These have given rise to several vocabularies to categorize migrants such as economic, asylum, refugees, undocumented, regular, or irregular. The trend of migrants' profiling seems to aid in denying some economic and social rights to some migrants (Preibisch et al., 2016). Besides, a migrant can have different agencies simultaneously, causing challenges for profiling and analyses.

International migration is the movement of persons who leave their country of origin, or the country of habitual residence (also called the home or sending country), to establish themselves either permanently or temporarily in another country (called the destination, host or receiving country). An international frontier is therefore crossed. The term migrant is usually understood to cover all cases where the decision to migrate was taken freely by the individual concerned for reasons of "personal convenience" and without intervention of an external compelling factor. This means that those who are forcibly displaced due to crises and persecution can be regarded as refugees. International migrants are therefore considered those persons moving to another country to better their material or social conditions (socioeconomic factors) and improve the prospect for themselves or their family. The persons that moved out of a home country are called emigrants. They are known as migrants in transit when they are moving. Upon arrival and settling in the destination countries, they are known as immigrants.

The United Nations defines a migrant as an individual who has resided in a foreign country for more than one year irrespective of the causes, voluntary or involuntary, and the means, regular or irregular, used to migrate. Under such a definition, those travelling for shorter periods as tourists and businesspersons would not be considered migrants. However, common usage includes certain kinds of shorter-term migrants, such as seasonal farm-workers who travel for short periods to work, planting or harvesting farm products.

Regular migration, also called orderly or legitimate migration, is the movement of a person from his or her usual place of residence to a new place of residence, in keeping with the laws and regulations governing exit of the country of origin and travel, transit and entry into the destination or host country. Hence, regular migrants migrate through recognized, authorized channels. Irregular migration is the movement that takes place outside the regulatory norms of the sending, transit and receiving countries. Irregular migrants are persons who, owing to unauthorized entry, breach of a condition of entry, or the expiry of his or her visa, lacks legal status in a transit or host country. The definition covers inter alia those persons who have entered a transit or host country lawfully but have stayed for a longer period than authorized or subsequently taken up unauthorized employment (also called clandestine/undocumented migrant or migrant in an irregular situation). The term "irregular" is preferable to "illegal" because the latter carries a criminal connotation and is seen as denying migrants' humanity.

Other terminologies that also occur in this dissertation include economic migrants, asylum-seekers, irregular migrants and diaspora. Economic migrants are persons leaving his or her habitual place of residence to settle outside his or her country of origin in order to improve his or her quality of life. This term is often loosely used to distinguish from refugees fleeing persecution, and is similarly used to refer to persons attempting to enter a country without legal permission and/or by using asylum procedures without bona fide cause. These persons most time end up as irregular migrants especially if their asylum request is rejected. It may equally be applied to persons leaving their country of origin for the purpose of employment. Asylum-seekers are persons who seeks safety from persecution or serious harm in a country other than his or her own and awaits a decision on the application for refugee status under relevant international and national instruments. Diasporas are broadly defined as individuals and members or networks, associations and communities, who have left their country of origin, but maintain links with their homelands. This concept covers the more settled expatriate communities, migrant workers based abroad temporarily, expatriates with the nationality of the host country, dual nationals, and second or third generation migrants. Source: IOM, (2011)

1.3 THE CAPABILITY-BASED MIGRATION FRAMEWORK

Several authors have provided guidelines for the migration theory's advances (Arango, 2000; Castles, 2010; Massey et al.,1993). These authors explained that the advance in migration theory should not develop a generalized migration theory since migration is a multidisciplinary concept but an open framework that could capture the contemporary migration dynamics. I agree that a significant contribution would be developing a complex, multidisciplinary, multifaceted conceptual framework that integrates various theories' insights but pays attention to new insights. According to Castles (2010) and Collinson (2009), the conceptual framework should link the micro-level issues with social transformation at a macro-level and meso-level while incorporating the human agency of the migrants. Such a framework could allow us to

analyze migration decisions, migrants' experiences, and outcomes using multidimensional comparisons of parameters and constraints.

I present the capability-based migration framework as a viable candidate in advance of migration theory (Figure 1.1). I define the capability-based migration framework as a conceptual framework or model that explains migration decisions and outcomes from the perspective of the individuals' freedom to access a bundle of resources in the presence of constraints (or capabilities). These capabilities determine how resources are transformed into mobility, immobility, and integration opportunities. The capability-based migration framework is developed from Sen's capability approach. The Sen's capability approach appraises social welfare and achievements in terms of what agents can do or be by utilizing the available resources within their freedoms (Sen, 1993). The initial conceptualization of the capability-based migration framework is the aspiration-capability framework. The aspiration-capability framework explains migration as a process that involves the aspiration to migrate and the capabilities to do so under certain monetary and structural constraints (Carling, 2002; Schewel, 2020).

There are three features of the capability-based migration framework by which it contributes to and furthers the neoclassical migration theories. The first feature is that the framework is multifaceted. It includes social, economic, political, and technological issues at the macro-, meso- and micro-level that influence the migration decisions and outcomes. Second, it is multidimensional. It integrates five significant issues of migration dynamics - the drivers, the decision, the movement, the integration, and the contributions of migrants. Three of which are considered in this dissertation (decisions, integration, and contributions). The dissertation considers the movement, integration, and contributions of the migrants as outcomes. Third, the framework is human-centered. It analyses migration from the migrants' perspective, placing the migrants' capabilities and freedoms in the center of the discourse.

1.3.1 The elements of capability-based migration framework

There are four elements of the capability-based migration framework, as shown in Figure 1.1. These elements are the factors to consider when investigating the dynamics of migration using the capability-based migration framework. It is essential when investigating socio-economic issues affecting the decisions and outcomes of any given migration corridor. I derived these elements from the studies of Bonfanti, 2014; Carling & Talleraas, 2016; Robeyns, 2017; and Schewel, 2020. They are:

a) Resources and conditions in origin countries that drive migration: There are multidimensional factors that drive migration. These factors operate at the macro-, meso- and micro-level in the countries of origin and inform a person that migration is preferable to staying in the country (Carling & Talleraas, 2016). The macro-level factors include globalization, crises, political conditions, and pre-migration policies (e.g., visa and information campaigns). The meso-level factors include social norms and other people's behaviors that stimulate hope and desire to migrate. The micro-level factors considered are poverty, unemployment, and lack of opportunities for life that cause hardships and social inequalities. There is also migration desire that is not triggered by conditions mentioned above but by individual life prospects. Migration aspirations are borne through the interaction of these multilevel factors, but human capabilities determine who can migrate and who cannot migrate (Carling & Collins, 2018).

b) The capabilities to act: While the drivers listed above are the reasons for migration, the capabilities are the factors that enable a person to migrate. The capabilities considered here include finance, physical health conditions, access to social capital, network and social media, psychological conditions, and information. The magnitude of these capabilities possessed by an individual at any given time can be referred to as the individuals' capability set (Robeyns, 2017). The capability set is vital in the premigration era, especially during the migration decision-making stage. It determines the if, when and the movement would occur, hence qualifies migration. A lower capability set may lead to irregular migration decisions (Carling & Talleraas, 2016). Capabilities are also crucial during the movement and upon arrival in the host countries. Here, the migrants' capability set could be deprived (depleted) or enhanced depending on the host countries' reality. The level of capabilities gained or deprived could influence the magnitude of contributions to the host and the home communities (Toma & Castagnone, 2015; UNDP, 2019). For instance, the migration to places where migrants do not have the capabilities to work could mean capability deprivation for the migrants, which could negatively affect their contributions to welfare.

c) Migrants' agency and freedom to act: Besides individual capabilities, human agency and freedom are also important factors influencing the decision to migrate. Agency is the human capacity to act in a given environment. It encompasses human characteristics, e.g., gender, age, risk attitude, personality traits, and the freedom to position themselves in a given environment at a given time (Schlosser, 2019). The human agency of a migrant could influence how existing conditions affect the migrant and how the migrant utilizes his/her capabilities (Robeyns, 2017). The utilization of capabilities is conditioned on the freedom enjoyed by the migrant in a given

situation (Carling, 2002). Adequate freedom means that the person can choose what he values, e.g., to migrate or not to migrate, the migration destination, and time of migration, without external influence. As shown further, agency freedom is an essential element that explains why many people do not migrate, even when facing challenges.

d) The mobility functionings in the transit and destination countries: Functionings are the ultimate desire of the migrant. In the capability approach, functionings are conceptualized as the "beings and doings." The doing of migration speaks more about the activities of migrants, like the movement, involvement in labor activities, and contributions. The being of the migrant is the status of the migrants, e.g., transit, regular or irregular migrants. Mobility functioning, therefore, should not be restricted to the movement of the migrant as done in the aspiration-capability framework. Mobility functioning also captures the achievement after arrival. Hence, one area of interest in this research is the factors influencing the migrants' achievement in destination countries. I conceptualize that these factors also operate at the macro, meso, and micro levels. The integration policy is a macro-level factor that determines the inclusion and exclusion of migrants in the labor market. Effective integration into the host societies, such as accessing work permits and social security numbers, is expected to enhance migrants' capabilities to contribute. Social interactions and relationships with the natives are meso factors that can influence migrants' assimilations. The migrants' access to human capital like work, studies, housing, medicals are important micro-level factors that affect their functioning (Gosselin et al., 2018). When these factors are negative, I opined that migrants could have negative aspiration gaps. The aspiration gap means that the achievement from migration is below the expectation. When migrants' expectations are not realized, then their contribution may be marginal.
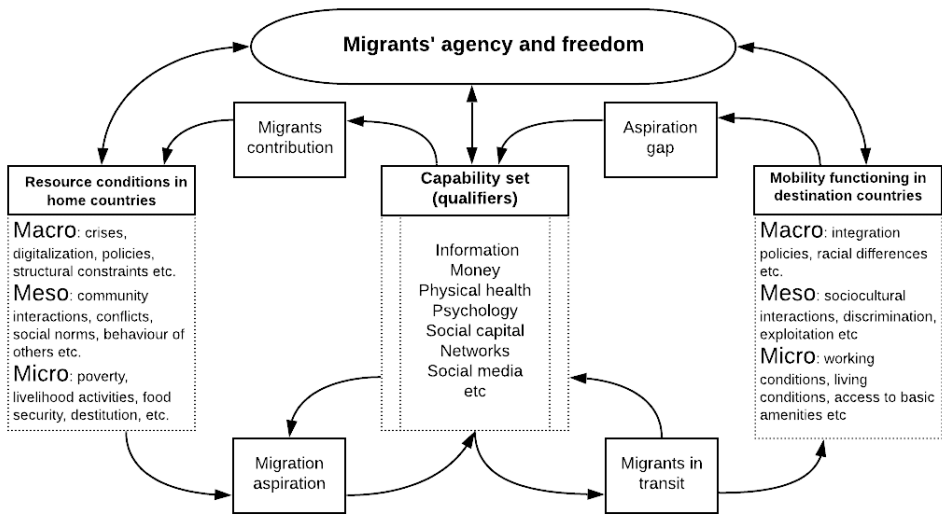
Figure 1.1 The capability-based migration framework
Source: Bonfanti, (2014); Carling & Talleraas, (2016); Robeyns, (2017) and author's elaboration.

1.3.2 The application of the capability-based migration framework

I explain here how the capability-based migration framework can be applied in migration studies. Firstly, the framework could be used to explain the drivers of migration. Unlike the neoclassical theories that seem to link migration with mostly economic motives, the capability-based migration framework argues that migration occurs due to multifaceted factors operating at the macro-, meso- and micro-level. Secondly, by placing capabilities at the center of analysis, one can discern that people migrate either due to capability deprivation or capability enhancement (Schewel, 2018; van Heelsum, 2016). This two-way dimension of explaining why migration occurs shifts from the hardship-based explanation. It incorporates nuanced issues like awareness, hope, and life prospects into migration drivers' discourse (De Haas, 2014; Flahaux & De Haas, 2016). I, however, did not research this area because there is considerable literature on the drivers of migration.

The second application of the capability-based migration framework is the aspiration-capability framework. The aspiration-capability framework shows that the actual migration occurs in two steps: the aspiration to migrate and the capability to overcome the structural forces that limit the movement (Carling, 2002; Carling & Schewel, 2018). The literature on the aspiration-capability framework encompasses several issues that impede migration, including finance, information, networks, physical abilities (Carling & Talleraas, 2016). In this dissertation, I add the concept of qualifiers of migration to the aspiration-capability framework.

This concept explains why some people will migrate, and others will not migrate when exposed to similar home countries' conditions.

The third application of the capability-based migration framework is studying migration outcomes, including the movement, integration experiences, and migrants contributions. I made a significant contribution to this area, considering that the literature is very scanty (Boccagni, 2017; Borselli & van Meij, 2020; Gosselin et al., 2018; Preibisch et al., 2016; van Heelsum, 2017).

Generally, the capability-based migration framework can be seen as a normative framework that considers the significance of agency freedoms and capabilities in mobility functioning. The framework can also be used as an analytical model that determines who qualifies for migration and who does not. While the aspiration-capability framework is used to study migration decisions, the capability-based migration framework extends to outcomes. By operationalizing the capability-based migration framework in the migration decisions, movement, integrations, and outcomes, I posit that the framework allows a multifaceted and multidimensional assessment of contemporary migration dynamics. I, therefore, postulate that the framework could be a complement to the dominant neoclassical theories.

In what follows, I give the research questions and analytical framework of the dissertation. Generally, the dissertation mainly concerns migration decisions, integration, and contributions of Nigerian migrants in Italy. I studied these issues using the migration-capability framework. According to Schewel (2020), there is limited empirical evidence from studies that link migration with capabilities. This dissertation contributes to the literature in migration studies, rural studies, and sociology. Remarkably, the dissertation offers background knowledge on the role of capabilities in the decision-making process of migrants and their outcomes. It also explains how migrants contribute to their households' capabilities and how to reduce the capabilities deprivation faced by migrants in host countries.

1.4 OBJECTIVES AND RESEARCH QUESTIONS

The dissertation's general objective is to analyze the socioeconomics of migration decisions and outcomes (integration and contributions) using the migration-capability framework. This study centers on the human agency of the migrants and their capabilities. It explores the migrants' situation both in the home and host country and contributes to the conceptualization and operationalization of the multifaceted migration-capability approach. It tries to advance the migration theory, and at the same time, it differs from previous empirical studies by its

unique selection of methodology and exceptional attention to the grey areas in the migration discourse. The dissertation addresses three research questions, as shown in Figure 1.2.

Research question 1

- How do capabilities influence migration decisions in the home country?

Research question 2

- What are the capability-depriving constraints faced by migrants in the host country?

Research question 3

- How do migrants contribute to capability improvement in the home country?
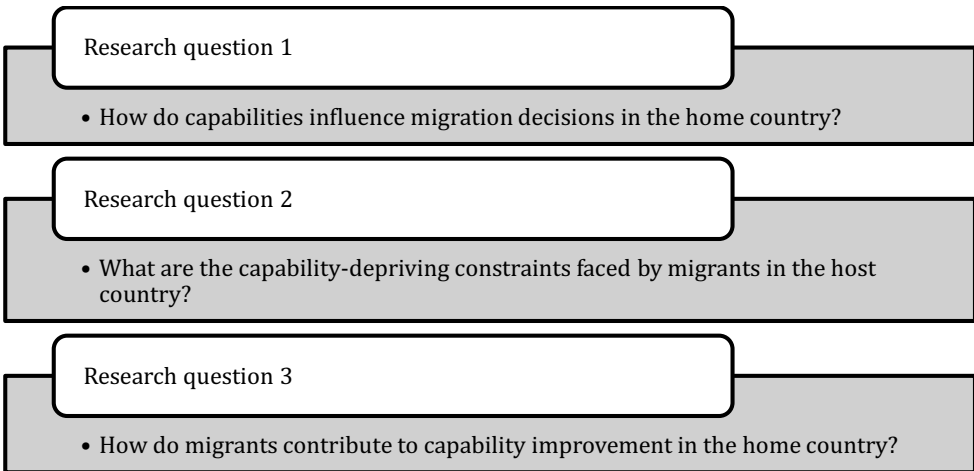
Figure 1.2 The three research questions of the dissertation

The answers to the three research questions are conveniently disintegrated into six Chapters, as shown in Table 1.1 below. The first three Chapters make exclusive contributions to the migration-capability framework. A further explanation of the research questions and Chapters is provided in the methodology section. The dissertation is based on fieldwork conducted in Nigeria and Italy between 2017 and 2019.

Table 1.1 The Research questions and dissertation Chapters

Section	Research Question	Chapters
1: Migration decisions	Research question 1: *Decision*	Chapter 2: *Conceptualising and operationalizing capabilities and freedom of choices as the qualifiers of migration*
		Chapter 3: *Digitalisation and migration: the role of social media and migrant networks in migration decisions. An exploratory study in Nigeria*
		Chapter 4: *Evaluating the impact of information campaigns on the irregular migration intentions using a randomized controlled trial: A proof of concept exploratory research*
2: Migration outcomes	Research 2: *Integration*	Chapter 5: *Understanding integration experience and wellbeing of migrants through expectations and capabilities. The case of Nigerian asylum seekers in Italy*
	Research 3: *Contributions to wellbeing*	Chapter 6: *How does international migration impact rural areas in developing countries? A systematic review*
		Chapter 7: *International migration, remittance, and food security during food crises: the case study of Nigeria*

1.5 METHODOLOGY

1.5.1 Study areas

The study was conducted in Nigeria and Italy. Nigeria is selected due to its large migrant community. It is estimated that more than 1.2 million Nigerians were international migrants in 2015, representing 0.7% of the population (Isiugo-Abanihe & IOM, 2016). This number could be significantly higher today due to the increased poverty and hardship that has encouraged economic migration to Europe. Most international migrants from Nigerian stay within the continent, but most intercontinental migration destinations are countries in the global North, especially the USA, UK, Canada, and the EU (Organization for Economic Co-operation and Development, OECD, 2019). In terms of share, Nigerians represented more than 5% of all African immigrants living in the OECD countries, with Morocco and Algeria being ahead (ibid). Refugees and asylum seekers contribute a significant percentage to this estimate, especially in Europe. Nigeria is among the top nine counties detected for an irregular stay in Europe, and Nigerians make up the largest group of people attempting to cross into Europe through the Mediterranean Sea (European Migration Network, 2018).

Frontex (2018) gave an overview of the irregular migration situation from Nigeria to Europe. The report shows that the majority of irregular migrants are victims of human trafficking. They are mostly young people from southern Nigeria, particularly from Edo State. The irregular migrants were often deceived through false information propagated by human traffickers and smugglers who act as migration brokers. Some also offer themselves to be smuggled despite having some information about the risk (Frontex, 2018).

In most cases, the victims are approached by smugglers who deceive and promised them a well-paid job in Europe. They are subjected to frightening voodoo rituals to instill fear in the victims and ensure that they pay the debt to the traffickers upon arrival in Europe. The victims' fear and psychological traumas had become an effective means of making them comply with all instructions of traffickers, including engaging in prostitution and refraining from seeking help (ibid).

Despite the reported difficulties faced by irregular migrants in securing livelihood in Europe and the scary experience they face on transit, the general attitude towards irregular migration among young people in Nigeria has not changed much (Connor & Gonzalez-Barrera, 2019). This issue is particularly the case in Edo State, Nigeria, which is widely known for its high youth emigration rate, mostly via Libya (IOM, 2017b). In Edo State and Nigeria at large, safe migration information campaigns are being conducted or sponsored by several international institutions

such as the IOM and the German Federal Ministry of Foreign Affairs. Others include national and state institutions such as the National Agency for the Prohibition of Trafficking in Persons (NAPTIP) and the Edo State Agency against Human Trafficking (ETAHT). The campaigns' objectives are to tackle smuggling and deter irregular migration to Europe (European Migration Network, 2018).

Due to its proximity, many Nigerian irregular migrants prefer to pass through the Mediterranean Sea onwards to Italy. Between 2013 and 2016, the registered number of irregular crossings by Nigerian immigrants to Italy via the Mediterranean Sea route increased by a factor of 11 from 2,824 people to 37,554 people (ISTAT, 2019). Recent statistics show that since 2016, there has been a significant reduction of Nigerians Sea arrivals to less than 3,000 in 2018 (ibid). This decrease is mainly due to the Sea closure policies initiated in 2017 by the then Italian government.

Many Nigerian migrants face several integration challenges upon arrival in Italy. They have to apply for asylum, which takes a long time to complete (Pew Research Center, 2017). More than 70% of the asylum applications are rejected, making most Nigerian immigrants (both economic and trafficked persons) who seek asylum have an irregular (or undocumented) status (Ghio & Blangiardo, 2019). Agriculture is a massive employer of asylum seekers and irregular migrants in Italy (Nori & Farinella, 2020). Most migrants, including those from Nigeria, are employed through the *caporalato*, a local mafia intermediary (Ambrosini, 2017). Corrado (2017) observed that most migrants from Sub-Saharan Africa (SSA), including Nigerians, have been exposed to illegal practices and exploitation due to the practices of the *caporalatos*. According to Semprebon et al. (2017), irregular migrants report being paid a meager wage and work and live in the most deplorable areas. Urzi & Williams (2016) established that many SSA migrants working in agriculture, especially those with undocumented statuses, are more likely to be vulnerable to labor exploitation. Because of Italy's limited opportunities, many Nigerian irregular migrants often seek alternatives such as begging in the street, informal trading or migrating to other European countries.

1.5.2 Data collection

Multiple data sets and sources are required to answer the research questions considering the dissertation's cross-national and multidimensional scope. The data used in this dissertation include secondary data such as the Living Standard Measurement Survey (LSMS) for Nigeria and a collection of published articles for a systematic review. The primary data are both qualitative and quantitative. The qualitative data is collected through observational research

and focus group discussions (FGD) held in Italy. The quantitative data is collected from individuals in Nigeria through face-to-face interviews and internet-based interviews. The data collection was done between 2017 and 2019. I collaborated with several institutions in Italy and Nigeria during the data collection. In Italy, I collaborated with the Fondazione San Giovanni Battista in Ragusa and the IOM's Aware-migrant project team in Rome. In Nigeria, I collaborated with the IOM Edo State Chapter, NAPTIP, and Edo Command. I was also in contact with the Edo State Education board and the National Youth Service Corps of Nigeria (NYSC). The nature of the data and the specific research objectives determined the method of data analyses. Table 1.2 gives an overview of the data collection methods and the method of data analyses. The table is disintegrated into the six dissertation Chapters.

Table 1.2 Summary of data collection and analytical method

Research question	Chapter	Country	Data type	Data source	Sample	Analytical method
1	2	Nigeria	Primary	Survey: Face-to-face and internet-based interviews	320 persons	Logistic regressions
1	3	Nigeria	Primary	Survey: Face-to-face and internet-based interviews	320 persons	Generalized structural equation model (GSEM)
1	4	Nigeria	Primary	Survey: Student pre and post-intervention quizzes	300 students	Randomized control trial
2	5	Italy	Primary	Mixed method: Observational study, FGD, and a survey	64 migrants	Hypothetico-deductive method
3	6	Developing countries	Secondary	Peer reviewed articles	44 articles	Systematic review
3	7	Nigeria	Secondary	Living standard measurement survey	570 households	Instrumental variable regressions

1.5.3   Methods of data analyses according to research questions

a) Research question 1: The first research question is, how do capabilities influence migration decisions in the home country? This question is essential considering that previous migration research focused more on migration drivers than individuals' capabilities to migrate. In particular, how hardships and economic challenges (also called the root causes of migration) in countries of origin directly lead to migration are overemphasized. However, why some people do not migrate even when they face hardships are often not researched. More so, the capability factors that qualify those who can migrate and who cannot are yet to receive sufficient attention in research.

Moreover, in today's world, information is an essential capability required in making migration decisions. There are currently several sources of migration information, including informal sources - social media, social capitals, social networks, and the formal source – information campaigns. Several sources of information may result in conflicting messages, which is a challenge to the decision-maker. How information from the informal or formal sources influences people's migration intentions is an essential gap in migration decision literature. I argue that this gap may be due to the linear and rational choice reasoning of neoclassical migration theories. The migration-capability approach, which we present as an alternative approach, can investigate this gap.

Three Chapters (Chapter 2 to 4) of the dissertation address the research question 1. Chapter 2 examines how capabilities influence mobility and immobility decisions. Chapter 3 investigates how the information provided by informal sources like migrants' networks and social media influence migration intentions. Chapter 4 tested the impact of formal sources of information (i.e., information campaigns) on migration intentions.

For Chapters 2 and 3, I collected the data through an internet-based and a face-to-face paper-based survey administered to individuals in Nigeria with a more share from those living in Edo State. The internet-based survey was mainly disseminated through social media using the Qualtrics survey management application. Unfortunately, I received few responses (n = 220), contrary to the expectation. This challenge prompted me to shift to a paper-based survey (face-to-face) to increase the sample size and reliability. The paper-based survey was purposively conducted in Edo State because of the need to target a population with a high migration likelihood. Two trained enumerators administered the questionnaire. The enumerators randomly approached young people residing in the Edo State capital (Benin City) and administered the questionnaire to those willing to participate in the study. The questionnaire is divided into three sections: the migration intention questions, the capability possession questions, and the personal characteristics (agency) questions. The total number of questionnaires completed from the paper-based survey is 100, bringing the total sample to 320 respondents. The implication of this convenient sampling procedure is highlighted in Chapters 2 and 3.

In Chapter 2, data were analyzed using logistic regression models. The Chapter starts with conceptualizing how capabilities influence mobility and immobility decisions. The primary dependent variable in the analytical section is the mobility choice question. In particular, the mobility choice question is a conditional question that first asks if the respondents intend to

migrate and then inquire if the respondents are willing to migrate after winning a hypothetical lottery of an amount sufficient to pay for migration expenses. Here, the idea is to separate actual potential migrants from those who would instead invest the money for livelihood improvement in Nigeria. The data analysis of this Chapter helps to identify the crucial capabilities that are necessary for migration decisions. More so, it explains how immobility decisions are made. The result showed that the migration-capability approach is a better alternative to the relatively restricted neoclassical migration theories in explaining mobility and immobility decisions.

Chapter 3 explained how social media use and access to migrant networks influence migration information and migration intentions. A Generalised Structural Equation Model (GSEM) was used in data analysis. A GSEM is preferred because it models sophisticated multilevel mixed-effects relationships. The dependent variable is a categorical variable that differentiates respondents who intend to migrate permanently, those that would instead migrate temporarily, and those that have no intention to migrate. This analysis provides knowledge of how incomplete information from informal sources of information could lead to irregular migration decisions.

Chapter 4 checked if a formal source of information provided through an information campaign could reduce irregular migration decisions. A randomized control trial (RCT) was implemented in 10 secondary schools in Edo state. The students were informed about the dangers of irregular migration using information gathered from Edo immigrants living in Italy at the time of research. The students completed a pre-and-post evaluation quiz, which served as the data for calculating the campaign's treatment effect. The treatment effect was analyzed using a linear regression that compared the treated and control groups. These results present a proof of concept on how to operationalize and evaluate an effective information campaign. It also shows the potential of formal sources of information in improving the capabilities to make better migration decisions.

b) Research question 2: The second research question centers on migration's outcome (integration and contributions of migrants). It shifts attention to the migrants' realities in the destination country and migrants' gains after migration. It has three specific objectives. The first objective (Chapter 5) examines the capability-depriving constraints faced by Nigerian asylum seekers in Italy. The premise is that migrants move through irregular routes due to the structural constraints at home, including destitution and strict border policies. The irregular migrants invest their capabilities, such as money, knowledge, and physical strength, in the process, with the expectation to achieve more capabilities in the destination countries.

However, in many host countries, irregular migrants, especially when seeking asylum, are highly vulnerable, facing economic, social, and cultural exclusions. These challenges are capable of affecting their achievements. While migrants differ on how these constraints affect them, only a few studies have investigated this dimension. Chapter 5 adds to these studies, contributing to evidence from Nigerians in Italy.

The data for Chapter 5 was collected through FGDs and quantitative (survey) methods. A purposive sampling technique was used in selecting Nigerian economic migrants that came to Italy through the Mediterranean Sea and were applying for a permit-of-stay (by seeking asylum) at the time of research. Two regions in Italy - Marche and Sicily, were selected because of their proximity to areas of first arrivals and availability of a sizeable Nigerian community. The respondents were reached with the assistance of the Fondazione San Giovanni Battista in Ragusa, Italy. The FGDs center on understanding how their settlement and integration process affects their capabilities.

A total of 24 respondents participated in the FGDs. A questionnaire was distributed to the participants after the discussion. The questionnaire probes their pre-migration conditions in Nigeria, migration experience in transit countries, and their subjective well-being in Italy. Through the assistance of one of the participants, I was able to get an extra 40 respondents for the survey. Sixty-four respondents, including the 24 FGD participants and the 40 additional respondents, completed the survey. The data was analyzed using a hypothetico-deductive method, enabling testing an existing framework rather than developing a new concept. The results from the analyses confirm the prospect of analyzing the migration-capability framework beyond the migration decision dimension. The result shows that poor integration leads to capability deprivations and the aspiration gap. These issues influence the subjective well-being of the migrants and capabilities to contribute to the host and home country.

C) Research question 3: The third research question is also on the outcome of migration. It examines how migrants contribute to capability improvement in the home country. Food insecurity and crises have been significant drivers of migrations. In Nigeria, most migrants are young people who started their migration journeys from rural areas. Their departure could lead to a loss of labor for the household and the community. Household capabilities in meeting immediate and future livelihood needs may diminish because of labor loss. Migrants are expected to send remittances to improve the wellbeing of households and the community, especially during shocks. Two Chapters cover how migrants engage in capability improvements at home. The first is Chapter 6, which reviewed several studies investigating the impact of

international migration on rural areas in developing countries. The second, Chapter 7, is more specific. It pays attention to the impact on household food security. It enquires the extent to which the migrant remittances could improve their household's food security during shock.

Chapter 6 is a systematic review of the literature on the impacts of emigration by rural workers on their origin households and communities in developing countries. The essence is to see how the migrants compensate for the labor loss effect due to their departure. Using a content analysis procedure, I examined the impacts of migration on six rural welfare indicators: labor, livelihood activities, income, food security, land use, and rural development. Data was gathered from 44 peer-reviewed articles retained from a pool of 1544 articles published between 2007 and 2018. The results show that migrants possess the capabilities to contribute to structural and functional transformations in rural communities.

Chapter 7 centered on understanding the capability-improving role of migrants in their household. The data used in this Chapter was collected from the World Bank Living Standards Measurement Study for Nigeria (2015/2016). The data collection period fell when Nigeria experienced severe food crises due to the drop in crude oil price and saw a rise in domestic violence. This period also corresponds with the time many people from Nigeria immigrated to Italy through the Mediterranean Sea. Considering the need to compare households that received remittances with the households that did not, I used a multistage stratified sampling procedure to select a subsample of 570 households from the survey data. The analysis was done using an instrumental variable approach, which controls issues of endogeneity. The analysis results show that migrants' remittances do not only smoothen consumption of households during regular times. The remittances also can place households on a higher food security equilibrium during crises.

1.6 DISSERTATION STRUCTURE

The dissertation structure is found in Figure 1.3. The broad lines are the links that I studied. The dissertation's core section is structured into two sections. The first section deals with migration decisions, and the second section deals with migration outcomes. Therefore, the first section addresses research question 1, and it has three Chapters (Chapter 2, 3, and 4). The second section addresses the research questions 2 and 3, and it has three Chapters (Chapter 5, 6, and 7). The conclusion section contains a summary of key results from the different Chapters. The conclusion also contains the implications of the research findings, the limitations, and the direction for future directions.

Finally, it is worth noting that Chapters 2 to 7 that answered the research questions are in their original format as published or submitted for publication in academic journals. This procedure enables stand-alone reading material that is exclusively comprehensible and publishable. It is, therefore, possible to encounter overlaps in concepts, literature, and data while reading the dissertation.
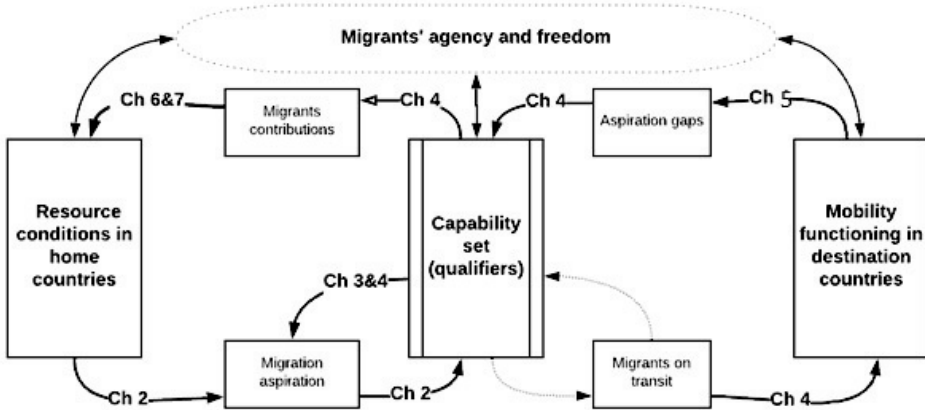
Figure 1.3 Dissertation structure

Section One

The Migration Decisions

2 CONCEPTUALIZING AND OPERATIONALIZING CAPABILITIES AND FREEDOM OF CHOICES AS THE QUALIFIERS OF MIGRATION[3]

Abstract

Most neoclassical migration theories explain migration as a linear process between economic hardships and mobility choices. Our study aims to add insights into how the capabilities one owns and freedoms of choice one can qualify who can migrate and who cannot migrate when exposed to the same levels of hardships. Following the aspiration-capability framework and Sen's capability approach, we present a conceptual framework that introduces capabilities and freedom of choice as qualifiers of migration. We assume that financial capabilities, social capabilities, psychological capabilities, and physical capabilities are essential elements in migration decisions. Using exploratory data from Nigeria, we regressed these capabilities against mobility choices. We found that capabilities have a bimodal relationship with mobility choices, revealing four distinct groups; voluntary mobility, constraint mobility, voluntary immobility, and acquiescent immobility groups. Our result contradicts the often-linear relationships between hardship and migration shown in previous research based on neoclassical reasoning. We conclude that human capabilities and choices need to be accorded attention in the study of migration drivers and decisions.

2.1 INTRODUCTION

In 2019, the number of international migrants was estimated at over 272 million, less than 4% of the world population (IOM, 2019). The question of *why some people migrate and others do not* continue to query policymakers and researchers alike. The traditional migration theories explain that migration is driven by households' rational decisions to maximize utility (Constant & Massey, 2003; Massey et al., 1993). While the traditional neoclassical theories have provided valuable insights into the economic drivers of migration, they are deficient in explaining how the capabilities one owns influence his/her decision to migrate or not to migrate (Arango, 2000; Castles, 2010; Schewel, 2020). Secondly, most studies so-far assume a linear relationship between economic hardship and migration intentions. This means that people would always choose to migrate when they face challenges in their home countries. However, even in countries that face economic challenges or crises, many people do not migrate. Humans have agency-freedom that allows them to choose whether to migrate or not, even when faced with

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[3] This chapter is based on the article "Obi, Bartolini, D'Haese, 2020, conceptualizing and operationalizing capabilities and freedom of choices as qualifiers of migration" currently on review in a journal.

challenges. We consider the negligence of the role of human capabilities and agency-freedom in migration decisions as important shortcomings of the neoclassical migration theories.

Recently, several researchers have advocated for pursuing the capability approach into migration decision studies (Carling & Schewel, 2018; De Haas, 2014; Schewel, 2020; PrDodd, & Su, 2016). The aspiration-capability framework was one of the first frameworks developed to overcome neoclassical migration theories' shortcomings (Carling, 2002; Carling & Schewel, 2018; Schewel, 2020). The aspiration-capability framework investigates the elements that people consider when making migration decisions, whether the migration is driven by economic challenges or life prospects (Carling & Talleraas, 2016). The framework conceives migration as a mobility functioning that occurs in two steps. The first step is that a person aspires to migrate for reasons peculiar to the person. In the second step, the person will need to take action and deploy the capabilities he/she owns to overcome the structural constraints that may impede migration (Carling & Collins, 2018). These constraints include meeting the visa requirement or knowing the route to follow, and the capabilities may include having sufficient money to fund migration and being of good physical and mental health. A person may aspire to migrate, but the likelihood that he/she succeeds to do so is low when he/she holds only a few of these capabilities (Farooq, Tarıq, Gulzar, Mirza, & Riaz, 2014; Schewel, 2018; van Heelsum, 2016).

Conversely, those with both the aspiration and capabilities to migrate would eventually migrate (De Haas, 2014; Flahaux & De Haas, 2016). The aspiration-capability framework allows us to study the complexities in the individual migration decision-making process. It provides a basis to rethink the linear relationships between economic hardships and migration commonly found in neoclassical migration theories. Despite its potentials, the aspiration-capability framework has received limited empirical operationalization in the literature (Schewel, 2020).

This paper intends to operationalize the aspiration-capability framework using exploratory data collected from Nigeria. We focus on Nigeria because it is a middle-income country with the potential to achieve a higher economic development level, yet many young people have migrated or are attempting to migrate out of the country. Some subtle structural restrictions, such as additional visa requirements, also prevent many Nigerians from migrating. This means that only a select few, such as the rich, those with migrant networks, or other forms of capabilities that could easily migrate in the country. The three specific objectives of this study are: (1) to use the aspiration-capability framework to explain peoples' capabilities and agency freedom as factors that qualifiers who migrate and who does not; (2) to validate this conceptual

framework using an econometric model; and (3) to compare our result with the result that is based on neoclassical theories. Such as comparing capabilities as an important element in migration decisions versus income and subjective wellbeing.

We made two contributions to literature. First, we added the notion of qualifiers of migration to the aspiration-capability literature. Here, we consider the capabilities a person possesses and his or her freedom of choice as the qualifiers of migration. The importance of capabilities and freedom of choice in qualifying human functioning was landmarked by Amartya Sen (Sen, 1980). The premise of the capability approach is that people's achievement should be evaluated within their capabilities to achieve and the freedom to achieve (Gasper, 2007; Robeyns, 2017; Sen, 1980). By paying more attention to individual capabilities and choices, our study shifts the focus from migration drivers to understand the crucial elements determining if one would or would not migrate. Second, we also contribute to the literature by quantifying the relationship between capabilities and mobility decisions. Previous applications aspiration-capability approach in migration studies rarely went beyond the conceptualization of the relationships studied, or at most, explaining relationships using qualitative data (Bonfanti, 2014; Schewel, 2020; Preibisch et al., 2016). This is probably because of the practical difficulties in measuring a person's level of capabilities. Quantifying a person's capabilities is challenging because it is a latent variable comprising multiple indicators (Clark, 2005; Robeyns, 2005). However, by using an exploratory case of Nigeria, this study takes on the challenge of quantifying human capabilities and modeling their relationship with their mobility choices.

2.2 CONCEPTUALIZING CAPABILITIES AND CHOICES AS QUALIFIERS OF MIGRATION

Figure 2.1 shows a modified aspiration-capability framework drawn from the work of Carling & Talleraas (2016) and Schewel (2020). The modification was done by combining the original aspiration-capability framework and the Sens's capability approach introduced above. Firstly, it assumes that underlying factors and challenges in a location such as low income-generating opportunities, conflicts, climate change, and prospects shape people's life aspirations. Secondly, based on their aspirations and wellbeing, people may desire change. Considering that our topic centers on migration, we assume that the choice to migrate (mobility) or to stay (immobility) are the two valuable livelihood alternatives for people (Cai, Esipova, Oppenheimer, & Feng, 2014; Ivlevs, 2015; Polgreen & Simpson, 2011). Thirdly, irrespective of the driving force, some people will be highly willing to migrate, while others will show a lower willingness to migrate. However, some will have high capabilities, while others may be less well endowed. Hence, it is the choices that people make and their capabilities that qualify who can migrate and who

cannot migrate. According to Schewel (2020), it is possible to identify four groups of people by matching the migration choices and the capabilities to migrate. These four groups are the acquiescent immobility group, the constraint mobility group (originally called the involuntary immobility group), the voluntary immobility group, and the voluntary mobility group. We describe these groups below.
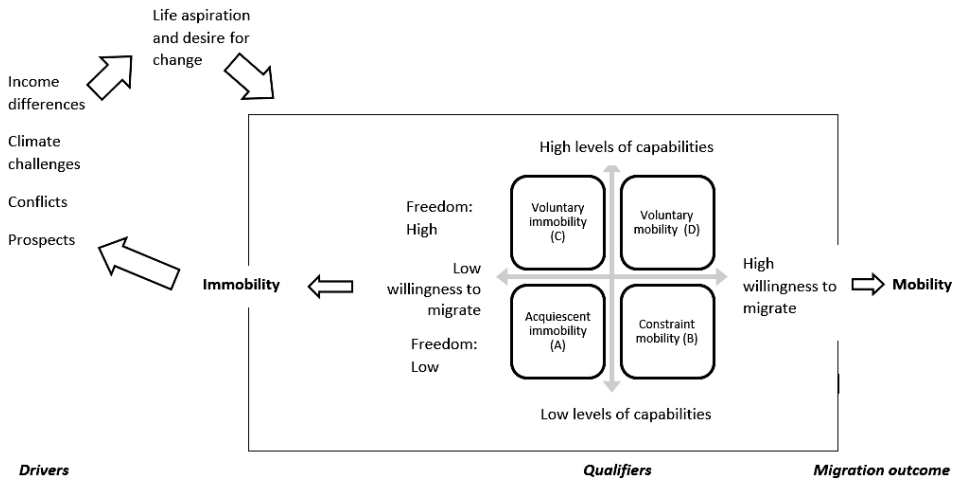
Figure 2.1 Mobility decision matrix of different levels of capabilities and freedoms
The aspiration-capability model inspired this figure. Source: *Carling & Talleraas, 2016; Schewel, 2020* and authors' input.

2.2.1 Acquiescent immobility (A)

The capability approach explains that people may internalize the deprivations in their living conditions and refuse to desire things they never expect to achieve. Applying this process of adaptive preferences (Wells, 2012) to migration literature, Schewel (2020) refers to this group as "*acquiescent immobility.*" Depicted as group A in Figure 2.1, they are the most deprived people, and they will report a low willingness to migrate and low capabilities to migrate. (Abramitzky, Boustan, & Eriksson, 2013).

2.2.2 Constraint mobility (B)

According to the aspiration-capability framework, deprivations in capabilities could reduce a person's satisfaction in a location and increase his/her willingness to migrate (Cai et al., 2014). Some people may have high aspirations to migrate but low ability to do so (Schewel, 2020). Carling (2002) counted among this group those whose migration attempts have failed. They remain in the home country involuntarily – becoming the so-called involuntary immobility group. We depict these people as group B in Figure 2.1. They are constrained to migrate now.

However, they could gain more capabilities (for example: seeking more information, securing services of migration brokers, or human smugglers) and find alternative ways to migrate in the future (maybe irregularly). We label this group as those with "*constraint mobility*" because they still maintain their aspiration to migrate, but they cannot enjoy the freedom to migrate at the moment.

2.2.3   Voluntary immobility (C)

Despite the potential advantages of migration, people with a higher level of capabilities are free to choose not to migrate. We refer to this group as those with "*voluntary immobility*" (group C in Figure 2.1). We relate this to the purview that this group prefers to use their capabilities to enjoy a happier life in their current location (Chen, Kosec, & Mueller, 2019; Schewel, 2020). For instance, they enjoy family love, social interaction, or local investment, which they may lose when migrating (Haug, 2008a).

2.2.4   Voluntary mobility (D)

In the aspiration-capability framework, mobility choices exist among people with a considerable level of capabilities. These capabilities need to suffice to overcome the constraints that otherwise impede migration (Carling, 2002; Carling & Schewel, 2018). Some people with a top-level of capabilities express a high willingness to migrate (De Haas, 2014; Flahaux & De Haas, 2016). They aspire to migrate, and they have the means to do so. We refer to them as those enjoying "*voluntary mobility*" (group D in Figure 2.1). They find it easy to migrate. Reasons found in the literature that explain the migration of better-endowed people are multiple. They migrate for self-actualization, enjoy an adventurous life, and secure their children's opportunities (Chiquiar & Hanson, 2005; Oliven, 2016).

In the following sections, we showed how we operationalized people's migration decisions based on their capabilities. The aim is not to explain the drivers of migration in the study area (Nigeria). However, the aim is to model the four possible groups of people by regressing human capabilities and mobility choices. The data we used is exploratory. Hence, we caution that our result is interpreted carefully.

2.3   OPERATIONALIZE CAPABILITIES AND MOBILITY CHOICES

2.3.1   Operationalizing capabilities

This section explains how we operationalize people's capabilities, especially those that can influence their mobility choices. We first checked the literature of developing capability variables, particularly the studies of Anand, Hunter, & Smith (2005); Martinetti (2000); and Nussbaum (2003). These studies enabled us to identify the vital capability domains and their

variables. We selected four capabilities domains for ease of understanding - financial capabilities, social capabilities, psychological capabilities, and physical capabilities. We also selected variables that explain each domain from the study of Anand et al. (2009; 2011). We do not consider our domains or the variables as exclusive capabilities that influence mobility choices. Nevertheless, from field experience in Nigeria, we assume that the variables we selected will influence the people's mobility decisions in Nigeria. The domains and corresponding variables include:

a) Financial capabilities: Money is required to facilitate mobility, but it can also improve a person's livelihood in the home country during hardship. The finance capability was proxy by a housing variable. We used the following question in the survey to probe the state of a person's housing: "is your current accommodation adequate for your current needs?" This question is reflexive, and we consider it better than asking people to value their house. When adequate for the need of the person or household, accommodation as a homestead can make household members stay back in the country irrespective of their value. It can also enable a person to migrate when the owner sells the home to raise money to finance the migration.

b) Social capabilities: Having substantial social capital can positively or negatively influence a person's migration willingness. Strong social ties with family and friends at home can increase the desire to remain in the home country. These social ties can also facilitate migration when they provide information and money (Haug, 2008a). We measure the social capabilities with the following variables: 1) how easily do you enjoy the love, care, and support of your immediate family? 2) do you respect, value, and appreciate other people's opinions? 3) do you experience discrimination because of your ethnicity, gender, and religion when seeking opportunities?; and 4) do you feel that you are playing a useful role in life, outside work, and studies?

c) Psychological capabilities: The psychological domain refers to a person's emotions, feelings, and behavior. Peoples' emotions are important in decision-making processes (Lerner, Li, Valdesolo, & Kassam, 2015). How people feel about the extent they can achieve their life goals in a particular place influences their willingness to stay or migrate (Carling & Collins, 2018). Those who consider themselves as worthless in society may intend to migrate or be imprisoned by their circumstances, making them not aspire for better things. We capture the psychological domain using the following variables: having a life plan, playing a useful role in life, expressing feelings, not feeling worthless, and having the freedom to use skills. The corresponding five questions, include: 1) do you find it easy to express feelings of love, grief, longing, gratitude, and

anger compared with most people of your age?; 2) do you have a clear plan of how you would like your life to be?; 3) do you often lose much sleep over worry?; 4) have you recently been thinking of yourself as a worthless person?; and, 5) in your work, do you think that you make use of your skills and talents?

d) Physical capabilities: Physical harms that arise from domestic and political violence, as seen in Nigeria, can put a person at a disadvantage, for example, increasing fear and anxiety (Sirkeci & Cohen, 2016). The following two variables cover the physical capabilities: freedom from police intimidation and freedom from assault. We capture them by the following questions: 1) do you think that you will be stopped and searched by the police within the next six months when it is not warranted? 2) have you been a victim of domestic violence?

As explained later, the capabilities variables were used to develop a capability index used in the analysis.

2.3.2   Operationalizing mobility choice

The mobility choice is an expression of the willingness to migrate (if yes) or stay (if no). Carling & Schewel (2018) summarized two levels of measuring the mobility choice of persons. The first level is the level of intentions. The intention to migrate includes the desire, consideration, preference, or the wish to migrate. It does not capture the willingness to act. Depending solely on the migration intention question may lead to the overestimation of people who would migrate when they have the opportunity. Such a question would potentially appeal to all people with the desire to migrate. This includes those that migration is a distant thought and those that wish to migrate for tourism or vacation. Such a question is not suited to capture the actual potential migrants, whose decision to migrate is a livelihood decision (Docquier, Peri, & Ruyssen, 2014; Easterlin, 2001). Hence, the second level question probes the willingness to act of the respondents. This includes if they are already planning to migrate within a specified period or migrate when they meet the financial and structural conditions hindering migration.

We combine the two-level questions in this study to elicit our respondent's mobility choice. The first is the intention to migrate, and the second is the willingness to migrate after receiving some financial income. We posit that having insufficient financial means is both a reason to migrate and a limiting factor for doing so effectively. By proposing a hypothetical situation in which the financial constraints are relaxed, we can differentiate the actual potential migrants from others. Some other studies used two-level migration questions as well. For instance, Bah & Batista (2018) adopted a conditional migration choice question by asking respondents in the Gambia if they desire to migrate first and second if they are still willing to migrate after the

researchers have provided some migration information. The Gallup survey uses migration desire as the first level migration decision question and the planning and preparation to migrate as the second level questions (Esipova, Ray, & Pugliese, 2011).

2.4 DATA AND METHODS

2.4.1   Collecting the exploratory data

As briefly mention in the introduction, we use exploratory data collected in Nigeria for some reasons. The first is that Nigeria is a good case study considering the significant number of people willing to migrate and the few who can do so. Nigeria is a highly populated country saddled with challenges and opportunities, where the poor live side by side with the rich. Several thousands of Nigerians migrate or seek asylum each year in developed countries, especially in Europe. Nigeria itself is home to many migrants from neighboring countries, mainly those attracted by the oil industries' opportunities (Mberu & Pongou, 2010). Recent research by the Pew research center shows that close to 50% of those interviewed in Nigeria plan to migrate to another country within the next five years (Connor & Gonzalez-Barrera, 2019). Studies indicate how conflicts, economic challenges, food insecurity, and poor life satisfaction drives migration out of Nigeria (Isiugo-Abanihe & IOM, 2016; C. Obi, Bartolini, & D'Haese, 2020), yet factors that qualify who can migrate have not been studied. The second reason is the perceived ease of collecting primary data. We identified through a pre-survey assessment that young Nigerians are willing to respond to migration surveys.

We initially opted for an internet-based survey for data collection. The internet-based survey was mainly disseminated through social media. An internet-based survey has the potential to reach a large number of participants with relative ease. We, unfortunately, received few responses (n = 220), despite encouraging the respondents to share the questionnaire with their networks. This prompted us to shift to a paper-based survey to increase sample size and reliability. The paper-based survey was purposively conducted in Edo state. Edo State was selected because it is a widely known hub for migration in Nigeria. By giving more weight to Edo state, we could target a population with a high migration likelihood. The data was collected in the State capital (Benin) to mimicked the internet-based survey snowball sampling procedure.

Two enumerators were trained to administer the questionnaire. Here the enumerators moved around the Benin City neighborhood and randomly searched respondents who showed a willingness to participate in the study. The respondents first approached the person and communicated the purpose of the research. Only those who are willing to participate were

included in the study. The respondents were also encouraged to recommend other people within their networks who may be willing to participate. This allowed having 100 respondents fill the paper-based survey, bringing the total number of respondents to 320. Though this method may affect the study's generalization, it was handy, comfortable, and cost-effective to collect the exploratory data used in this paper.

2.4.2   Explaining the collected variables

We capture the mobility choice of our respondents using two-level of questions, as explained above. In the first level, we also asked our respondents a direct question of the preference to migrate: *Ideally, do you prefer to move to another country or continue living in Nigeria?* Three options were provided, (1) move permanently abroad, (2) move temporarily abroad, and (3) continue living in Nigeria. We considered respondents who selected options 1 and 2 as those who desire to migrate (re-coded as 1) and respondents who selected option 3 as those who do not desire to migrate (re-coded as 0).

The second level question, which is the central question, used in the model is: *assuming you win a hypothetical lottery of 1 million naira, how likely would you spend it.* This question probes the respondents' willingness to migrate conditional on them having the money to do so. We provided three possible answers: (1) regular migration, (2) irregular migration, or (3) local expenditures. The 1 million naira (about 2,700 dollars) suffices to cover the visa procurement and travel cost to migrate out of Nigeria. The three potential options are turned into a dummy variable that equals 1 (willing to migrate) if option "1" or "2" were selected, and 0 (non-willing to migrate) if option "3" was selected. We merged options 1 and 2 because, to our surprise, only one respondent selected option 2. When respondents answer a conditional question, agreeing that they are willing to migrate, they also show a willingness to pay for migration. Additionally, we had follow-up questions such as the possible destination country and the purpose of migration.

The capability index is our independent variable of interest. We use 12 indicators that fall within the four capabilities domains (finance, social, psychological, and physical) cf. *supra* to calculate the index. The respondents were asked to rate the extent to which they felt they possess these capabilities in percentage. The answers to the following capability questions were inverted to ensure that all variables measure capabilities in the same direction: discrimination, feeling worthless, police intimidation, feeling worried, and the likelihood of experiencing an assault. To construct the capability index, we recoded the responses to the capability questions as follows: we consider all answers below 50% as a capability deprivation

(value 0) and all answers from 50% and above as sufficient capability (value 1). As we judge all the capabilities we measured equally important, each respondent's capability index is the unweighted sum of the recoded answers to the capability questions. The index takes a value from 1 to 12.

Finally, we captured the respondents' sociodemographic characteristics and migration experience variables, which we use as control variables in the analysis. The sociodemographic variables include age, household size, sex, marital status, education level, residence in urban or rural, and southern Nigeria. The variables probing migration experiences include having a migrant network (i.e., having access or constant communication with a relative or friend living abroad) and being a previous migrant. The income level and subjective well-being are critical variables in comparing the capability index's analytical performance. The income level variable is a categorical variable of six levels with the base level (level 1) being no income; level 2 refers to earning below the minimum wage (1 – 20,000 naira), level 3 earning around the minimum wage (20,001-50,000 naira) and highest level (level 6) being wealthy respondents earning above 250,000 naira (650 USD) per month. We have used the procedure introduced by Cai et al. (2014) to capture the respondent's subjective well-being in Nigeria. Cai et al. (2014) proposed the following Cantril ladder question: *Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. Suppose we say that the top of the ladder (10) represents the best possible life for you, the bottom of the ladder (0) represents the worst possible life for you. Where on the ladder do you feel you stand at this very moment?* The answers to this question were recorded for the respondents, giving a categorical variable from 0 to 10. Table 2.1 shows a summary of the independent variables used in the model.

Model specifications

We model the respondents' mobility choice as logistic regression. It is specified as follows:

$$\gamma_i = \alpha_i + \beta_i Q_i + \theta_i X_i + \delta_i Z_i + \mu_i \rho_i + \epsilon$$

Where γ_i is a binary variable showing whether or not a respondent *i* indicated a willingness to migrate; Q_i denotes the respondent's capabilities index; X_i is the vector of control variables (sociodemographic variables) for each respondent *i*; Z_i is migration experiences variables; ρ_i is the dummy variable that controls for the survey method, and ϵ are unobserved errors. From this basic model (Model I), we derived three additional models. In model II, we replace the capability index with the income level variable, and in model III, we use the subjective wellbeing

variable. In model IV, we replace the dependent variable, willingness to migrate, with the migration preference question.

In the models above, the capability index and subject wellbeing include squared values to test the possibility of a nonlinear function. To study the relationship between the capability index and mobility choice, we analyze the marginal effects while keeping the socioeconomic and migration experience variables constant. The marginal effects were also calculated separately for the relationship between mobility choices and income and the mobility choices and subjective wellbeing. We also check how the marginal plot of capability index compares in a model with migration preference (first level mobility choice question) versus willingness to migrate (second level question) as the dependent variable.

We adjusted the standard errors for heteroscedasticity and clustered them at the data source level in all estimations.

Table 2.1 Summary of independent variables (n=320)

Variables	Mean	SD	Min	Max
Capability index	7.66	2.20	1	12
Subjective wellbeing	4.53	2.14	0	10
No income	0.35	0.47	0	1
Income level (1 - 20,000)	0.29	0.46	0	1
Income level (20,001 – 50,000)	0.16	0.37	0	1
Income level (50,001 – 100,000)	0.11	0.31	0	1
Income level (100,001 – 250,000)	0.06	0.23	0	1
Income level (above 250,000)	0.03	1.17	0	1
Age	27.50	7.21	15	55
Sex (1= male)	0.56	0.50	0	1
Marital status (1 =married)	0.73	0.44	0	1
Education (1= attended university)	0.71	0.45	0	1
Dependents (number of dependents)	3.00	1.00	1	5
Urban (1= living in urban area)	0.65	0.47	0	1
South (1=living in southern area)	0.83	0.37	0	1
Migrant network (1=having a migrant network)	0.44	0.49	0	1
Migration experience (1 =have the experience)	0.12	0.33	0	1

2.5 RESULTS

2.5.1 Summary of descriptive results

Table 2.2 summarizes the level of capabilities reported by the respondents. It shows that many respondents record higher capabilities under the social and psychological domains compared to other domains. This means that the respondents can respect others, have a life plan, play a useful role in life, and enjoy family love. Respondents are most deprived of financial and physical capabilities. The capability index, which is a variable of interest, ranges from one to 12, and the mode is nine.

In the first level migration question, about 70% of the respondents prefer to move permanently or temporarily to another country. However, their willingness to migrate reduces to 37% if they win a hypothetical lottery. This result supports the claim that migration decision is a livelihood choice that can change with changing capabilities. People who intended to migrate changed their minds because the money they would win could be used to set up local businesses or solve problems that would have drove them to migrate. Besides the extra money, research also shows that having more information or education capability could change migration decisions (see Docquier et al., 2014; Bah & Batista, 2018).

Additionally, we ask the respondents their preferred destination and the purpose of migration. Canada tops the list of preferred destinations, followed by the USA (25%), the UK (11%), and Australia (5%). We speculate that language explains why respondents prefer these countries, considering they are all English-speaking countries as Nigeria. Fluency in destination countries' language is a well-known factor that many potential migrants consider when choosing a destination country (Adserà & Pytliková, 2015). The respondents showed the following three principal purposes of migration: studies (43%), job search (28%), and tourism (7%). We found job searches among those with lower capabilities and tourism purposes among those with higher capabilities.

Table 2.2 Description of capabilities and migration questions (n=320)

	Domain	Variables	Frequency (of yes)	Percentage (of yes)	Mode
Capabilities	Financial	Adequate shelter	139	43.4	
	Social	Family love	210	65.6	
		No discrimination*	91	28.4	
		Respect others' views	283	88.4	
	Psychological	Have a life plan	249	77.8	
		Play a useful role in life	208	65.0	
		Express feeling	188	58.8	
		Not feeling worthless*	56	17.5	
		Freedom to use skills	219	68.4	
	Physical	Free police intimidation*	49	15.3	
		Free from worries*	113	35.3	
		Free from assault*	36	11.3	
	Capability index (n=12)				9
Mobility choice	Migration preference	Move abroad	247	77.2	
		Continue living in Nigeria	73	22.8	
	Willingness to migrate	Migrate abroad	119	37.2	
		Remain in Nigeria	201	62.8	
	Preferred destination	Canada	84	26.3	
		USA	79	24.7	
		UK	35	10.9	
		Australia	16	5.0	
		Germany	15	4.7	
		Others	91	28.4	
	Migration purpose	Study	137	42.8	

Job search	90	28.1
Tourism	24	7.5
Others	69	21.6

Indicators with icteric marks were inverted.

2.5.2 Model estimation results

Table 2.3 shows the estimation result. It has four columns, which represent the four models explained in the analytical section. Model I shows the relationship between the capability index and willingness to migrate; model II shows the relationship between the income variable and willingness to migrate; model III shows the relationship between subjective wellbeing and willingness to migrate, while model IV shows the relationship between the capability index and the first level migration intention question. The logistic regression results of the model I – IV suggest that the capability index, income, and subjective well-being are inversely related to the willingness to migrate (mobility choices) at lower levels and positively related at higher levels. The result also suggests that the capability index and subjective wellbeing could have a non-linear relationship with the willingness to migrate. The sociodemographic variables are also impressive, but we will not expatiate on them in this paper to allow more space for the parameters of interest. Model II differs from the linear relationship explained in the neoclassical migration theories (Harris & Todaro, 1970; Massey et al., 1993; Sjaastad, 1962). It shows that some poor people may not be willing to migrate even with additional income (Abramitzky et al., 2013; Zezza, Carletto, & Davis, 2005). Model III confirms the inverse relationship between subjective well-being and mobility choice found in the literature (Cai et al., 2014; Migali & Scipioni, 2019; Polgreen & Simpson, 2011). The dependent variable of Model IV is migration preference. The results are similar to those found in Model I, but the migration preference coefficient is more extensive than it. This finding is in line with our earlier position that the migration preference would give a broader estimate of potential migrants as a first-level migration question. However, the willingness to migrate under a condition that relaxes the financial constraints will give a more robust signal to those who want to migrate because they are dissatisfied with their current living conditions compared to those wishing to migrate without any strong underlying reason. It agrees with an earlier study by Migali & Scipioni (2019) that shows that the population that expresses desire or preference to migrate often presents an imperfect measure of the potential migrants.

Table 2.3 Results from the logistic regression estimates on the factors associated with the willingness and preference to migrate

	Model 1 Willingness to migrate	Model II Willingness to migrate	Model III Willingness to migrate	Model IV Preference to migrate
	Coefficient (Standard error)			
Capability index (1 to 12)	-0.16(0.01)***			-0.19(0.01)***
Capability index (1 to 12)^2	0.003(0.00)***			0.009(0.00)***
Income level (1 - 20,000)		-0.68(0.39)*		
Income level (20,001 – 50,000)		-0.07(0.09)		
Income level (50,001 – 100,000)		-0.19(0.08)**		
Income level (100,001 – 250,000)		-1.09(0.35)***		
Income level (above 250,000)		1.35(0.22)***		
Subjective wellbeing (0 to 10)			-0.50(0.10)***	
Subjective wellbeing (0 to 10)^2			0.02(0.00)***	
Age (years)	-0.01 (0.03)	-0.001(0.01)	-0.01(0.02)	-0.03(0.01)***
Sex (1= male)	0.37 (0.15)**	0.41 (0.13)***	0.43 (0.21)**	0.46(0.32)
Marital status (1 =married)	-0.10(0.27)	-0.08(0.27)	-0.05(0.32)	0.39(0.34)
Education (1= attended university)	-0.38(0.20)*	-0.37(0.24)	-0.18(0.11)	0.19(0.28)
Dependents (number of dependents)	-0.22 (0.09)***	-0.28(0.09)***	-0.16(0.07)**	-0.02(0.03)
Urban (1= living in urban area)	0.26 (0.50)	0.15 (0.50)	0.21(0.43)	0.01(0.23)
South (1=living in southern area)	1.50 (0.11)***	1.61 (0.13)***	1.66 (0.02)***	0.34(0.16)**
Migrant network (1=having a migrant network)	0.24 (0.01)***	0.20(0.04)***	0.43 (0.13)***	-0.70(0.55)
Migration experience (1 =have the experience)	-1.42 (0.11)***	-1.79(0.49)***	-1.16(0.00)***	0.28(0.27)
Survey type dummy (1 = paper survey)	0.91(0.23)***	0.76(0.28)***	0.69(0.09)***	-0.06(0.04)

***significant at 1%, ** at 5%, * at 10%. No income is the baseline of income variables

Next, we plotted the marginal effects of the capability index by the willingness to migrate (Figure 2.2). We found a bimodal relationship between the willingness to migrate and the capability index, which classifies the respondents into four categories as hypothesized in the conceptual framework. We further expound on this result in the discussion section. Three additional plots were made to compare their closeness to this result. They include the marginal effect plots of the income variable (Figure 2.3), the marginal effect plot of the subjective wellbeing variable (Figure 2.4), and the marginal effect plot between the capability index and the first level migration intention question (Figure 2.5). None of these plots replicated the bimodal relationship, and as such, they are not sufficient in explaining the four possible migration decision categories.

Generally, the income models give the coefficients compared to a reference category; for example, it compares to zero income group. People with higher income seem to have a lower willingness to migrate compared to those with no income. This effect generally decreases as the income level increases. The association means that the largest income category cannot be visually assessed from the figure due to the large errors of the estimation. The relationship between subjective wellbeing and the willingness to migrate illustrated by the marginal effects

resulting from the logistic models in Figure 2.4 confirm the inverse relationship between subjective wellbeing and the willingness to migrate. This Figure (and model results) suggests that this relationship changes for the highest subjective well-being levels. Finally, the plot of the marginal effects of the preference to migrate on the capability index (Figure 2.5) is inconclusive and does not confirm the model results. The error bars on the measuring points are too wide to allow for a visual interpretation of the result. We are hence less convinced of the outcomes of this model (i.e., Model IV).
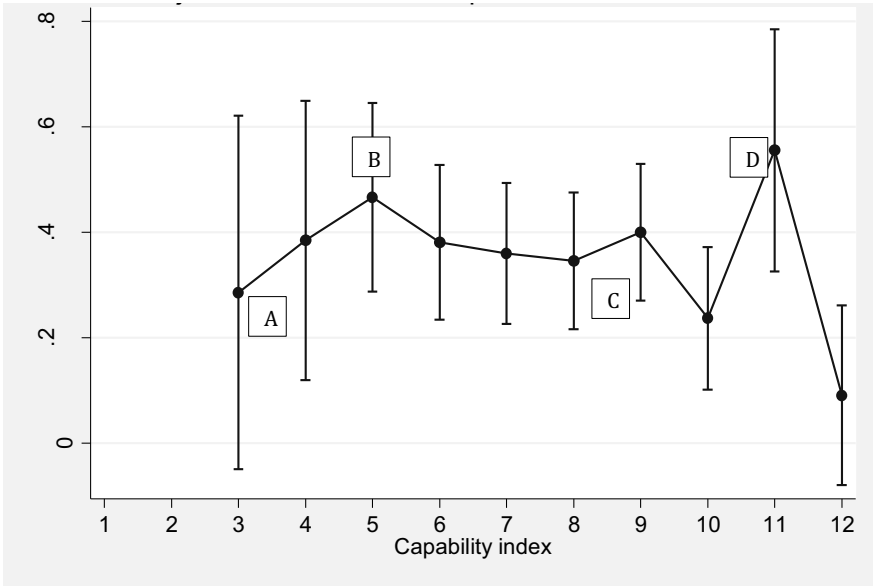
Figure 2.2 Plot of the marginal effects of the capability index on the willingness to migrate
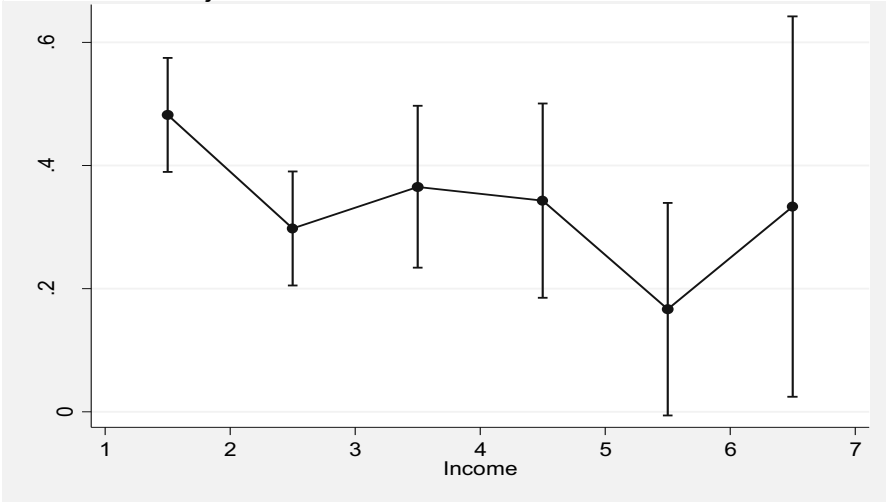
Figure 2.3 A plot of the marginal effects of the income categories on the willingness to migrate
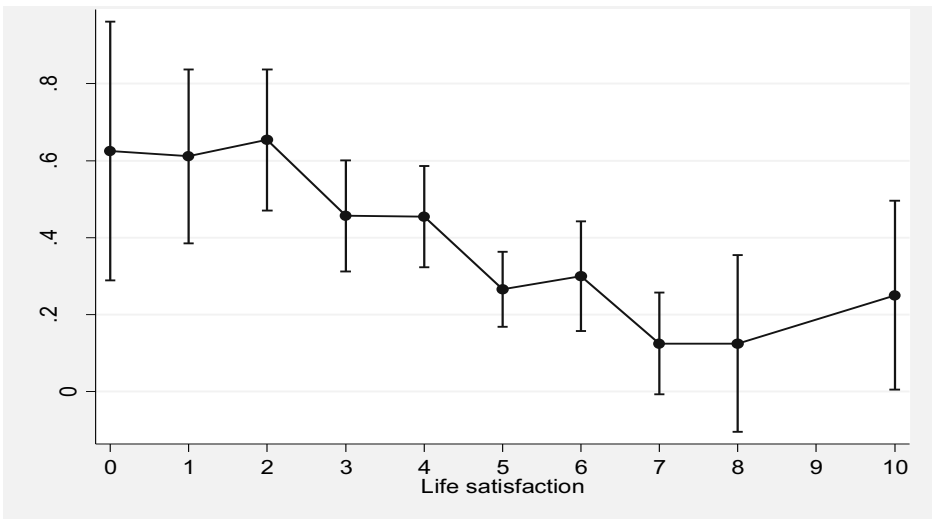
Figure 2.4 Plot of the subjective wellbeing (life satisfaction) on the migration willingness
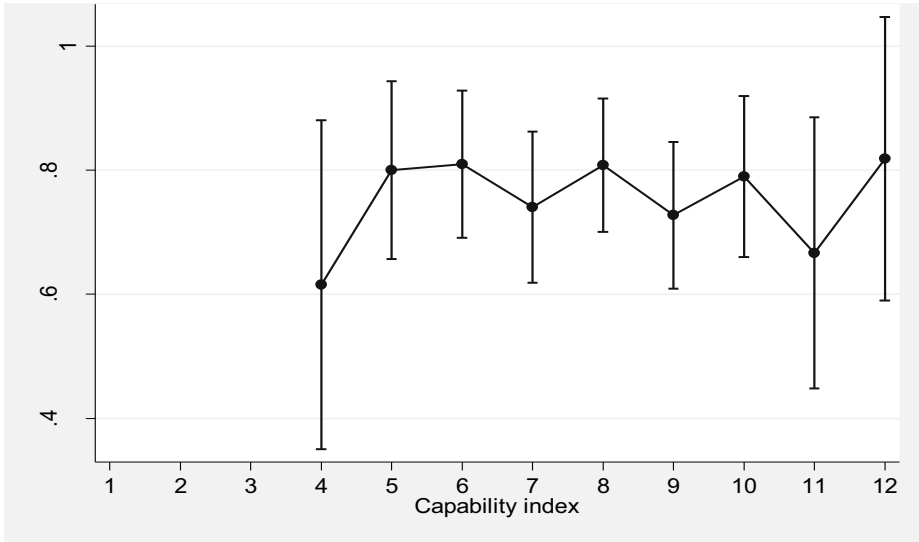
Figure 2.5 Plot of marginal effects of the capability index on the migration preference

2.6 DISCUSSIONS

Our discussion focuses mainly on the marginal effect plot between capability index and willingness to migrate. We explain how it validates our conceptual framework of four possible categories of people with respect to migration decisions. The respondents at the lowest end of the capabilities (group A in our conceptual framework and Figure 2.1) are less willing to migrate (acquiescent immobility). This finding corresponds with the notion of adaptive preference (Wells, 2012). For this group, the income won by participating in the lottery can be used to meet immediate needs like food and shelter rather than to be spent for migration. This may represent the poorest of the poor, who generally lack the knowledge, finance, and network to migrate.

A high willingness to migrate occurs in the second group (B), meaning that migration desire occurs at a relatively low level of capabilities (constraint mobility). Respondents with low capability levels but who are willing to migrate are those who move to enhance their capabilities. For this group, migration could become an investment. The few capabilities they own could serve as inputs or resources to overcome constraints that impede migration. This may represent the groups who intend to migrate as international students; their degrees could help them overcome the visa restrictions. It could also represent those trying to move

irregularly. Their access to brokers and traffickers are essential capabilities that would help them overcome structural constraints.

The third group (C) has more capabilities but chooses not to migrate (voluntary immobility). This group may represent successful individuals who are happier in Nigeria than elsewhere due to their entitlements or investments. It could also represent the groups who see prospects and opportunities in Nigeria and use their capabilities to improve their livelihood opportunities.

The last group (D) possesses sufficient capabilities and expresses a willingness to migrate. The willingness to migrate is probably due to reasons other than deprivation (voluntary mobility). This group may be the selected few who have the relevant human capital and qualification to overcome migration's structural restriction. Possible examples of these groups may be highly skilled professionals who wish to work elsewhere or wealthy individuals who may migrate for self-actualization.

The closest to our finding of bimodal relationship in the literature is the studies of Polgreen & Simpson (2011) and Ivlevs (2015), which found a U-shaped relationship between migration and life satisfaction (or subjective wellbeing) in the USA, and in European and Central Asian countries respectively. Here, they explained that the most and the least life-satisfied people are most likely to express intentions to emigrate, irrespective if they are rich or poor. In a global analysis of aspirations and intentions to migrate based on Gallup World Poll data, Migali & Scipioni (2019) find that lower subjective well-being resulting from dissatisfaction with the living condition is associated with a higher probability of desiring to move. Their study also shows that economic factors, including income, do not consistently explain what drives migration. The study of Abramitzky et al. (2013) and Zezza, Carletto, & Davis (2005) also explained why the poor might not be willing to migrate. According to their studies, the increasing cost of migration is a constraining factor limiting the poor's migration choice. Therefore, if the poor have access to extra money (perhaps through a lottery), it is plausible that they may choose to invest it in their local economy rather than using it for a costlier and riskier investment like migration. The limitation of the studies on the relationship between subjective wellbeing and mobility choices is their inability to capture other possibilities; like, why do some persons with low subjective wellbeing do not desire to migrate.

Therefore, it is clear from the plots of the marginal effects that the capability index and conditional mobility choice can correctly model the four possible relationships, which other models fail to do. In particular, the relationship found in our model IV and illustrated in Figure

2.5 says much of the limit of what they can explain. The model with income and subjective wellbeing explains how hardships in the form of low income and poor satisfaction with the living condition could stimulate a decision process where individuals consider migrating or staying. However, the capability index-mobility choice model explains how this decision is being made, embracing the role of capabilities to pursue what one truly values and has the freedom to choose in the process. We argue that migration is not a straightforward decision linearly influenced by hardships at home, as shown by the rational choice hypothesis of neoclassical migration theories (Harris & Todaro, 1970; Massey et al., 1993; Sjaastad, 1962). "Irrationality" exists in migration decisions, and the mobility choice of an agent, when faced with hardships, can be captured within the frame of capabilities and freedom to choose which qualifies who can migrate and who cannot.

Finally, although efforts were made to reduce bias and error in our analysis, it is subjected to limitations. The first limitation is in the limited data we have. Acknowledging that the sample size is small, we caution that our study should be treated as exploratory research and should not be used to generalize Nigeria's case. Second, it is worthwhile to note that the lottery question is case-specific. It is suitable for Nigeria because of the reportedly high number of people seeking to migrate. One needs to be careful in using the lottery question in a context with a relatively low level of potential migrants or a culture that holds a strong view against lottery or gambling. Third, we did not test for possible endogeneity between capabilities and mobility choices; this is for future studies. Beyond these limitations, we maintain that our study, and in particular, our conceptual framework, would serve as a background for future investigations in the relationship between capabilities, mobility, and immobility.

2.7 CONCLUSION

The majority of neoclassical and new economic migration theories on migration drivers are centered mainly on the "drivers" and often provide a linear explanation between hardships and migration intentions (Arango, 2000; Castles, 2010). This approach fails to recognize the role of people's capabilities to migrate and the freedom to choose what they value play during migration decisions. The aspiration-capability framework that introduces new prospects in the migration theory to overcome the limitation of these traditional theories also falls short of quantifying the factors that qualify those who can migrate or stay (Carling & Schewel, 2018). It is yet to empirically explain why immobility exists amongst agents with sufficient capabilities to migrate (Schewel, 2020).

Our research seeks to expand the aspiration-capability framework to account for migration qualifiers - people's capabilities and freedom to choose mobility or stay when exposed to migration driving forces. The concept of the qualifiers of migration is motivated by Sen's capability approach. Our conceptual framework suggests that the capability aspect of the qualifiers of migration can be captured by a capability index that cuts across several indicators of a non-exclusive list of four capabilities domains: financial capabilities, social capabilities, psychological capabilities, and physical capabilities. The freedom of choice aspect can be captured by eliciting a mobility choice under a condition that relaxes the constraints to migrate. We posit that by proposing a hypothetical situation in which the financial constraints are relaxed, we can differentiate the actual potential migrants from others.

Our conceptual framework explains the possible existence of a matrix of four relationships between different levels of capabilities and mobility choices. First, constraint mobility would be seen among the people with relatively low capabilities due to capability deprivation at home. Second, for some people, the level of capabilities is so low that they become acquiescent to their situation, which does not allow them to perceive migration as a valuable option. Third, a higher willingness to migrate would be seen among a few selected people with a high level of capabilities considering that they could afford the cost of migration, and these people could migrate voluntarily. Fourth, despite the possible benefits of migration, people who have a higher level of capabilities may exhibit involuntary mobility and choose not to migrate.

We validate the conceptual framework using an exploratory survey involving respondents in Nigeria. The result shows that the willingness to migrate is, in general, inversely associated with the capability index. We further explored the marginal effects of the relationship between the capability index and mobility choice. The result suggests that a bi-modal link exists, confirming our conceptual framework. This result differs from other traditional migration drivers such as income and subjective wellbeing with mobility choices and provides more explanation than when the migration preference (aspiration) question is asked. Our results confirm the robustness of the migration qualifiers in explaining both mobility and immobility. Our study argues that people are not always rational in making migration decisions, and economic reasons and other traditional drivers alone may not explain the increasing migration intentions sufficiently.

Our study adds to the prospects in migration theory by providing a framework to model mobility and immobility. By linking more to the capability approach, we add to the aspiration-capability framework empirically, explaining the key ingredients or qualifiers that people

consider during migration decisions. This grey area was yet to be evaluated. The capability approach, which we linked, enables us to capture the migrants' agency and capabilities and explains how differences in individual qualifiers can influence their mobility choice. It integrates the freedom of choice by capturing immobility as a valuable option for some people, not only because of limited capability (or involuntary immobility) as posited in the aspiration-capability framework. Generally, our data does not allow us to generalize the case of Nigeria. However, we conclude that future studies on migration drivers and decisions should consider the role of human capabilities and choices.

3 DIGITALIZATION AND MIGRATION: THE ROLE OF SOCIAL MEDIA AND MIGRANT NETWORKS IN MIGRATION DECISIONS. AN EXPLORATORY STUDY IN NIGERIA[4]

Abstract

We aim to explore the connectivity between social media use, access to migrant networks, information asymmetry, and migration intentions. The study was conducted using data from individuals living in Nigeria and analyzed with a Generalized Structural Equation Model, rare for this research. We find a dual mediating role of social media and the migrant networks in facilitating migration, i.e., reducing the threshold cost required to migrate and introducing information asymmetry bias. While social media and access to migrant networks directly increase migration intentions, this changes when incomplete information is provided. People who use social media and their migrant networks for information are more likely to have information about destination countries than information on the transit risk. The study adds valuable insights for designing awareness campaigns aimed at reducing irregular migration. It also contributes to the understanding of the intersection of migration and digitalization.

3.1 INTRODUCTION

The traditional explanation of international migration drivers is often centered on rational choice and utility maximization theories (Arango, 2000). Migration studies built on these theories maintain that economic expectations, risk attitudes, and household behaviors are essential elements of migration decisions (McKenzie, Gibson, & Stillman, 2013; Migali & Scipioni, 2019; Ullah, 2016). The shortcoming is the neglect of the facilitating role of intermediaries like networks and digital technologies. Digitalization – the use of digital technologies in communication such as social media – is one of the transformations in today's world that improves information flows and awareness. It can also influence migration decisions (Dekker & Engbersen, 2014).

In this paper, we investigated how the increased information flow and awareness, thanks to social media and migrant networks, affect migration decisions in Nigeria. We started by giving a brief overview of the literature on how potential migrants communicate with migrant

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networks via social media. We provided a theoretical framework from which we derive hypotheses on how this communication could influence migration decisions. Nigeria is an excellent case to study migration decisions. This is because the country is a high migrant-sending country and among the world's top social media user countries (Connor & Gonzalez-Barrera, 2019; Kemp, 2019). Studies have shown the relevance of social media and migrant networks on migration decisions and outcomes (Alpes, 2017; Dekker et al., 2018; Fokkema & de Haas, 2015; Münz, 2018), but the case of Nigeria is yet to be explored.

3.2 SOCIAL MEDIA, MIGRANT NETWORKS AND MIGRATION DECISIONS

Emerging studies are increasingly associating development processes, including digitalization and social transformations, as essential elements of migration decisions (Cooke & Shuttleworth, 2018; Flahaux & De Haas, 2016). These new elements enhance people's access to migration information and improve their aspirations and capabilities to migrate (Carling & Talleraas, 2016). The role of migrant networks as primary sources of migration information is transformed by digital infrastructures' availability (Dekker & Engbersen, 2014). Social media stand out among other digital tools like telephones, TVs, and radio, as they enable a real-time transfer of migration information between migrant networks and potential migrants in a relatively cheap and easily accessible manner. Social media and migrant networks are mediating factors that act as informal sources of information. They also decrease the transaction costs of migration. Social media strengthen the ties between potential migrants and migrant networks (Dekker & Engbersen 2014). They play communication channel roles, providing insider knowledge about destination countries (Gelb & Krishnan, 2018; Gillespie et al., 2016). Migrant networks use social media to facilitate migrants' traveling (Münz 2018) and coordinate less risky migration routes (Boas, 2019). By doing so, they potentially lower the threshold level of wealth required to migrate. They enhance migration aspirations even amongst people with low capabilities to migrate via legitimate routes.

The magnitude of which social media and migrant networks facilitate migration can be mitigated by the access and the accuracy of the information they provide. Pimmer & Tulenko (2016) explained that social media use for communication is hindered by the economics of participation, technical competencies, and issues of privacy, surveillance, and information quality. Dekker et al. (2018) added that social media access is uneven in society due to its costs. Jointly, these issues limit the number of times potential migrants communicate with migrant networks via social media. However, increasing levels of human capital (and additional forms of capabilities) such as having strong ties with migrant networks, knowledge, income, and

positive attitude to social media could help to overcome these constraints (Dekker, Engbersen, & Faber, 2016; Kaplan, Grünwald, & Hirte, 2016). The use of social media for migration purposes can be improved by a positive perception of its usefulness (Callahan, Robinson, & Trachmann, 2018). Having a positive disposition towards technology and social media, in particular, induces one to use social media for migration information search.

Nevertheless, the messages that come through social media may be riddled by rumors that camouflage the journey's risks. The accuracy and completeness of the information from social media and migrant networks is a challenge. Migrants who source information through these informal sources are often less or incorrectly informed and usually face sociocultural exclusions in destination countries (Alpes, 2017; Dekker et al., 2018; Fokkema & de Haas, 2015).

Indeed, social media and migrant networks' mediating role in facilitating migration is complex, and it is receiving some research interest. However, to the best of our knowledge, no study has estimated the multiple, interrelated connectivity between social media use, access to migrant networks, information accessibility and accuracy challenges, and how they affect people's migration intentions.

3.3 THEORETICAL FRAMEWORK

Two theories are relevant to this research. The first is the aspiration-capability framework (Carling & Collins, 2018; Schewel, 2020). This framework considers that people who aspire to migrate but do not have the capabilities to do so legitimately may seek assistance from networks. Here, social media becomes a platform for potential migrants to seek information from networks, migration brokers, and smugglers. The challenge is that these people may offer false or incomplete information to the potential migrants for selfish interest. The second theory is the theory of migration under incomplete information (Allen & Eaton, 2005b; Berninghaus & Seifert-Vogt, 1987). This theory shows that having less information is an attractor to migrate rather than a dissuasion for highly motivated and risk-neutral people (Allen & Eaton 2005). This is mainly a concern for many economic migrants moving through irregular routes. They are often young people willing to take risks hoping that migration would enhance life quality (Mbaye, 2014). As such, even when these potential young migrants receive incomplete information, they may likely want to *try their luck* (Kleist & Thorsen, 2016). Migration decisions under incomplete information are often made in error, capable of leading to a regrettable and avoidable migration experience (Beam, McKenzie, & Yang, 2016; Benson Marshall, Cox, & Birdi, 2020; Musto & Boyd, 2014). These avoidable outcomes include irregular migration and human trafficking (Fiedler, 2019; Frouws, Phillips, Hassan, & Twigt, 2016).

Based on these two theories, we argue that although social media and migrant networks may provide information that could improve migrants' capabilities, they may be spoiled by rumors, which we regard as incomplete information in the rest of the paper. We, therefore, develop a set of three hypotheses on the links between social media, migrant networks, incomplete information, and migration decision:

> *H1. Social media and migrant networks are important informal sources of migration information that could enhance the migration aspirations of people with low capabilities to migrate through legitimate routes.*
>
> *H2. The incompleteness of information can constrain the potentials of social media and migrant networks in facilitating migration.*
>
> *H3. The incomplete information disseminated by social media and migrant networks could lead to a wrong migration decision.*

3.4 METHODOLOGY

3.4.1 Study area

Our hypotheses are tested using exploratory data collected from individuals in Nigeria. Irregular migration from Nigeria presents a challenge for policymakers (European Migration Network, 2018). Its surge could be associated with the increased use of social media, which has improved the ties between potential migrants, migrant networks, and human traffickers. Most migrants that move irregularly expect that Europe will offer them better opportunities than Nigeria. Nevertheless, evidence has shown that they face life-threatening risks in transit and destination countries (UNICEF, 2017). In transit, irregular migrants are exposed to a constant danger of being kidnapped, tortured for ransom, endure modern-day slavery and death (Horwood, Forin, & Frouws, 2018). In destination countries, irregular migrants are vulnerable to sociocultural exclusion, especially when they do not have a legal permit to stay (European Migration Network, 2018). As most of the potential migrants depend on the information provided by informal sources social media, they often fall at the risk of incomplete information, which increases the likelihood of irregular migration.

3.4.2 Data collection

The data was collected from an internet-based and a paper-based survey. The internet-based survey was conducted using a public invitation on Facebook. The internet survey criteria were straightforward: the respondent should be a Nigerian living in Nigeria. The survey was initially promoted on Facebook for one month. Those who completed the survey were encouraged to share the link with people in their network. We expected to reach a large number of participants through the internet-based survey with relative ease. This framework has an additional

advantage considering that it allows reaching potential migrants who use social media regularly in search of traveling opportunities. Despite these advantages, the challenge of an internet-based survey is its reliability and quality of the responses. For instance, in our survey, only about 220 responses were completed despite the over 500 attempts to start the questionnaire.

A paper-based survey was added to increase the reliability and sample size of the survey. It was purposively conducted in Edo state. Edo State was selected because it is a widely known hub for irregular migration in Nigeria. By oversampling Edo state, we could target a population that has a high likelihood of irregular migration. The data was collected in the State capital (Benin). Two trained enumerators administered the questionnaire. The way the data was collected mimicked the internet-based data collection procedure. Here, the enumerators moved around the city and randomly search for respondents who are willing to participate in the study. The respondents were also encouraged to recommend other people within their networks who may be willing to participate. One hundred respondents filled the paper-based survey, bringing the total number of respondents to 320. The internet and paper-based data collection were based on snowball sampling procedures. Though this method may increase the risk of sampling error and affect the study's representativeness, it was handy, comfortable, and cost-effective to collect the exploratory data used in this paper. This sample size is within the range (30 to 460) recommended for a structural equation model (Wolf, Harrington, Clark, & Miller, 2013).

Migration intention is the primary dependent variable in our analysis. The migration intention question identifies those who desire to migrate. It includes the people consciously seeking ways and others without a plan. We posed the respondents the following question:

Ideally, if you could afford it, would you like to move to another country, or would you prefer to continue living in Nigeria? The options include 1. Yes, move permanently to another country, 2. Yes, move temporarily to another country, and 3. No, continue living in Nigeria.

The independent variables include migrant networks, social media use, socioeconomic factors, and migration information. A migration network is defined as a web of social ties that connects individuals in the origin countries with migrants in destination countries. The networks can influence the migration flows from origin to destination countries (Garip & Asad, 2015). The migrant network of a person can be just one person or several persons. However, the strength of the existing ties is often regarded as more influential than the number of ties (Dekker & Engbersen 2014). Therefore, migrant networks are defined here as having access to at least one

person living abroad on which one can count to facilitate migration. The answers to the following question were used to capture the respondent's access to a migrant network:

Do you have a relative or friend abroad whom you could count on to help you migrate? A binary response was provided: yes, (1) assumed that the respondent has access to a migrant network; No (0) means they do not have access to a migrant's network.

Following Dekker and Engbersen (2014), we define social media as any digital or mobile application containing user-generated content. This includes open and semi-open applications enabling social networking and communication, e.g., Facebook and Myspace, YouTube, Twitter, and WhatsApp (Dekker & Engbersen, 2014). The questionnaire had four questions probing the level of social media use and the perception of social media's usefulness for migration information. The first (and key) question is:

How many hours do you spend on social media in a day? Options include up to 1 hour (1), 2 to 5 hours (2), 6 to 10 hours (3), more than 10 hours (4).

A second question enquires on the medium of communication that the respondent regards as very important in being informed about migration. Possible answers include social media, television, radio, phone, and newspaper. Based on the answers, we made a dummy variable on which respondents that agree that social media is crucial for them scored a one. The third question asks which of the following mediums the respondent uses in communicating with the migrant networks: post, phone, and social media. The respondents who agree to use social media as a medium of communication score one on a new dummy we created based on this question. Finally, we also asked about the type of information the respondent is mostly interested in when checking social media. Options include opportunities abroad, political news, celebrity news, chatting with friends, and sports. As in the previous questions, we developed a new dummy on which respondents who use social media to check for opportunities abroad score 1; others scored 0 on this variable.

The migration information received by the respondents is an essential variable in our research. Complete information is expressed as knowing the risk and realities in the transit and the destination countries. Based on the information we gathered from focus group discussions organized with some Nigerian immigrants and asylum seekers living in Italy, we asked respondents to rate their knowledge on seven migration issues. We asked the respondents to rate how well they thought to be informed on the following irregular migration risks (expressed in terms of %): 1. Irregular migration involves a long stressful journey in the Saharan desert; 2.

Irregular travelers may be robbed, raped, maimed, killed on the way; 3. Many of the transit countries are facing internal conflicts and wars; 4. Many irregular travelers can be subjected to harsh labor conditions like slavery; 5 Many people die in the Mediterranean Sea due to overcrowded boats; 6. On arrival, irregular migrants are kept in camps in Europe; and 7. Most European laws are harsh to irregular migrants. Finally, the questionnaire also gathered information on the respondent's socioeconomic characteristics.

3.4.3 Respondents characteristics

Table 3.1 gives the summary statistics of the data used in the analysis. Most of the respondents are less than 30 years old, and the majority are unmarried. Almost equal numbers of men and women were interviewed. Most of the respondents are educated and living in urban areas. The sample included almost equal numbers of students, people seeking employment, and people employed. Most of the employed respondents earn between low and medium-income levels. More than 85% of the respondents have not traveled out of Nigeria, and about half of all the respondents have social ties with at least one relative or friend living abroad. Generally, there is a high level of migration intention among the respondents; about half said they have the intention to migrate temporally to another country, and a third said they intend to migrate permanently.

We checked the respondents' social media habits, mainly if they consciously use social media to search for migration information. About half of the respondents said they spend between 2 to 5 hours on social media a day. Our results show that social media is considered the most crucial channel through which respondents learn about migration. This opinion is held by about 70% of the respondents. Social media is a dominant medium used by most respondents to communicate and maintain social ties with family and friends abroad. Moreover, social media is used by almost half of the respondents to search for traveling opportunities abroad.

We analyzed the respondents' level of migration information by asking them to rate in percentage the extent they have information on seven migration issues. We found that the respondents rate their average information level at 75%. This means that the respondents do not know at least one in four issues raised in our questionnaire that affects irregular migrants. But how the different states of information affect people's migration intention is of paramount concern to our research, which is explored further.

Table 3.1 Summary of data (n = 320)

	Variable	Categories	Frequency (%)
Migration	Migration intention	Migrate permanent	34.0
		Migrate temporal	52.5
		No intention to migrate	13.5
	Access to a migrant network	Yes	44.3
		No	55.7
Social media use	The best medium for migration information	Radio	6.0
		Television	14.8
		Newspaper	3.5
		Social media	71.7
		Word of mouth	4.1
	Medium for communicating with people abroad	Social media	80.5
		Phone calls	19.5
	Hours spent on social media in a day (social media use)	Level 1: Up to 1 hour	19.8
		Level 2: 2 to 5 hours	54.4
		Level 3: 6 to 10 hours	18.6
		Level 4: More than 10 hours	7.2
	Interest in social media browsing	Opportunities abroad	43.7
		Political news	17.3
		Celebrity gist	1.6
		Chatting with friends	30.5
		Sport	6.9
Migration information	Statements about irregular migration	Irregular migration involves a long stressful journey in the Saharan desert.	78.1
		Irregular travelers may be robbed, raped, maimed, killed on the way	82.3
		Many of the transit countries are facing internal conflicts and wars	70.9
		Many irregular travelers can be subjected to harsh labor condition like slavery	78.8
		Many people die in the Mediterranean Sea due to overcrowded boats	81.2
		On arrival, irregular migrants may be kept in camps.	67.1
		Laws in EU destination countries are harsh to irregular migrants.	71.3
Socioeconomic characteristics	Age	Under 30	64.2
		Over 30	35.8
	Gender	Male	57.2
		Female	42.8
	Married	Yes	26.1
		No	73.9
	Education: attends higher institutions	Yes	71.1
		No	28.9
	Economic status	Student	34.3
		Unemployed	30.8
		Low skilled	17.6
		High skilled	17.3
	Income level	Low income (below 20,000)	64.5
		Mid-income (from 20,001 to 100,000)	27.0
		High income (above 100,000)	8.5
	Place of resident	Rural	34.6
		Urban	65.4
	Origin is Edo State	Yes	31.4
		No	68.6
	Travel abroad experience	Yes	12.3
		No	87.7

3.4.4 An analytical approach using a Generalized Structural Equation Model

We model the relationships between the variables described above using a Generalized Structural Equation Model (GSEM) (Figure 1). A GSEM is used when linear and non-linear

equations are needed to show the relationships between latent and observed variables. It comprises two parts: a structural path that measures the constructs and explores the links and confirmatory factor analysis (CFA) that models the latent variables. It is an advanced model of the Structural Equation Model (SEM), and it uses the power and flexibility of both SEM and generalized linear models in a unified modeling framework that fits multilevel dependent variables (Lombardi, Santini, Marchetti, & Focardi, 2017). While an SEM is more straightforward and can show the goodness of fit, it can only model generalized linear response variables. A GSEM can model sophisticated multilevel mixed-effects and accommodates continuous, categorical, or ordinal response data. Similar to Kaplan et al. (2016), who applied an SEM to analyze the impact of social networks and norms on a two-response level migration intention question, we use a GSEM in our study considering that our primary response variable – migration intention is a categorical variable of three levels (intention to move permanently, temporarily or no migration). In our model, migration information is treated as a latent variable captured by the seven-migration risk questions listed above.

We consider two states of migration information: information on the transit and information on the destination. A CFA was used to reduce the seven-migration question variables to these two components (states) of information. Table 3.2 present the factor loading for the CFA. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is 0.87, which is above 0.5. Barlett's test of sphericity is significant. These suggest that the CFA meets the necessary criteria to continue the analysis.

The GSEM model is comprised of three equations representing the three hypotheses (Figure 3.1):

ε_1 - is a structural equation explaining the factors affecting access to social media. The variables include socioeconomic characteristics, access to a migrant network, and the perception of social media's usefulness for migration information. This part of the analysis was conducted using an ordinal logit analysis.

ε_2 – is a structural equation explaining how social media and a migrant network lead to incomplete information. Ordinary least squares models were used for this analysis.

ε_3 – is a measurement equation explaining how all the constructs in the equations influence the respondent's migration intention. A multinomial logit model was used.

We used the post estimation results from the Akaike information criterion (AIC) and Bayesian (or Schwarz) information criterion (BIC) to compare different specifications of our model. We

considered the model with the smallest AIC and BIC values to be the best (see Akaike, 1987; StataCorp, 2019). The model is then reported as the final model. Fisher's hypothesis testing framework was applied throughout the analyses. The GSEM estimated the models jointly. To allow for a straightforward interpretation, we describe the results of each model separately.
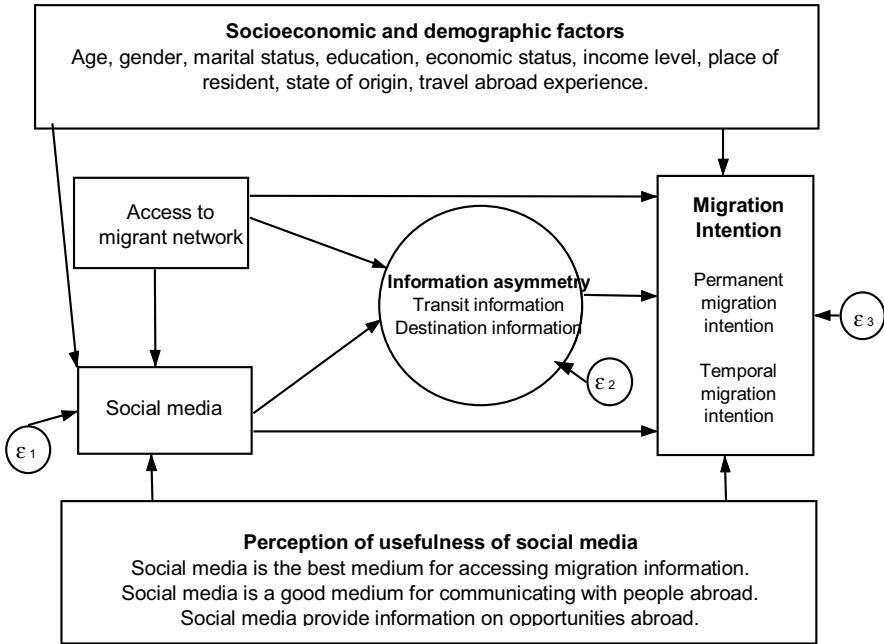
Figure 3.1 Analytical framework of the GSEM and hypotheses

Table 3.2 Factor loading revealing two components for the confirmatory factor analysis (n =320)

Variables	Transit information	Destination information
Irregular migration involves a long stressful journey in the Saharan desert.	0.85	0.15
Irregular travelers may be robbed, raped, maimed, killed on the way	0.89	0.21
Many of the transit countries are facing internal conflicts and wars	0.49	0.59
Many irregular travelers can be subjected to harsh labor condition like slavery	0.75	0.40
Many people die in the Mediterranean Sea due to overcrowded boats	0.75	0.42
On arrival, irregular migrants may be kept in camps.	0.21	0.84
Laws in EU destination countries are harsh to irregular migrants.	0.20	0.80
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	0.87	
Bartlett's Test of Sphericity	0.00	

3.5 RESULTS

3.5.1 Factors influencing social media use for migration purposes

The first model includes the factors influencing the accessibility of social media to assess the first hypothesis. The ordinal logit analysis results confirmed the hypothesis that perception of usefulness and socioeconomic factors are associated with changing degrees of social media use (Table 3.3). The socioeconomic characteristics significantly associated with a higher level of social media use include being a student, unemployed, receiving a high salary, and residing in urban areas. Earning high income and living in an urban area are essential capabilities that help a person overcome economic and technical constraints limiting social media use. As individuals' economic status changes from being students or job seekers to being employees, the number of hours spent on social media significantly decreases. Surprisingly, having access to a migrant network is not a significant predictor of social media usage. However, we note a positive and significant use of social media amongst respondents who have a favorable perception of social media's usefulness for migration issues. These include the respondents who perceive social media as necessary for migration information and consider social media as a communication channel with friends and families abroad.

Table 3.3 Factors influencing social media use (n =320)

Variable	Coefficient	Std. Err
Age: Under 30	-0.007	0.009
Gender: Male	0.13	0.10
Married: Yes	0.11	0.14
Education: Attends higher institutions	0.16	0.12
Economic status: Student	0.44	0.17***
Economic status: Unemployed	0.70	0.15***
Economic status: High skilled employed	0.03	0.19
Income: Low income	-0.17	0.12
Income: High income	0.48	0.20**
Place of resident: Urban	0.42	0.12***
Respondent is living in Edo State: Yes	-0.78	0.11***
Travel abroad experience: Yes	-0.31	0.19
Migrant network: Yes	-0.15	0.09
Social media for migration information: Yes	0.42	0.12***
Social media for communication with a friend abroad: Yes	1.23	0.13***
Social media for opportunities abroad: Yes	0.15	0.09

*Significant levels: *** 1%, ** 5%, *10*

3.5.2 Social media, migrant network, and incomplete information

We analyze the possible existence of incomplete information among the respondents using a CFA. The result predicts two components of respondents that can be conveniently disintegrated by the state of migration information they know. The first component represents the respondents with more knowledge about the challenges *en route*, which we labeled "transit information." The second group of respondents is more knowledgeable about what is attainable

in the destination countries, and we labeled them "destination information." The occurrence of these two states of information suggests the possibility that respondents may be better knowledgeable in one state of information but have insufficient knowledge of the other state. Based on this thinking, we assume that social media and migrant networks may have a differential impact on the level of each information state a respondent has. Hence, we tested the second hypothesis of the study that social media usage and migrant networks would influence each state of migration information differently (Table 3.4). The results confirm our hypothesis. We found that social media usage and access to the migrant network have a significant inverse association with information on what happens *en route* and a significant positive association with having information on the destination. This means that social media and migrant networks could provide incomplete information and more on the opportunities upon arrival than risk on transit.

Table 3.4 The impact of social media on incomplete information (n =320)

Variable	Transit information		Destination information	
	Coefficient	StdErr	Coefficient	Std. Err
Migrant network: Yes	-0.078	0.04*	0.226	0.05***
Social media use: (hours per day)	-0.044	0.02*	0.092	0.03***

*Significant levels: *** 1%, ** 5%, *10**

3.5.3 Social media, migrants network, incomplete information, and migration intention

Finally, we investigated how social media use, access to migrant networks, the two states of information, and socioeconomic factors affect migration intention. The analysis was conducted using a multinomial logit model involving three migration options: permanent migration, temporal migration, and no migration (Table 3.5). We found that having access to a migrant network and using social media is directly and positively associated with permanent and temporal migration intentions. The results also show an indirect link with migration intention when the information provided by the migrant networks or social media is incomplete. In this link, having more information about the transit than information on the destination can positively influence the decision to migrate, but having more information on what is obtainable at the destination has an inverse relationship with migration intention. This result is robust to the inclusion of socioeconomic variables and the perception of social media's usefulness. The socioeconomic aspects show that migration intention is positively associated with being younger, being a male, having high skills but lower-income, living in rural areas, having no previous migration experience, and coming from Edo State. More so, those who selectively use social media to search for migration information, especially traveling opportunities abroad, have significantly high migration intentions.

Table 3.5 How social media, migrant networks and incomplete information influence migration intention (n =320)

Variable	Permanent migration		Temporal migration	
	Coefficient	StdErr	Coefficient	StdErr
Migrant network: Yes	1.26	0.17***	0.71	0.16***
Social media use: hours per day	0.35	0.11***	0.46	0.10***
Transit information	0.32	0.09***	0.38	0.08***
Destination information	-0.04	0.08	-0.23	0.08***
Social media for migration information	0.81	0.18***	0.58	0.15***
Social media for communication with friend abroad	-0.81	0.27***	-0.42	0.24*
Social media for opportunities abroad	1.77	0.20***	1.38	0.19***
Age : Under 30	-0.11	0.02***	-0.03	0.01*
Gender: Male	0.39	0.19**	0.34	0.17*
Married: Yes	-0.13	0.22	0.44	0.19**
Education: Attends higher institution	0.29	0.27	0.17	0.25
Economic status: student	-1.28	0.30***	-0.89	0.27***
Economic status: unemployed	-0.23	0.29	-0.48	0.26*
Economic status: high skilled employed	1.09	0.34***	0.11	0.32
Income: low income	0.28	0.25	0.54	0.23**
Income: high income	-0.86	0.35**	-010	0.33
Place of resident: Urban	-0.64	0.21***	-0.69	0.19***
Respondent is living in Edo State: Yes	0.95	0.26***	0.83	0.24***
Travel abroad experience: Yes	-1.23	0.24***	-0.86	0.19***

*Significant levels: *** 1%, ** 5%, *10**

3.6 DISCUSSION

We explore the potential and constraints of social media and the migrant networks as informal sources of migration information. The majority of the respondents in the survey are young, knowledgeable, and use social media extensively. Of course, this is expected as about 70% of the data was collected through the internet-based survey, and as such, our findings relate more to the sub-set of the population capable of using social media. There is a very high level of migration intention among the respondents, and we suspect it to be linked with the increased use of social media. This may be because social media give them a cheap and easy way of communicating with their migrant networks and migration brokers. Dekker et al. (2016) showed that online communication supports migration aspiration and decision-making. Kaplan et al. (2016) also explained that having a migrant network could increase migration intention. The mediating role of social media in facilitating migration found in our study agrees with previous studies (Gelb & Krishnan, 2018; Gillespie et al., 2016). Social media is considered (1) as a provider of general information and knowledge about migration, (2) as a communication channel between potential migrants and migrant's network, which also help them to maintain social ties, and (3) as a source of insider information on travelling opportunities.

The constraints to the use of social media are numerous (Pimmer & Tulenko, 2016). However, human capital achievements or capabilities such as having a high level of education, a relatively

high economic status, if they are located in an urban area, and having a strong positive perception of social media enables them to overcome these constraints. This corresponds to the concept of self-selection in migration, which postulates that migration positively selects among those with high capabilities such as high skills, education, or earnings (Bertoli, Fernández-Huertas Moraga, & Ortega, 2013; Borjas, Kauppinen, & Poutvaara, 2019). This group's relative higher capabilities could be the reason why some people can migrate and others are not, even when everyone is faced with hardships at home. Social media and migrant networks, therefore, could be crucial qualifiers of migration. This position agrees with the aspiration-capability framework that suggested that networks are essential elements that enable some potential migrants to overcome the structural constraints that impede migration (Carling & Schewel, 2018; Carling & Talleraas, 2016). Although we did not find that having a relative or friend abroad leads to a higher likelihood of social media use as expected, this shows the possibilities that social media also provide opportunities to communicate with those that do not share strong ties with the respondents, such as migration brokers and human traffickers, who also offer information on traveling opportunities (Alpes, 2017b).

Another area that our research touches is the individual migration decision-making process and attitude to risk. A traditional explanation of the migration decision-making process often considers migration as a household decision for risk diversification (Stark & Bloom, 1985). The combined efforts of the household members tend to minimize the risks associated with migration. Some household members could contribute money, while others could contribute information, which generally supports the chosen members to migrate. Hence, the risks are shared in case migration is unsuccessful. However, a growing literature has observed that migration, especially the case of irregular migration, can be made out of individual decisions (Carling & Schewel, 2018; Kleist & Thorsen, 2016; Schewel, 2020). For instance, some young people migrating irregularly from Africa to Europe do not have the support of their families (European Migration Network, 2018). The challenge of the individual migration decision is that the decision-maker often solely bears the risk of migration. Hence, information and networks become vital for risk minimization for individual decision-makers. It is, therefore, plausible that many risk-averse people may likely not migrate when information is limited. This agrees with the theory of migration under incomplete information, which explains that only the risk-neutral people can migrate when information is incomplete.

Our results' implication lies in incomplete information and how it leads to wrong migration decisions. As a critical migration-mediating factor possessing millions of bits of contradictory

information and rumors, social media may lead to what we call "selective shopping." We borrow the term from the marketing field, where it refers to how a shopper makes choices among the numerous options available in a supermarket. Consumers are highly selective and only buy products that meet their personal needs. Integrating this reasoning into our study, we consider that individual decision-makers might specifically look for information that will confirm what they want to hear/read about migration, e.g., opportunities in destination countries, while paying less attention to the risks in transit. Hence, they may likely initiate discussions about opportunities of migrants in destination countries with people in the business of brokering migration. Social media give them a perfect means to shop for the kind of migration information they want selectively. However, this may lead to incomplete information, as we saw in the analysis, where information is skewed to that of a destination rather than the risk in transit. The brokers and migrant networks have the power to frame migration stories to benefit them. For instance, the brokers may lie about the labor conditions to obtain money and trust from the client (prospective migrant), and the migrant networks may lie to project a 'success image.' Cattaneo (2007) argued that there would be possibilities of negative selection when there is imperfect information about labor conditions in destination countries. This means that when the social media and migrant networks fail to provide accurate information about the actual happenings in destination countries or focus mostly on the opportunities than the risk, this might lead to higher migration aspiration and a likelihood for irregular migration among those who cannot afford to migrate through legitimate routes. This group may likely activate ties with smugglers that enable them to overcome structural forces like visas and migrate perhaps irregularly (Liu, 2013). Mbaye (2014) gave an elaborated case description of how this occurs for Senegalese irregular migrants moving to Spain.

3.7 CONCLUSION

This study investigates the connectivity between social media use, access to the migrant network, the states of information received by a person, and the migration intention. It is a departure from the traditional explanation of migration decisions based on rational choices under complete information. We collected data from individuals living in Nigeria through a combination of an internet-based and paper-based survey. We analyzed the data using a GSEM, which is novel for this kind of research. The study's major takeaways are: (1), social media and migrant networks play a mediating role in migration decision-making by providing information, reducing the transaction cost, and facilitating migration more easily. This corroborates with earlier findings (Dekker, Engbersen, Klaver, & Vonk, 2018; Münz, 2018). (2),

the constraint to using social media for migration purposes can be overcome by having high capabilities like high income, education, social status, living in urban areas, and having a positive predisposition to social media. (3), the main weakness of social media and migrant networks as migration mediators is their tendency to spread incomplete information. They are more likely to provide information on opportunities abroad than the risk on the transits. (4), information about the risk in transit is associated with high migration intention, but more information about the destination countries' issues negatively influences migration decision.

The societal impact of this research is to influence policies for awareness creation on safe migration. To achieve safe and orderly migration, policymakers must consider the possibilities of incomplete information coming from social media and migrant networks. We recommend that social media be used as a platform for disseminating information that could counter the bias information provided by traffickers and smugglers. Research has shown that when potential migrants have accurate information before migrating, they tend to make better migration decisions (Beam et al., 2016). The counter information should be complete, containing information on what is obtainable in destination countries and the risk. The counter information should go beyond the traditional migration management campaigns, which focuses on the dangers of the journey to dissuade potential migrant (Musarò, 2019). Our findings agree with some research on irregular migration decisions that shows that irregular migrants are not often dissuaded by this kind of information (Bah & Batista, 2018; Mbaye, 2014). Most irregular migrants already know that they could die on the road but decide to migrate. Therefore, it is vital that complete information, including the actual happenings on destination countries, are properly disseminated for potential migrants before departure. Policymakers need to pay attention to this when designing an awareness campaign using social media.

Finally, we consider some of the study limitations as opportunities for future research. One of the limitations of the study is sampling and sample size. We have drawn our data using a snowball sampling procedure and collected data from both internet-based and paper-based surveys. Although this method provides an easy way to test our hypotheses quickly, we understand the risk it poses. For instance, we are careful not to generalize our findings to Nigeria as a whole. We maintain that our results reflect mostly young people using social media connected either physically or through social networks. Future research needs to consider larger sample size and adopt a probability-based sampling procedure. Furthermore, while we mentioned attitude to risk in some parts of this study, our data was insufficient to include the risk dimension. We also implore future research to consider issues concerning risk.

4 EVALUATING THE IMPACT OF INFORMATION CAMPAIGNS ON THE IRREGULAR MIGRATION INTENTIONS USING A RANDOMIZED CONTROLLED TRIAL: A PROOF OF CONCEPT EXPLORATORY RESEARCH[5]

Abstract

Information campaigns are among the several measures used to deter potential migrants in Africa from entering Europe irregularly. However, the effectiveness of information campaigns in managing irregular migration has been criticized. In this paper, we question how the impact of the information campaigns has been assessed so far. First, we unpack the aspiration-capability framework of migration and the theories that explain learning and planned behavior. This improves our understanding of the factors that may influence the impact of information campaigns on irregular migration intentions amongst youngsters. Second, following the current trend of using randomized controlled trials in impact evaluation, we test such an approach in evaluating the effectiveness of different information campaigns' designs. Third, we present a proof of concept on a limited sample of youngsters in Edo State, Nigeria. We explore how information brought to them verbally, in the absence, and in combination with written and video messages change their expressed intention to migrate irregularly. The study is a worthwhile effort that could open the door for more investigations on robust evidence of information campaigns' actual impact.

4.1 INTRODUCTION

Since the beginning of the European migration influx in 2015, the measures to counter irregular migration, including human trafficking and smuggling along the Mediterranean route to Europe, intensified (European Migration Network, 2018). Information campaigns are among the several measures sponsored by the European and African governments targeting potential irregular migrants in Africa (Carling & Hernández-Carretero, 2011). Effective information campaigns are expected to play both a humanitarian and border security role (Carling & Hernández-Carretero, 2011; Optimity Advisors and SEEFAR, 2018; Pécoude, 2010). The humanitarian role includes protecting potential irregular migrants from the dangers en-route, especially the Sea migration that results in a significant number of deaths. The border security

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[5] This Chapter is based on "Obi, Bartolini, Marijke (2020) Evaluating the impact of information campaigns on the irregular migration intentions using randomized control trail. A proof of concept exploratory research". Currently on second review stage at International Migration Review, and Obi Chinedu (2020) Combatting irregular migration through rural awareness campaign. The case of Edo Nigeria. UNUCRIS Policy brief No. 9.

role is their ability to act as a soft-power migration control mechanism that strengthens the traditional border security, preventing unauthorized people from entering Europe (Nieuwenhuys & Pécoud, 2007).

Despite the effects attributed to the information campaigns, several researchers have criticized its operationalization and effectiveness in managing irregular migration (Andrijasevic & Walters, 2010; Ashutosh & Mountz, 2011; Musarò, 2019; Scheel & Ratfisch, 2014; Oeppen, 2016; Watkins, 2017; J. Williams, 2019). More so, the extent to which information campaigns achieve their primary goal of dissuading irregular migration is still unclear in academic literature. The theory behind how information campaigns can change irregular migration decisions is not yet fully developed, and there is limited robust evidence of the effectiveness of information campaigns on the irregular migration intention in places they were implemented (McKenzie & Yang, 2015; Tjaden, Morgenstern, & Laczko, 2018).

Consequently, our paper attempts to answer an important research question: if randomized controlled trials (RCT) can be used to evaluate the impact of information campaigns? Despite being considered as the gold standard for impact evaluation, RCTs have not been done in the settings of information campaigns, at least not by an academic research team[6]. To do so, we first account for how information campaigns may change peoples' intentions to migrate. This requires insight into how people decide to migrate irregularly. We also know that youngsters are vulnerable to be convinced to try the irregular migration route, as they are less capable of meeting the regular migration route requirements. Hence, the scope of the analytical section of this paper centers around how youths perceive and react to information on migration risks - whether this differs when the information is presented to them differently, and if an RCT is useful to make this assessment.

4.2 IRREGULAR MIGRATION DECISION AND INFORMATION CAMPAIGNS

4.2.1 The irregular migration decision-making process

There are multifaceted factors that lead to irregular migration decisions. We combined the work of several researchers (Alpes, 2017a; Carling & Collins, 2018; Carling & Talleraas, 2016; Kleist & Thorsen, 2016; Schewel, 2020; N. Williams et al., 2020), conceptualizing that irregular migration decisions are made through the interactions of four interrelated elements (Figure 4.1). These elements include 1) the growing hardships and the increasing life prospects; 2) the desire for change and hope that migration would lead to livelihood improvement; 3) the

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[6] RCTs have been used recently by a team from the IOMs global migration data analysis centre (GMDAC) to evaluate the effectiveness of information in Senegal and Guinea.

increasing structural forces and border security measures that limit actualization of migration aspiration, and 4) the facilitating role of networks that assist potential migrants to overcome the structural constraints. The framework can be better understood from the aspiration-capability approach that models migration decisions and outcomes as a process that involves the formation of migration aspirations based on the capabilities[7] to actualize those aspirations (Carling, 2002; Carling & Schewel, 2018).
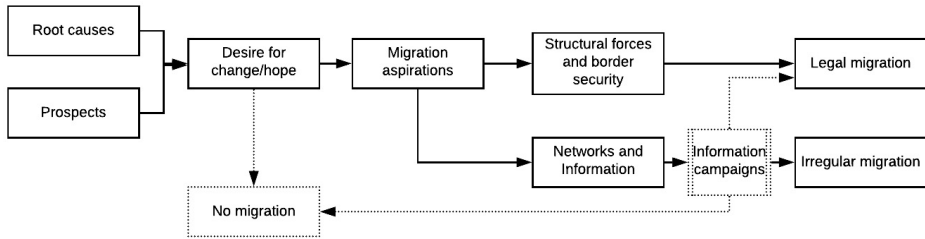
Figure 4.1 Irregular migration decision and information campaigns
Source: Carling & Talleraas, (2016) and authors elaboration

a) Root causes and prospects: The root causes of migration can be seen holistically as the underlying conditions operating at the macro, meso, and micro level in the countries of origin that inform a person that migration is preferable to staying in the country (Carling & Talleraas, 2016). These factors are multiple, including conflicts, poverty, unemployment, climate change, lack of democratic spaces, violations of human rights, and lack of life opportunities. They all cause hardships, deprivations, dissatisfactions and lead to strong migration desires or forced migration (Cohen et al., 2013; Lilleør & Van den Broeck, 2011; Migali & Scipioni, 2019; Raleigh, 2011; Sirkeci & Cohen, 2016). Besides hardships, personal-level factors, including individual life prospects, expectations, and career aspirations, can also influence migration decisions (Carling & Hernández-Carretero, 2011; De Jong, 2000; Hoppe & Fujishiro, 2015). These personal-level factors may come into play, especially for youngsters, as they become more exposed to the opportunities abroad from using electronic and mass media, including social media, movies, and televisions (Dekker et al., 2016; Flahaux & De Haas, 2016; Piotrowski, 2013).

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[7] According to the Capability Approach, capabilities are a person's real freedom and opportunities to achieve functioning. In our context, capabilities can be defined as the being able to achieve a mobility functioning – moving from a place that is perceived undesirable to place perceived more desirable.

b) The desire for change, hope, and migration aspiration: When people face hardships and deprivations caused by the existing conditions (root causes) or develop some ambitions and prospects due to exposure, they may desire for change (Carling & Collins, 2018). This desire for change may lead to a migration aspiration or not, depending on an individual's hope and perception of uncertainties (Kleist & Thorsen, 2016; Thorsen, 2017). Two groups of people may not desire to migrate; they include those that are highly deprived in such a way that they lost hope for change (Abramitzky et al., 2013) and those who instead strive to succeed at home by challenging the context that causes hardships (Carling & Talleraas, 2016). Migration aspirations exist among the groups who choose to migrate rather than to stay in the home countries. However, there will be some levels of uncertainties as to how they could actualize the migration aspiration, considering the existence of structural constraints, including the costs of migration. Individual capabilities possession such as financial means, education, physical health, social capital, and psychological well-being are qualities that differentiate (or select) who and how an individual can migrate (Cf. Chapter Two).

c) Structural forces: The structural restrictions, especially border security and stricter visa requirements for migration, have increased over the years for many migrant-sending countries. As such, the transaction costs involved in acquiring traveling documents have increased for many potential migrants. These issues can create a disparity between those that could migrate legitimately and those who decide to migrate irregularly. Since the migration influx, De Brauw & Ambler (2018) explained that several governments in receiving countries have responded by creating some form of hostility through border enforcement and reducing the number of voluntary migrants and refugees they are willing to absorb. This means that only a few possess sufficient capabilities to migrate legitimately, thus giving rise to alternative migrating ways. Several studies discuss the paradox between stricter border security and increased irregular migration decisions. For instance, Kleist & Thorsen (2016) explain how those who perceive that migration is a pathway for improvement but have insufficient capabilities to realize the migration aspiration through legal means may not settle for such involuntary immobility as posited by Carling & Collins (2018). They tend to seek new destinations or new ways of migrating. Particularly, Oeppen (2016) and Williams et al. (2020) mentioned that the intensified border security agenda makes prospective migrants avail themselves to migration brokers, including smugglers and human traffickers, to enable them (the potential migrants) to engage in the risky irregular migration. Mbaye (2014) also added that for some, especially youths in West African countries, the risks involved in this kind of migration may be known but do not deter them.

d) Networks and information: The role of networks in irregular migration decisions is well developed in the literature (Alpes, 2017a; Haug, 2008b; Palloni, Massey, Ceballos, Espinosa, & Spittel, 2001; N. Williams et al., 2020). The networks can be differentiated into social capitals such as friends and families at home, migrant networks overseas, and migrant brokers, including legal brokers and illegal brokers such as smugglers and human traffickers. According to Haug (2008), social capitals influence irregular migration decisions in five ways: affinity, information, facilitating, conflicts, and encouragement. By affinity, a close tie with relatives, friends, and the community at home may reduce the tendency to decide in favor of migration, though conflict with them could increase migration intention (Rodriguez & Villa, 2012). Social capital can also encourage one to migrate through peer pressure or as a strategy to secure household income, as shown in the household migration decision framework (Cf. Chapter 7). Some could go further by providing financial assistance, accommodation, and information that could make it easier for migration to occur. For many potential irregular migrants, migrants' brokers are essential sources of migration information, which could easily substitute the information provided by social capitals, especially in a context that involves risky irregular migration. The brokers maintain contact with potential migrants through social media, providing migration information that is generally trusted (Alpes, 2017a; Dekker et al., 2018; Frouws et al., 2016 and Chapter 3).

The networks also influence irregular migration decisions by disseminating misinformation, creating high expectations, forming social norms, emotions, and confidence that favor irregular migration (Alpes, 2017; De Jong, 2000). The existence of an extensive migrant network and the activities of (return) migrants through remittance and investments may create a social norm that perceives migration as the ultimate pathway of livelihood improvement (Taylor, 1999). Migrant networks may lie about what they earn in destination countries or avoid showing their hardships experiences to gain respect within the households or community. They may post specific pictures on social media that may portray success even though this may not be true. More so, illegal brokers like traffickers and smugglers use a business model based on misinformation to recruit vulnerable young people and traffic them for financial benefits (IOM, 2017b; Mbaye, 2014). Illegal brokers may communicate unachievable expectations from migration while watering down the risk. The challenge is that the potential migrants often trust this misinformation and have confidence in the illegal brokers (Alpes, 2017a). Studies have shown that high levels of trust and confidence reduce perceived risk (Allen & Eaton, 2005a; Siegrist, Gutscher, & Earle, 2005).

Information campaigns specifically target people living in high migrating communities in migrant-sending countries. They are addressed to the youths and their families perceived to have migration aspirations but low capabilities to migrate legitimately. According to Carling & Talleraas (2016), these groups are less likely to invest resources in local livelihood activities. The interactions of the factors explained above condition their mindsets to perceive migration as a crucial pathway for livelihood improvement. Information campaigns are applied strategically to counter the possible misinformation disseminated by networks and discourage the audience from collaborating with human traffickers and smugglers. The campaign messages are designed to appeal to the emotions of the potential migrants who are constraint to migrate. The messages build knowledge by demonstrating the risks associated with irregular migration and realities in destination countries. They also try to change attitude by challenging harmful social norms that encourage irregular migration and introducing a belief system that encourages local investment and legal migration as safe alternatives (Dunsch, Tjaden, & Quiviger, 2019; The Bali Process, 2015).

4.2.2   The debate on operationalization and effectiveness of information campaign

There are two key arguments surrounding information campaigns: the debate on operationalization and one on the effectiveness. Contributions on the operationalization perspective question the correctness in the use of information campaigns to deter irregular migration. A first critique on the operationalization concerns the campaign messages' deterrence motives, arguing that the messages can problematize population movement (Collyer & King, 2016; Musarò, 2019; Oeppen, 2016; Watkins, 2017; J. Williams, 2019). For instance, messages that show pictures and videos of harrowing experiences could create a phobic imagination of migration flows and borders, making people perceive borders as a militarized environment comprising violence, death, and exploitation. More so, when the messages are disseminated in such a way that they depict home countries as safe and suitable and irregular migration as dangerous and destined to fail, they are not only biased but also ignore the root causes of migration as well as the gains of migrations, and may potentially deter legitimate migrations (Watkins, 2017, 2020; J. Williams, 2019).

The second critique on the operationalization of information campaigns concerns its implementers/facilitators. Here, researchers argue that empowering international NGOs like the IOM and United High Commissioner for Refugees (UNHCR) to facilitate information campaigns is a subtle attempt at externalization of border security (Andrijasevic & Walters, 2010; Ashutosh & Mountz, 2011; Collyer & King, 2016; Hirsch & Doig, 2018; McNevin et al., 2016; Musarò, 2019; Scheel & Ratfisch, 2014; J. Williams, 2019). They argue that while acting

as border police, these NGOs prioritize the geopolitical deterrence agenda of donor states in the global north leading to contradictions and deviations in the NGO's primary humanitarian activities and a 'compassionate repression' process legitimizing discrimination against the global south (Musarò, 2019).

Some researchers hold that the *modus operandi* of most information campaigns follow a top-down process that may lead to distrust and limited impact on the audience (Carling & Hernández-Carretero, 2011; Nieuwenhuys & Pécoud, 2007). The few published academic studies on the effectiveness of information campaigns such as that of Oeppen (2016) for Afghanistan, Rodriguez (2019) for Senegal, Asis & Agunias, (2012) for Indonesia, Nepal, and the Philippines, and Davy (2014) for Thailand and Cambodia agree to this opinion. According to Carling & Hernández-Carretero (2011), a top-down campaign may not be accepted when potential migrants consider themselves better informed than those facilitating the campaigns. The message of a top-down campaign is likely to be dismissed as biased propaganda when potential migrants perceive the campaigns to have some vested motives. Top-down campaigns may be irrelevant to prospective migrants who face threats to their lives or cannot tolerate the hardships at home, and consider the attempt at improving their livelihood to justify the risks involved (Bah & Batista, 2018; Fokkema & de Haas, 2015; Mbaye, 2014).

Another significant criticism is the lack of robust and independent evaluations of the actual impact of information campaigns on the audiences (Heller, 2014). Nieuwenhuys & Pécoud (2007) reveals that research, unfortunately, has not provided evidence of a thorough evaluation of the effectiveness of information campaigns, as the existing evaluations were conducted by the international NGOs that implemented the campaigns. Besides, McKenzie & Yang (2015) added that most of these evaluations are primarily based on operational issues and merely provide audits of activities. Such attempts to evaluations often fall into problems of conflicts of interest and may give room to more negative perceptions of information campaigns. The few published academic studies indicated above, such as the work of Oeppen (2016), Rodriguez (2019), Asis & Agunias (2012), and Davy (2014), use mostly ethnographic research methods. They do not directly investigate the impact of the campaigns on the beneficiaries but rather present the stakeholders' assessments of their relevance and challenges. This evaluation method, unlike RCTs, does not use credible research designs that can allow the identification of causal effects on migrants' attitudes and intentions (Tjaden et al., 2018).

Consequently, we add that the unavailability of robust evidence on the impact of information campaigns may linger the debate highlighted above and result in an error in judgment on the

campaigns' effectiveness. First, it could lead to a continuity in the debate without emerging to a convergence of thought. For example, see the assertion of Carling & Hernández-Carretero, (2011) and counter debate by Oeppen (2016). Regrettably, this debate has so far been based on information drawn from non-robust empirical evaluations. Second, a lack of robust evaluation studies would lead to the assumption that, like many other measures to counter irregular migration, human trafficking, and smuggling, information campaigns will have limited results (Carling & Hernández-Carretero, 2011; Nieuwenhuys & Pécoud, 2007). Third, the lack of evaluation studies opens a research gap in understanding the link between irregular migration decision-making and information campaigns and the theoretical background of information campaigns.

4.2.3 The theory and principles of effective information campaigns

Theoretically, the use of information campaigns in deterring irregular migration can be explained by the learning theory and the theory of planned behavior (Rice & Atkin, 2017). The learning theory describes how audiences absorb, process, and retain knowledge during learning (Pashler, McDaniel, Rohrer, & Bjork, 2008; Willingham, Hughes, & Dobolyi, 2015). Effective learning occurs when a *respected teacher* teaches the *right message* to a *tailored audience* using the *appropriate form* (Rice & Atkin, 2017). These four principles ensure that the audience understands the concept and acquires knowledge through either a cognitive process or an emotional stimulation (Hinnant & O'Brien, 2007). The learning theory further explains that the reason for adopting an appropriate form is that two learning groups exist, and each group learns best when the form that matches their preferences is used. For instance, the "visual learning group" would learn faster through a visual form, and the "verbal learning group" would learn better through written and spoken words (Pashler et al., 2008; Willingham et al., 2015). Studies have shown that emotional stimulations mostly influence the visual learners, whereas the cognitive process influences the verbal learners (Akaygun & Jones, 2014; Brader, 2005; E. Lee, Lee, Moon, & Sung, 2015; Siegrist et al., 2005).

In general, the learning theory is crucial in operationalizing an effective information campaign. The four principles of effective learning identified in the learning theory conformed with the recommendation for operationalizing an effective information campaign (see Optimity Advisors and SEEFAR, 2018; The Bali Process, 2015). The summary of the critical principles includes 1) disseminating a complete message that includes the harrowing journey experiences, realities in destination countries, and alternatives to irregular migration *(right message)*. 2) convey messages in a suitable form that would be comprehended by the audience *(appropriate form)*. 3) conduct a proper audience targeting and adopt a tailored message to

different audiences *(targeted group)*. 4) to use local trusted messengers, including those who have experienced hazardous journeys and realities in destination countries. Also, respected individuals in society can be used *(trusted messengers)*.

On the other hand, the theory of planned behavior goes further than the learning theory by explaining how the knowledge gained would lead to attitude, intention, and eventual behavioral change (Ajzen, 1985). It states that while attitudes and subject norms could shape people's intentions, the actual change in behavior would only be evident among those who have (a perceived) control over environmental conditions that shape behaviors (Ajzen, 1985, 2009). In our context, these environmental factors include the root causes of migration; life prospects, border security, and lack of capabilities that lead to irregular migration aspirations (cf. Figure 1). Considering that information campaigns do not directly improve these underlying conditions within the short term, the knowledge gained from information campaigns could mainly influence migration intention by changing attitudes and social norms. Heller (2014) explained that in a case where the underlying conditions persevere, the extent campaign messages translate to actual behavioral change is often difficult to track. This explains the reason for the growing debate between academic researchers and policymakers on the operationalization and effectiveness of information campaigns.

The theory of planned behavior is vital in evaluating the effectiveness of information campaigns. Notably, it shows the difficulties in linking actual change in behavior with the change in intention. There are many issues to factor in before arguing that information campaigns lead to irregular migration behavioral change. First, information campaigns are often financially un-incentivized. Hence, they cannot on their own directly reduce the root causes of migration, such as poverty. They may have an indirect link when an information campaign helps individuals appreciate local opportunities and have a positive perception about their country, thereby encouraging them to invest at home. Second, there is a time lag between when messages are received and when the actual migration behavior is made. Nieuwenhuys & Pécoud (2007) explained that several environmental forces could affect migration behaviors within the time-span, including psychosociological ties with networks and community pressure. Therefore, we agree with Heller (2014) that evaluators may only notice a reported change in knowledge, attitude, and intentions during a short-term evaluation. The short-term evaluation nevertheless needs to pay attention to the possibility of social desirability bias (see Zwane et al., 2011).

4.3 EVALUATING THE EFFECTIVENESS OF INFORMATION CAMPAIGNS

We posit that an information campaign's effectiveness could be evaluated under three circles: the operational circle, the circle of influence, and the circle of interest (Figure 4.2). The circle of operation indicates the extent that the campaign is operationalized using the right message, form, and to the right audience (cf. learning theory). The way the information campaign is operationalized can also influence the audience's participation level, and the magnitude of knowledge gained. The circle of interest captures the short-term treatment effect of the campaign. It covers the expected output and outcome of the campaign (cf. theory of planned behavior). The expected output is the extent to which the information campaign improves knowledge and changes attitude (or risk perception) towards irregular migration, and the outcome measures the level at which the campaign leads to changes in intention. We expect that the participant's previous knowledge, whether being exposed to another information campaign or whether having received information from migration networks, will affect the magnitude of the output and outcome. Some studies have suggested that age and gender are important in explaining how people perceive risk (Filippin & Crosetto, 2016). Therefore, we also expect that they will influence the output and outcome.

The level at which an information campaign influences actual behavioral change is within the circle of interest. Sufficient time is required to observe how knowledge gain interacts with the various external factors that influence migration behavior. While this long-term evaluation remains the best practice, the financial and operational constraints (such as tracing) are the reasons why most information campaign evaluations are based on a short-term evaluation. Generally, the short-term evaluation, which we adopted in this paper, assesses the circle of operation and the circle of influence, including the degree to which the information campaigns improve knowledge, change attitude, and migration intentions (Tjaden et al., 2018).
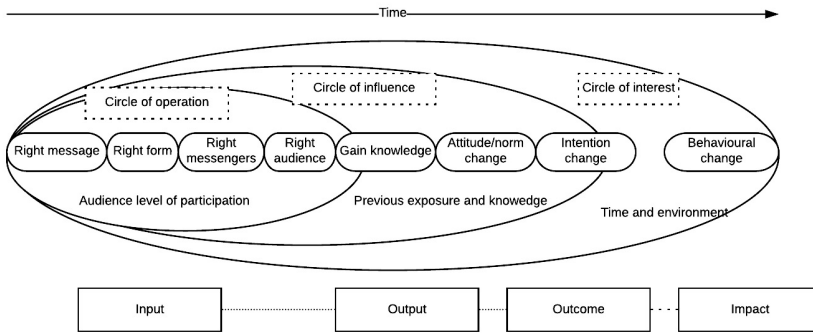
Figure 4.2 The evaluation logic of information campaign

4.3.1 Proof of concept

Although there is theoretical evidence on the benefit of information on people's knowledge and behavior, questions on how this evidence translates into a specific context need to be rigorously evaluated (Baker 2000). Considering the limited evidence of the evaluation of the impact of information campaigns, in what follows, we present a proof of concept[8] (or a pilot), connecting theory and practices, and demonstrating how to evaluate the effectiveness of information campaigns on irregular migration intention among young people. We specifically address three research questions: 1) how do young people perceive and react to migration risk information. 2) whether their reactions to information campaigns will differ when the information is presented to them differently? 3) if a controlled trial setting (or RCT) is useful to make this assessment.

We believe that while RCTs are rarely used in evaluating information campaigns, they remain the gold standard for making causal claims (Antonakis, Bendahan, Jacquart, & Lalive, 2010). The benefit of applying RCTs in evaluation studies is that they attribute the noticeable impact solely on the treatment (Bruhn & McKenzie, 2009). RCTs have been applied in non-migration related campaigns to explain the power of non-financial incentivized messages in changing risk attitude and behavioral intentions among young people (see Dupas, Huillery, & Seban, 2018; Fryer, 2016; and Pekkala Kerr, Sarvimäki, Pekkarinen, Sarvimäki, & Uusitalo, 2015).

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[8] A proof of concept is a demonstration in principle with the aim of verifying that some concept or theory is feasible. It is usually small, a pilot, and may not be complete assessment.

4.3.2 Design of Experiment

Applying RCTs in testing impacts requires adequate planning and execution. This is because all the activities from the design phase to the evaluation phase are essential to the RCTs' outcome. The Ricosmigration experiment[9] that we adopted for the proof of concept was implemented in Edo State, Nigeria. It was operationalized following the principles of an effective information campaign explained above, and we evaluated the impact following the RCTs procedure articulated by Duflo, Glennerster, & Kremer (2007). The operationalization and evaluation procedure are as follows:

a) Audience targeting –young people in Edo State: We assume that people living in historically high migrating areas, particularly the young people with lower educated groups, would be the most confident about migration plans, yet have the least information (Optimity Advisors and SEEFAR, 2018). Hence, we selected Edo State, Nigeria, as our setting and young people in senior secondary schools as our audience.

Nigeria is consistently ranked among the most common African nationalities traveling through an irregular way to Europe (Connor & Gonzalez-Barrera, 2019; UNHCR, 2017). Most Nigerian irregular migrants reside in Italy because of its proximity to the Mediterranean Sea (ISTAT, 2019). The root causes of migration explained in the concept above, such as high population, youth unemployment, slower economic growth, and internal conflicts are key challenges in Nigeria. These challenges, combined with the increased use of social media, have made many Nigerian youths aware of the opportunities abroad, raising their migration aspirations in the process (Malakooti, 2016). However, the strict border security and many youths' inability to meet legitimate migration requirements motivate them to avail themselves to human traffickers and smugglers, who facilitate irregular migration.

In Nigeria, Edo State is a common point of departure for many young people (Frontex, 2018; Malakooti, 2016). Several Edo youths are trafficked to Italy and other European countries, with many dying at the Sea (Frontex, 2018). It is believed that irregular migration may have become a social norm in Edo state due to networks created more than 40 years ago when the first set of seasonal agricultural migrants traveled to Europe (Carling, 2006; Olateru-Olagbegi & Ikpeme,

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[9] The Ricosmigration experiment was sponsored by the German foreign office, the German Embassy to Nigeria. The policy aim of the experiment is to go beyond the top-down campaigns mostly adopted by governments and NGOs, and experiment an independent campaign in the form of special education programme done with a specific choice young students. Hence, the campaign was implemented in 2018 as a grass root intervention aimed at educating young people in high migrating communities on dangers and alternatives to irregular migration. We designed the experiment and it was implemented by local actors in Edo State. Academically, we as the research team, are interested in testing the theory explained above, experimenting how RCT can be applied in information campaign, as well as, identifying the best means of conveying campaign messages for students.

2006). More recently, irregular migration has developed into a multinational, underground corporation controlled by traffickers in the State (UNHCR, 2011). In operationalizing the experiment, we paid particular attention to secondary students in Edo State because they are within the age bracket of those targeted by human traffickers in Edo State (UNHCR, 2011). Besides, considering the healthy social norms that favor migration in the State and large migrant networks that had followed irregular routes to Europe, we believe that migration aspirations and the desire to follow irregular migration routes will be developed at these early stages of life.

b) Producing the right message: The right message has the potential of shaping knowledge, attitudes, and intentions. The message needs to be complete and capable of appealing to the audience's cognitive process or emotions. The message we produced is based on the understanding that most of the prospective migrants from Edo state are between the ages of 15 and 24 years (IOM, 2017). An irregular migration journey from Edo State to Italy is associated with many risks, including crossing the Mediterranean Sea in rudimentary boats, passing through deserts, and war-torn transit countries (Horwood, Forin, & Frouws, 2018; UNICEF, 2017). Many migrants are subjected to several forms of exploitation both in transit and upon arrival in Italy (Frontex, 2018; UNICEF, 2017). The transits' risks include the constant danger of being sexually exploited, kidnapped, tortured for ransom, and death (Horwood, Forin, & Frouws, 2018). Some potential irregular migrants may understand the risks in transit and continue the dangerous journey regardless of them (Bah & Batista, 2018; Fokkema & de Haas, 2015; Mbaye, 2014). Many perhaps do not know that the chances of being successful as an irregular migrant in Europe are becoming increasingly difficult (Estevens, 2018). Upon arrival in Europe, most also fall into the risk of sociocultural exclusion and have lower opportunities to meet their migration expectations (Fokkema & de Haas, 2015; Rustenbach, 2010). Several political, structural, and social barriers restrict most irregular migrants from acquiring the proper documentation, securing jobs, or benefiting from social benefits in Europe (Basok & López-Sala, 2016; Gosselin et al., 2018). Those working are predisposed to various forms of workplace exploitation, discrimination, and poverty (Corrado, 2017; Semprebon et al., 2017). While these realities may significantly reduce irregular migrants' capability to achieve their migration expectations, traffickers that facilitate irregular migrations rarely tell these stories (Fleay & Hartley, 2016).

Moreover, the opportunities existing for legitimate migration in local economies are either unknown or neglected by prospective irregular migrants. Therefore, the campaign message we

presented contains three significant issues; the risk on transit, the destinations' realities, and alternatives to irregular migration. For interested readers, the message produced for our campaign is attached as supplementary material.

c) Trusted messengers: The messengers are the channels through which the message is conveyed, including the message's source and the presenters of the message to the audience. According to the principles of effective campaigns, the best way to reach target audiences is through a trusted source and a respected presenter. Optimity Advisors and SEEFAR (2018) and UNHCR (2011) explained that compatriots that had experienced Europe, who had not failed the journey and were not associated with international NGOs and government authorities, are likely to gain the trust of the target audience. We perceive the previous information campaigns implemented in Edo State by IOM and other local institutions, especially the National Agency for the Prohibition of Trafficking in Persons (NAPTIP), the Edo State Taskforce against Human Trafficking (ETAHT) may have some operational challenges. In particular, the channel is mostly through mass media such as TV, Radio, and newspapers, which lack proper targeting and may not be accessible to some potential migrants, especially the rural poor. The messengers are mostly the NGO officials and sometimes return migrants whose messages may not be accepted. The reason is that while the messages of NGO officials may be perceived to have vested motives, the messages of return migrants (especially those returning from transit countries like Libya) may not also be accepted, as they may not be respected. Many return migrants could be seen as "losers" in the society when they return without the wealth that migration promises or when they do not achieve the goal of reaching Europe as their counterparts (Dako-Gyeke & Kodom, 2017; De Haas et al., 2015).

To this effect, our campaign's message content was sourced from the Nigerian immigrants that were still in Italy. The message contains both positive and negative aspects of the (irregular) migration experience, covering the risks associated with the journey and the socioeconomic realities of irregular migrants in Italy. We arranged two Focus Group Discussions (FGD) with the Nigerian immigrants in Marche and Sicily to source this message. They are among the several Nigerians engaged in the Italian Protection System Programme for Asylum Seekers and Refugees (SPRAR) in these cities during data collection, and the FGD allowed us to listen to the stories of the migrants and their unique experiences in their migration trajectory. The age of the participants ranged from 16 to 34 years, and 26 migrants participated. Two of the participants accepted our proposal to do a video documentary interview of their migration journey, which would later serve as a visual aid for Nigeria's campaign. We specifically collected

the message from the immigrants living in Italy because they have both the complete experience of the harrowing journey and realities in Europe; hence, they are better placed to talk about the risk of irregular migration. More so, because they are already in Europe, which is synonymous with success, their messages may be trusted by the audience. We also gathered information on the alternatives to irregular migration from the documents provided to us by the IOM Aware migrant project. The documents from the IOM-aware migrant project facilitated the production of a teaching manual that includes the definitions of irregular migration, modus operandi of human traffickers, and the alternative to irregular migration such as scholarships, getting passports and visas, and livelihood opportunities in Nigeria.

We engaged the service of some young Nigerian graduates who were conducting their compulsory one-year National Youth Service Corps (NYSC) in Edo State as facilitators of the message[10]. The NYSC scheme is a national post-higher institution program that assigns tertiary school graduates to Nigeria's communities for compulsory national service. Most participants work in schools as assistant teachers. The NYSC scheme has maintained excellent performance in its duties and has become one of Nigeria's most reputable institutions. The scheme is trusted by many Nigerian youths who aspire to undergo the program upon graduation. We specially selected corps members who had recently participated in a similar project in Edo State, gaining from their experience in facilitating information campaigns. We trained the selected corps members using the lecture note developed from the Italian-based immigrants and the IOM-aware migrant project documents. Officials of IOM and NAPTIP also provided more training in Edo State as part of their strategic collaboration. Eight (8) NYSC corps members were involved in the experiment, mostly selected because of the availability, experience, and potential trust among students.

c) Appropriate message form: According to the learning theory, the form used in conveying the campaign message needs to reflect the majority audience's best learning style. As we do not have the information on the preferred learning style of the target group, we use a verbal form (seminar), and in combination with either the visual form (video) or written form (leaflet) in conveying the message to the audience. The verbal form is a lecture session facilitated by the NYSC corps members using a lecture note particular produced for the experiment. The session is designed to include questions, answers, and interactions among students. These interactions are allowed because real-life migration decision is made through interaction with social

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[10] Although the activities was done during the free time of the NYSC corps members, institutional permission were requested from the institutions they were conducting their primary assignment, and the headquarter in Abuja was also notified.

capitals and migration networks. The movie is an edited version of the interview granted by the two migrants in Italy, which was produced in the Nigerian Pidgin language. We also added some clips from the IOM Aware Migrants project in the movie. It contains some scenes of the desert's journey, the overcrowded boat, and the interview describing how irregular migrants struggle to meet daily needs in Europe. The movie is expected to improve knowledge by stimulating the emotional influence of the audience. The information in the paper form (leaflet) is a summarised version of the lecture note which contained messages in question and answer form, such as: "what is irregular migration?; what is human trafficking?; what are the dangers of irregular migration and human trafficking?; and what are the alternatives to migrating?" We believe that reading the text in the leaflet would improve understanding by enhancing the audience's cognitive process.

4.3.3 Randomization

Counterfactual analysis is required to compare the outcome of an intervention with the possible outcome in the absence of the intervention (Duflo et al., 2007). As it is difficult to observe a counterfactual, it is often approximated by comparing the group that received an intervention with another similar group that does not receive the intervention. Randomization is the process of allocating who receives a campaign message (treatment group) and who does not (control group) on a random basis. Randomization is needed because of the possibility that, in reality, those individuals who are exposed to treatment generally differ from those who are not. Hence, randomization helps to address selection biases. When randomization is applied over a considerably large sample without any contamination, the average difference in outcome between the treatment and control groups (average treatment effect) is often attributed to the effect of the intervention (Duflo et al., 2007). Randomization can be done at the individual level or cluster level depending on various factors, especially the ease of contamination (Bruhn & McKenzie, 2009; Houle, 2015). Due to the peculiarity of our target audience (students) who may have developed substantial social capital among themselves, it was an easy choice to adopt cluster randomization (school level randomization) to avoid contamination (Dupas et al., 2018; Fryer, 2016; Pekkala Kerr et al., 2015)

The randomization process's first step is the random selection of five communities out of the 18 in Edo State (four rural and one urban). The selected communities include Uhunmwonde, Esan South, Esan West, Orhionmwon, and Oredo. The second step is the selection of two senior secondary schools randomly from the selected communities. Thirdly, school-level randomization was conducted to randomly allocate the ten schools into eight treatment schools and two control schools. Fourthly, the eight treatment schools were randomly allocated to

receive the migration message through three different communication forms. Four schools received only the verbal lecture facilitated by the NYSC corps members. Two schools received this verbal lecture and afterward were given the leaflet to read. The remaining two schools received the verbal lecture, after which the movie was shown.

The treatments and surveys were administered in the school hall on the same day when school was in session. We invited all students present at the schools on that day to attend the information campaign, which was successful through schoolteachers' help. However, only the senior secondary grade two levels (SS2) participated in the terminal survey. The SS2 students were selected for the survey because they are within the age class that human traffickers target (Frontex, 2018; UNICEF, 2017). Besides, they are one level before completing their studies; we assume that they can read, assimilate, and write independently. The total number of students selected in each SS2 class/school was 30 students, making the total number of respondents 300.

A phase-in approach was adopted for the control school, who later received an oral presentation at the end of data collection. The phase-in approach also helped to satisfy the possible ethical considerations that might arise when they are not offered treatments (Duflo et al., 2007). The other ethical issues are the risk-benefit trade-off since the audience is minors. While we received approvals from the local education board and the school principals, we posit the treatment is a socially acceptable way of preventing dangers associated with irregular migration, which would benefit the students and not expose them to unacceptable risks[11].

4.3.4 Survey

A pre-and-post (terminal) survey was conducted. The pre-treatment survey includes the school characteristics obtained from the school administration and the student's form completed by the participating students before taking the performance quiz (terminal survey). It contained the characteristics of the students, their prior exposure to information campaigns. The surveyed student characteristics in Table 4.1 showed that about 43% are males. Most are between 13 to 20 years, with an average age of 16 years old. Considering that the study was conducted in the high migrating area, it is not surprising that most of the students have access to a migrant network. About 79 % of them had at least one relative abroad, 14 % had already been offered an opportunity to migrate abroad by their network, and 81 % said they had prior exposure to information campaigns. We expect the migrant network to be a decisive motivational factor capable of influencing the student's attitude towards migration. About

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[11] The consent of the class teachers were asked and the students were allowed to opt out at any stage of the experiment. All the people involved in the experiment were told about the aim and were guaranteed that their data will be treated anonymously.

seven out of the ten schools were publicly owned, and eight were very remotely located. Eight schools were located in rural areas and two in urban areas. While we do not have the number of students present during the campaign, the average number of students in each school is 735.

The post-treatment campaign includes the student's quiz and the facilitator's report. The facilitator's report shows that students interacted with each other and participated in questions and answers, scoring a school-level average of 4.6 out of 5. The facilitators covered the three scope of the message, including the risk in the journey, the socioeconomic realities of migrants in the host countries, and alternatives. The facilitators reported that the audience accorded them a high level of respect, evidenced by how the students paid attention. It is strategic not to use the class teachers, as many students may respond to the intervention as they do in regular school lectures, thereby undermining the message's sensitivity. The operation result suggests that the grassroots approach can be an effective alternative to top-down information campaigns.

Table 4.1 Students and school characteristics

Item	Definition	Mean All	Mean Control	Mean Treatment
	Student characteristics			
Sex	1 = male; 0= female	0.43	0.55	0.40
Age	In years	15.99	15.28	16.17
Network	Having relatives abroad 1 =yes	0.79	0.88	0.77
Opportunity	Having been offered an opportunity to travel abroad 1 =yes	0.14	0.23	0.11
Exposure	Having been exposed to any safe migration and human trafficking sensitization program before now, 1 =yes	0.81	0.88	0.80
Interaction	Students level of interaction (Likert scale 1 – 5)	4.56	4.50	4.62

The students' terminal quiz was used to examine the knowledge gained and attitude and intention. The indicators for the level of knowledge gained include: (1) the student knows the difference between safe and irregular migration, (2) knows the meaning of human trafficking, (3) can explain the process of human trafficking. The indicators for attitude to risk (output) include: (1) the students can identify the risks of irregular migration, including sexual abuse, psychological abuse, exploitation, slavery, and death; (2) the students perceived that young people between the age of 15 and 24 are most vulnerable to being trafficked. (3) the students understand how to avoid being a victim of human trafficking. The expected outcome of the intervention is the change in irregular migration intention. We used two indicators to measure irregular migration intention. They include: (1) the student's intention to migrate irregularly after receiving the intervention. (2) Whether the student would follow alternatives rather than engaging in irregular migration.

The terminal student survey was conducted just after the intervention. This may not be the best option because it does not allow the audience sufficient time to reflect and possibly interact with families who are important actors in migration decisions. This immediate assessment may also fall into the problem of survey bias, especially desirability bias. While this is a limitation, this method allows us to produce a proof of concept with ease and low cost. The implication of this to our result is discussed later.

4.3.5 Treatment effect estimation

A treatment-control comparison was used to capture the treatment effect of the campaign. The treatment effect can be calculated by comparing the means of the treated group with that of the control group. Another way is by adjusting for possible selection bias if it is suspected that some underlying factors might differentiate the treated and control groups (Bruhn & McKenzie, 2009). This is plausible in our case, considering the cluster randomization approach and the limited number of schools involved. Moreover, we suspect a possible bias in the results due to deferring levels of exposure. We also observed that some schools were more attentive than others were. Therefore, we adopted an adjusted mean comparison using linear regression to control for these factors. The number of schools and students is too limited to allow for more advanced econometric modeling.

The dependent variables are the six indicators gathered from the student's performance quiz. All the dependent variables are dummies, 1 if the student gave the expected response to the question or 0 if otherwise. For example, one way of assessing the knowledge of risk is by a dummy variable 1 if the student acknowledges that young people between 15 to 24 years are more vulnerable to be trafficked. The leading independent variable is the treatments received by the student. This is a categorical variable that includes the control (0), verbal lecture only (1), verbal plus leaflet (2), verbal plus video (3).

The model is given as:

$$\gamma = \alpha + \beta T + \theta X + \epsilon$$

Where γ is the dependent variable representing a score of a student that received treatment through a particular channel. T is a set of dummies for the type of intervention received in the school. X is a vector of individual-level characteristics such as sex, age, exposure to migration information, access to the network, attentiveness during the lecture, and ϵ is unobserved errors.

4.4 RESULTS

Figure 4.3 and Table 4.2 show the campaign's treatment effects on the students' knowledge, attitude to risk, and irregular migration intention. In general, the students in the schools who received the information performed better in their responses to the terminal survey than the control group students. As expected, the treatment effect varies in magnitude with the changing form of conveying the message. In the output level, the students that received treatment with verbal + leaflet form out-performed those that received only a verbal lecture and those that received verbal + video, while those that received verbal only form also performed better than those that received verbal + video. In terms of knowledge gained, those that received the verbal + leaflet increased their understanding of the difference between safe and irregular migration, and the process of human trafficking increased by 13 % and 45 %, respectively, compared to the control group. They were 11 % more than the control to perceive that young people are most vulnerable to human traffickers on risk attitude. The students being more accustomed to the traditional listening and writing learning style may explain the higher output performance of students that receive the verbal + leaflet form.

The result at the outcome level shows that the treated groups are more likely to report a reduced intention to engage in irregular migration and an increased intention to adopt one of the alternatives to irregular migration compared to the control group. The treatment effect on the intention to migrate is higher for verbal + video, followed by the verbal + leaflet. Generally, there is a 51 % decrease in irregular migration intention for those in the verbal + video group, unlike the 22 % decrease recorded for those in the verbal + leaflet and verbal only group. This increased performance of the verbal + video on intention may be due to the added advantage of the video, which could raise emotional empathy among the students (Hinnant & O'Brien, 2007). Those who received a verbal + leaflet are more likely to adopt alternatives to irregular migration (49 %) than those that use verbal + video (26 %). This may be explained by the fact that the verbal + leaflet form's cognitive advantage enables the student in this group to recognize the proper alternatives to irregular migration. The verbal only form's lower performance may suggest that at least in our context, the verbal lecture alone is not enough to motivate a change in irregular migration intention. While the leaflet could affect the cognitive process, the video would affect the intention through emotional stimulations. Although the addition of visual aid may mean a higher projected cost, the apparent impact extensively outweighs the extra cost.

We also saw that the adjusted variables contributed to the changes in the intervention's output and outcome. The gender of the student, access to the network, previous exposure, and class

interactions are essential factors that influence the student's responses to the question. The female students seem to perform better than the male students in the knowledge and risk attitude questions. Gender is particularly crucial in considering differences in risk attitude (Filippin & Crosetto, 2016). Those who have access to migrant networks seem to gain more knowledge but are less likely to change their migration intentions. The students who were previously exposed to the information campaign recorded more scores in risk attitude and responded adequately to the migration intention questions. The students in the schools that recorded high interactions scored lower in knowledge gain but better in attitude to risk and intention. While these additional variables are included because of our small sample size, which may influence the randomization design, it is good to note that a large-scale RCT, with proper randomization, is expected to cancel out these additional factors.

Table 4.2 The treatment effects of the intervention on the treated group

	Output: Knowledge			Output: Risk perception/attitude			Outcome: Intention	
	Knows the difference between safe and irregular migration	Knows the meaning of human trafficking	Can explain the process of human trafficking	Understands the 5 risks of the irregular journey	Perceives that young people are most vulnerable to human traffickers	Will be able to avoid being a victim of human trafficking	Will migrate irregularly	Will take alternatives
Verbal only	0.04(0.07)	0.22(0.08)**	0.17(0.08)**	-0.34(0.27)	0.02(0.05)	0.13(0.08)	-0.22(0.08)***	0.20(0.08)**
Verbal + leaflet	0.13(0.07)*	0.17(0.09)**	0.45(0.09)**	-0.09(0.29)	0.11(0.05)**	-0.07(0.08)	-0.22(0.09)**	0.49(0.09)***
Verbal + video	-0.10(0.08)	0.08(0.09)	0.24(0.09)**	-0.64(0.30)**	-0.03(0.05)	0.10(0.09)	-0.51(0.09)***	0.26(0.08)***
Age	-0.02(0.02)	-0.04(0.02)*	-0.01(0.02)	0.07(0.08)	0.01(0.01)	-0.01(0.02)	0.002(0.02)	0.10(0.02)
Sex (M=1)	-0.06(0.05)	-0.11(0.06)*	-0.14(0.06)**	-0.39(0.19)*	-0.09(0.03)**	-0.15(0.05)**	0.10(0.06)*	-0.09(0.06)
Network	0.17(0.06)***	0.15(0.07)*	0.11(0.07)	0.57(0.23)*	-0.001(0.04)	0.06(0.07)	0.25(0.07)**	0.03(0.06)
Opportunity	-0.12(0.06)*	0.002(0.08)	-0.06(0.08)	-0.12(0.26)	-0.04(0.05)	-0.05(0.08)	0.05(0.08)	0.004(0.08)
Exposure	0.08(0.06)	0.03(0.07)	-0.09(0.07)	-0.20(0.24)	0.10(0.04)**	0.17(0.07)**	-0.21(0.06)***	0.12(0.07)*
Interactions	-0.02(0.05)	-0.03(0.06)*	-0.10(0.06)*	-0.05(0.19)	0.02(0.03)	0.16(0.05)***	0.08(0.06)	0.12(0.06)**

A: Knows the difference between safe and irregular migration	B: Knows the meaning of human trafficking	C: Can explain the process of human trafficking	D: Understands the 5 risks of the irregular journey	E: Perceives that young people are most vulnerable to human traffickers	F: Will be able to avoid being a victim of human trafficking	G: Will migrate irregularly	H: Will take alternatives

Figure 4.3 Graphical representation of the treatment effects

4.5 DISCUSSION

Can randomized controlled trials be used to measure the impact of information campaigns? Based on the above analysis, we may ascertain that the RCTs may help assess the effectiveness of information campaigns in deterring young people's attitudes towards irregular migration and their intentions to embark on such. The experiences described in this paper learn that the research design would need to be modified and adapted if it were to be upscaled.

First, block randomization used in this paper is practical from an implementation point of view. Nevertheless, for research purposes, it induces biases that are difficult to overcome by econometric modeling only. The variability among the youngsters within each class or school (i.e., intergroup correlation in each random unit) may influence the results. This may lead to biased coefficients, as it is not clear whether one measures the intervention's effect or a difference in outcomes across the classes caused by unobservable factors. Using clustered fixed effects in the models may not solve the biases when the number of random units is limited as it

is in our experiment. Hence, if an RCT were to be used in future effectiveness studies, randomization at the level of both schools and students may be needed. Moreover, the number of schools may need to be increased to address the potential bias induced by unobservable school-level effects and increase the experiment's power. Randomized sampling needs to be such that it captures observable and unobservable effects at the individual, household, and school levels.

Second, the time-span between the information campaign and the measured change in migration intention was short in our analysis. While our results are in line with our expectations, more time may be needed for youngsters to assess the information they gained and process it up to the point where possibly norms and intentions are changed. Moreover, as we did in our experiment, the on-the-spot measuring may induce social desirability in the youngsters' answers as they are in the bubble of the experiment at the time of measurement. The cognitive process towards changing norms may be finalized at that moment.

Third, our experiment probed the change in the youngsters' intention to migrate irregularly. This, however, does not necessarily imply that they would change their behavior and deter irregular migration. Due to the RCT design, we were not able to measure the actual behavior. Future research may want to scale up our experiment and include a follow-up survey later in time to capture the actual behavioral change.

Can randomized controlled trials be used to help design effective information campaigns?

Our experiment shows that youngsters reacted differently to the use of videos versus written or verbal information. This exploratory study may show the way to future work in which information campaigns are diversified in terms of message, form, audience, and messenger. Future experiments may want to try different formats of variable length or detail. The target audience in our experiment was the youngsters. Nevertheless, future research may combine an information campaign targeted at both them and their parents. Involving parents may increase the acceptance level of the message at the household level. From a research perspective, parental involvement could induce an intra-household ethical check on the experiments' content and longer-term effect.

4.6 CONCLUSION

Irregular migration is increasing due to hardships, life prospects, and strong border security that impede migration. The decision to migrate irregularly is significantly intensified through incomplete information provided by migrant networks (IOM, 2018). Migration information

campaigns present an opportunity to communicate credible information for vulnerable populations, including the risks of irregular migration, the reality of living situations in destination countries, and alternatives to irregular migration (Pécoude, 2010; Schloenhardt & Philipson, 2013). While there have been several arguments on the operationalization and effectiveness of the information campaign, little is known about the actual impact on the audience.

Information campaigns play both humanitarian and border security roles; as such, research needs to go beyond the arguments and counter-argument to understand their real benefit and cost. This paper presents a proof of concept of how an effective information campaign can be operationalized and evaluated. While a long-term evaluation is desirable to show the actual impact of information campaigns on irregular migration behavior, we adopted a short-term evaluation with a small sample size for easy and low-cost evaluation. The short-term evaluation investigates the treatment effects of an information campaign on the knowledge gained, risk attitude and intention, and the audience's irregular migration intentions. The proof was conducted on selected secondary school students in Edo State, Nigeria. The result points to a possible benefit of an information campaign on the treated student. The treated students are more likely than the control to change the attitude towards irregular migration risk and the intention to embark on irregular migration. The form of conveying the message (verbal, video, and written) and the personal level difference also matters such as sex, previous exposure, access to a network, and class interactions matters.

Our results, however, need to be approached with caution, considering the small sample size that was adopted. While our result can be seen as a pilot and not a confident statement of Edo State or Nigeria's situation, it could serve as a valuable contribution to scant literature in information campaign operationalization and evaluation. The method to evaluate our experimental approach was based on an RCT, principally well-suited to answer questions about the effectiveness of migration-related information campaigns (Bruhn & McKenzie, 2009; Tjaden et al., 2018). The study is a worthwhile effort that could open the door for more investigations on robust evidence of information campaigns' actual impact. Nigeria's study area is a critical and well-chosen case considering the significant number of Nigerians that migrate irregularly into Europe. The lessons learned from the study could help operationalize future strategic information campaigns both in Nigeria and elsewhere.

Section Two

The Migration Outcomes

5 Understanding integration experience and wellbeing of migrants through Aspirations and capabilities. The case of Nigerian asylum seekers in Italy[12]

Abstract

This study concerns the integration experience and wellbeing of Nigerian asylum seekers in Italy. While the literature on migrants' integration and wellbeing is ample, the case of asylum seekers in a protracted asylum application system is yet to receive sufficient attention. We used a mixed-method approach, combining focus group discussions, personal interviews, observations, and surveys to analyze Nigerian immigrants waiting for their asylum decisions in two cities in Italy. We find that they evaluate their well-being by reflecting on their premigration expectations, integration constraints, and capabilities. The respondents who had witnessed a long delay in their asylum applications report lower life satisfaction than their satisfaction in Nigeria. They are affected by several structural, economic, social, and psychological challenges and report negative aspiration gaps. These challenges impact the capability to acquire adequate housing, send remittances and make a meaningful life decision. Generally, our study describes what it is like to live in limbo and frustration, with a limited assurance for a better tomorrow.

5.1 Introduction

According to IOM (2020), more than 120,000 mixed migration flows arrived in the EU in 2019. This number represents a significant decline compared to the 390,000 migrants recorded in 2016 and over 1.4 million migrants in 2015. The majority of the migrants are refugees wishing to seek asylum in Europe. However, significant numbers are irregular migrants or economic migrants and victims of human trafficking (Estevens, 2018). These mixed flows move through unauthorized routes because they can not meet the legal requirements for authorized migration or are in haste to leave their countries (Castles, Cubas, Kim, & Ozkul, 2012). Although officially open to refugees, other migrant groups also apply for asylum, which creates some form of challenges for integration authorities. Due to the massive number of claims to process and the complicated process of refugee status determination (RSD), the time needed for asylum decisions is often elongated, running into years (Pew Research Center, 2017). During the protracted RSD procedure, the asylum seekers live in limbo with restricted access to social

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[12] This Chapter is based on "Obi, Slosse, Dessein, Bartolini, Marijke (2020) Understanding the integration experience and wellbeing of asylum seekers through aspirations and capabilities. The case of Nigerian asylum seekers in Italy" Being a paper under review in an academic journal.

security (Hartonen, Väisänen, Karlsson, & Pöllänen, 2020). Coupled with the fact that more than 70% of asylum applications are rejected, the future outlook seems dire for asylum applicants waiting for their results (Asylum Information Database (AIDA), 2019).

Indeed, there is a growing body of literature covering the questions on immigrants' integration and well-being in their host countries (see Hendriks, 2015, for a comprehensive review). The academic interest in the wellbeing of refugees who are forcibly displaced from their homes is apparent (Aziz, Hutchinson, & Maltby, 2014; Carswell, Blackburn, & Barker, 2011; Chaaban, Seyfert, Salti, & El Makkaoui, 2013; Hartonen et al., 2020; Lintner & Elsen, 2018). However, the case of asylum seekers at the stage of waiting for asylum decisions is still not sufficiently addressed. Moreover, the heterogeneity among asylum seekers – some are forcibly displaced refugees, others are irregular (economic) migrants, victims of human trafficking, yet some can be a combination of the above – means that different motives drive them and their level of wellbeing achievement in host countries (Cortes, 2004). As such, there is a need to unbundle the literature and capture the unique case of asylum seekers who have premigration expectations to improve their wellbeing and life prospects. We believe that focused research on this minority group is vital since they are not easy to reach.

Furthermore, the current literature on migrants integration focuses on the differences in the economic and the subjective wellbeing (SWB) of migrants populations and the native populations (Chen et al., 2019; Knight & Gunatilaka, 2010; Stillman, Gibson, McKenzie, & Rohorua, 2015; Stillman, McKenzie, & Gibson, 2009). Economic achievement deals with objective issues like access to a job, job income, and security-related factors. SWB refers to how migrants perceive their life satisfaction (Galinha & Pais-Ribeiro, 2012). Results repeatedly show a significant gap which tends to decrease as the length of stay increases (Arpino & de Valk, 2018; Backes & Hadjar, 2013), or when an immigrant is of similar racial origin with the natives (Amit, 2010; Bălțătescu, 2007; Safi, 2010; Sand & Gruber, 2018). However, we posit that the aspiration-capability approach is a viable framework for studying asylum seekers' wellbeing. This group has several expectations (aspirations) but lives in limbo, lacking the capabilities to maintain a meaningful life and facing a limited set of choices (Vickstrom, 2014). The aspiration-capability approach allows us to evaluate their quality of life from the lenses of their constraints, opportunities, and freedom of choices *vis-a-vis* their expectations (Boccagni, 2017; Nussbaum & Sen, 1993).

This research is based on Nigerian asylum seekers in Italy who are waiting for their asylum decisions. The UNHCR (2018) desperate journey publication showed that most of them are

irregular economic migrants and that many, predominantly female asylum seekers, are victims of human trafficking. They have moved via the Mediterranean Sea to apply for asylum in Italy. This research aims to examine their integration experience and well-being within the period they are waiting for asylum results. The study contributes to the literature of migrants' wellbeing by highlighting this unique group at a critical period in their migration trajectory. It also contributes to the capability literature by operationalizing the capability approach in migration studies, which often remains theoretical. Policy-wise, our study highlights critical challenges facing irregular migrants that are waiting for asylum results, which, when addressed, can help them live a meaningful life and contribute to societal gains.

5.2 THE CONCEPTUAL FRAMEWORK

The first application of the capability approach was made by Carling (2002), who used the aspiration-ability model to explain involuntary immobility. He showed that migration is achieved by those who aspire to migrate and the ability to overcome a series of barriers that may impede migration. Those who have the aspiration to migrate but do not have the ability may remain in the origin country as an involuntary immobility group or search for other intermediaries such as networks and smugglers to assist them in migrating (Carling & Talleraas, 2016). The model was renamed as the aspiration-capability framework by Carling & Schewel (2018), De Haas (2014), and Schewel (2020), who linked it to Sen's capability approach. While the aspiration-capability framework was mostly used to study migration determinants and decisions (Carling & Collins, 2018; Suckall, Fraser, & Forster, 2017; van Heelsum, 2016), some researchers have also used the framework in studying migrants and refugees integration experiences and wellbeing (Boccagni, 2017; Borselli & van Meiji, 2020; Gosselin et al., 2018; Preibisch, Dodd, & Su, 2016; van Heelsum, 2017).

Following the literature that links integration experiences with the aspiration-capability approach, we conceptualize that the wellbeing of migrants in the host countries is a function of their premigration expectations and the capability to overcome integration barriers. Secondly, the migrants whose capabilities are insufficient to overcome integration constraints would experience an expectation gap (or aspiration gap) and have a low well-being level. Unlike the present literature that compares the wellbeing of migrants with the native population, the capability-based approach provides the opportunity to assess the migrants' wellbeing using the premigration expectations as a comparative entity.

The premigration expectations of irregular migrants may be divided into three broad categories: self-interest motives, altruism motives, or mixed-motives (Rapoport & Docquier,

2006). We argue that the extent to which they meet these expectations would positively associate with their wellbeing levels in the host countries. Expectation gaps come when there is a difference in well-being attained compared to the expectations (Copestake & Camfield, 2010). A negative expectation gap is crucial; it means that the achieved well-being is below expectation, which can impact the migrants' capabilities. Capabilities mean the opportunities and freedom to do and be what a person desires in the face of constraints (Sen, 1993). Indeed research has shown that asylum seekers face several integration barriers in the host country (Gosselin et al., 2018; Toma & Castagnone, 2015; UNDP, 2019). By checking these barriers and the migrants' expectations, we can determine their real opportunities and freedom to meet their premigration expectations, thus, their wellbeing.

5.3 DATA AND METHODS

The data was collected in 2018 from Nigerian asylum seekers, including economic migrants and human trafficked victims in Italy. It was collected at the stage when they were still waiting for their asylum results. Nigeria is among the top countries detected for irregular stays in Europe, and Nigerians are one of the largest groups crossing into Italy through the Mediterranean sea (European Migration Network, 2018). In 2016, the number of Nigerian migrants that crossed through the Mediterranean Sea to Italy was 7,554 people (ISTAT, 2019). In 2019, the number reduced to less than 2,000 migrants because of strict border controls placed by Matteo Salvini, the then Italian Minister of Interior Affairs. A report from the Asylum Information Database (AIDA) (2019) showed that 2,471 Nigerians had received either refugee status, subsidiary, or special protection status in Italy. In 2019, 1,252 additional asylum applications were made by new arrivals from Nigerian, and a consecutive total of 13,840 (83%) applications were rejected (Table 5.1). More so, since 2017, Nigerian migrants have been targeted for detention in case they fail to return after a failed asylum claim (*ibid*). The significant number of migrants from Nigeria applying for asylum in Italy despite the protracted RSD procedure, the limited possibilities of positive responses, and the increasing evidence of vulnerabilities they face are the reasons they were selected as a case study for this research.

Table 5.1 Applications and granting of protection status in Italy in 2019

	Number of Applicants in 2019 only	Awarded refugee status, subsidiary, or special protections	Total rejections	Rejection rate
Nigeria	1,253	2,471	13,840	83%
Pakistan	7,305	710	10,272	85%
Bangladesh	1,340	279	7,663	93%
Italian Total	43,783	18,262	7,6798	81%

Source: AIDA (2019)

The data was collected in two cities in the Marche (Jesi) and Sicily regions (Ragusa). We selected the two cities because they have a sizeable Nigerian community. A mixed-method approach was adopted. Our mixed-method approach integrates qualitative methods like informal interviews, personal observations, Focus Group Discussions (FGDs), and a survey. The first author who conducted the field survey is a Nigerian citizen, which gave us access to the target population. He lived with them for one week, speaking with them in Nigerian pidgin. He organized one FGD in each city and several informal interviews. In all interviews, the participants' consents were obtained, and their rights and the confidential clause were read[13]. All the study participants were following the Protection System for Asylum Seekers and Refugees (SPRAR) project, which hosted them while they were processing their asylum. The managers of the SPRAR also assisted in mobilizing the FGD participants, although they (the managers) were not present during discussion sessions.

The total number of FGDs participants in both cities was 24. The subjects covered included premigration expectations, current economic situations, and wellbeing. For the survey part, we first distributed the questionnaire to the FGDs participants. Through a snowball technique, an extra 40 respondents who did not participate in the FGDs were included. These extra respondents were identified through the assistance of the FGD participants. In total, 64 respondents completed the questionnaire. The survey includes information about the respondents' characteristics, length of stay, economic activities, and SWB. In particular, we operationalized the SWB of the respondents using the question: *how satisfied are you now compared to what you expected in Italy before migrating?* A 5-point Likert scale ranging from extremely dissatisfied to extremely-satisfied was used to retrieve the responses.

The mixed-method approach allowed us to conduct an in-depth case analysis of the group. The essence of the FGDs and observations were to grasp the different perceptions of the respondents. In contrast, the survey was used for triangulation, which reduces the human bias

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[13] The field survey was done with strict adherence to the ethical regulation of the authors' institution and the guidelines provided by the SPRAR managers.

associated with observational studies. The data were analyzed using a hypothetico-deductive method. This method enables us to test our conceptual framework based on the prior outlined hypotheses rather than developing a new concept from the analysis done in grounded theory (Lawson, 2000). The idea behind the hypothetico-deductive method is similar to most scientific research to confirm or refute a theory or concept by making assumptions and hypotheses, and the hypothesis is tested by gathering and analyzing data (Sprenger, 2011). The qualitative data was generated from the transcripts of the FGDs and the informal interviews. We coded the transcripts, paying attention to the information related to premigration experience, integration constraints, and capabilities. The quantitative data were analyzed using summary statistics. We are aware that the number of respondents to the survey is too small to calculate correlations or estimate econometric models.

5.4 RESULTS

5.4.1 Respondents characteristics

Table 5.2 is a summary of the profile of the participants. It shows that the majority (78%) are male. Most of the respondents (72%) are between 25 to 34 years. About 57% have a secondary school education qualification. Most of the female participants were not working in Nigeria before migrating, while most males had some form of employment. Most of the respondents (85%) are from Edo State in Nigeria, a widely known hub for irregular migrants' departure. This profile shows that the respondents are young, able, and willing to work. They are not illiterate, and they also have some job experience. They may be considered lucky, considering that some of their co-travelers died during the journey. More so, they are risk-takers and are determined. We consider that these features are assets that can be beneficial to Italy. However, they are trapped in the asylum application cycle, with limited opportunities to achieve their dreams.

Table 5.2 Characteristics of respondents (n = 64)

	Frequency	%
Length of stay in Italy (n = 63)		
<1 year	5	8
1-2 years	26	41
3-5 years	29	46
6-10 years	2	3
>10 years	1	2
Age (n = 57)		
18-24 years old	9	16
25-34 years old	41	72
35-44 years old	7	12
Education (n= 61)		
None	4	7
Primary	6	10
Secondary	35	57
Higher	16	26
Sex (n = 58)		
Male	45	78
Female	13	22
State of origin (n = 64)		
Edo State	55	85
Others	9	15

5.4.2   A gendered perspective on premigration expectations

The FGDs showed that mixed-motives drive the respondents to migrate. A self-interest motive to improve their wellbeing and an altruistic purpose to help their family. However, some noticeable differences can be found along the gender dimension. The motives of the female migrants mostly result from hardships and activities of human traffickers, while the male migrants usually offer themselves to be smuggled to improve their life prospects.

Most female respondents explain that they were deprived of opportunities to continue their educations in Nigeria because of poverty. They were also not able to make sufficient money from their vocations (e.g., hairdressing business). Therefore, they expected that migration would bring new opportunities to further education and allow them to use their vocations to make money. While these challenges are sufficient to consider them as economic migrants, they are also victims of human trafficking. The quest to lift their families out of poverty pushed many girls into the hands of traffickers, who recruited them to engage in prostitution in Italy. Some girls lacked sufficient knowledge about the journey and what would be obtainable in the destination countries. The so-called madams arranged their migration, and even before obtaining their asylum documents, they were already forced into prostitution by these madams.

For most men, we gathered that the desire to improve life prospects is the main factor driving their migration. The male migrants are more likely to move due to economic reasons than because of the activities of human traffickers. Most already had a job in Nigeria from which they raised the money to pay smugglers. They also make use of their friendship networks for financing travel and gaining access to information. They were also relatively informed of the risk in the journey but lacked substantial knowledge about Italy's realities. Three participants explained the situation:

> *"The main thing that made me leave Nigeria was suffering, no good life.[...], After my secondary education, my dream was to attend a university, but there was no money to further my education, also during that period, I lost my dad, I was frustrated" (F, 19y, Ragusa).*

> *"[...] I came here with the help of my madam. I decided to come here because of my family issues; we were not living fine. I was advised that Europe is good that I can make money even with my hairstylist business. My madam told me that with my handwork, I could work and also go to school. I swore an oath that I would pay her 30,000 Euros. I never knew the value of that money as at that time, and I was thinking that it is a small amount in Nigerian currency, not knowing that it runs in millions of Naira" (F, 20y, Ragusa).*

> *"I worked ....before migrating. I followed my friend to Libya, and on getting to Libya, I had to source help from my friends to come here (Italy"). You know that migration is either life or death. Therefore, it is a personal decision. For me, risking the life to migrate is better than struggling in Nigeria" (M, 28y, Jesi).*

5.4.3 The integration experience of respondents

The integration barriers faced by the respondents can be summarised into structural, psychological, and social constraints. With structural constraints, they wait for a long time for their asylum result. Many of the respondents have been in Italy for up to 3 years but are yet to receive their final asylum decision. Usually, there is no standard timeframe for asylum application in Italy. The flow chart of the procedure is found in Figure 5.1. According to AIDA (2019), the asylum seekers have a deadline of eight days after arrival to register for asylum with the authorities, such as the border police office, the provincial immigration office (*Uffici immigrazione*) of the police (*Questura*). Fingerprinting and photographing (*fotosegnalamento*) are carried out by the Questura, who also initiates the Dublin regulation and lodges the applicants' story (*verbalizzazione*). The formal applications are then sent to the Territorial Commissions, who should contact the applicant for interviews within 30 days. According to the procedure degree, the decision needs to be made between 3 days and six months, and exceptionally for a maximum of 18 months. According to AIDA (2019), this procedure takes more time than expected due to many simultaneous applications. Moreover, after receiving a

negative decision, the applicants can appeal the decision, which further elongates the time for asylum completions.
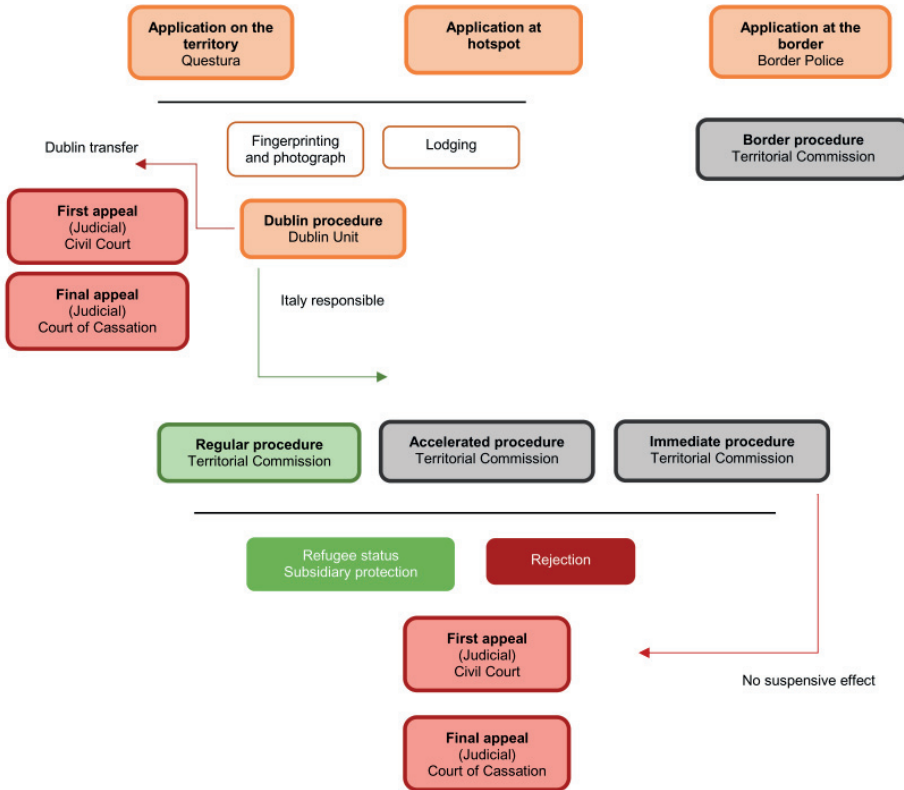

Figure 5.1 Flow chart of the asylum procedure in Italy
Source: AIDA (2019)

Most of the respondents, especially those that have stayed up to 3 years, have appealed the negative decision either once or twice. They explained that they face severe difficulties regarding finding a job or traveling with a long waiting time. They could not travel to another European country, even if they had a social network, nor go back to Nigeria unless when deported. They are stuck, with the increasing stress of not knowing if their asylum claim would be positive or negative. One of the migrants summarised their feeling of limbo, denial of absolute personal liberty in Italy. She said:

> *"I have been staying in the camp for several months since my arrival. We do not even go outside. Always indoors, 24 hours a day" (F, 23, Jesi)*

They complained about the strict and bureaucratic integration system, which made the process of getting resident permits increasingly tricky, despite applying on the ground of humanitarian regulations. According to the FGD participants in Jesi, they were first placed in camps upon arrival in Italy, where they stayed between two months to two years waiting for asylum completion. After two years, there were expected to leave the camp even if their asylum decision was unknown. They had to tell a convincing story that reminded them of the horrors they passed through to come to Italy. Those whose stories were found wanting were denied the permit. Some of the participants of the FGD have appealed against a negative decision at the time of the survey. Although the process from the first application to receiving a final reply took up to two years, the challenge was that most of the migrants hardly secured jobs, as employers are skeptical of hiring a person without permits. A quicker way to get resident permits is if the migrants have a job contract. However, this policy has been questioned by the migrants considering that a residence permit is an essential requirement to be offered a contract by employers. This dilemma is captured by one of the respondents as follows:

> "I went to Questura to process my permit; the woman asked if I was working. How does she expect me to work when they do not give me a permit? What will I use to do the work when I do not have a document?" (M, 32, Jesi).

Secondly, the harrowing journey experiences resulted in mental or psychological challenges to the respondents. They were always reminiscing with bitterness about the traumatic journey experiences, which sometimes nearly claimed their lives. They posit that the journey was so bad that they would not recommend the same for others. The trauma and anxiety sometimes lead to mental breakdowns. However, the deplorable conditions in Italy aggravated the painful situation. These mental traumas were captured from the comments of two participants.

> "Libya road is just a journey of no return: once you enter, there is no going back. [...]. Many people have lost their lives in the sea; You will see dead bodies everywhere. Sometimes, demons pursue and possess people, while some turn into vampires. I will not even advise my worst enemy to follow through Libya road" (F, 20, Ragusa).

> "During our journey, people died, but when I came to Europe, I saw that Europe does not worth the suffering we got from Libya; it does not worth dying for" (M, 34, Jesi).

Thirdly, they also reported that they felt discriminated against in Italy. About 56% of the participants answered that they had been discriminated against in the camp, street, and supermarket (Table 5.3). They believed that they were discriminated against when denied a resident permit, unfairly charged in the supermarket, did not receive equal treatment as white migrants, and strategically denied work. The challenge of a lack of public acceptance exposes

them to various forms of vulnerabilities and exploitations. Two of the participants summarised this different manifestation of discriminations:

"If you have to be in camp or you have not been given any document yet, that is discrimination. Secondly, although we may not be taxed directly, they (Italians) make sure they squeeze out money from every individual. They often extract money from us foreigners, especially when we go to the supermarket to buy something. They seem to charge you an extra amount of money once they see you are black. [...] Also, when you are working, [...] what we are being paid is not what our colleagues who are white receive" (M,30, Jesi).

"Girls sell their body, and they are priced like biscuits sold in the market. It is embarrassing to the extent that the whites take us for granted, and they do not want us again because they see every girl as prostitutes" (F, 19, Ragusa).

Table 5.3 Economic activities of respondents

	Frequency	%
Worked in Europe (n = 63)		
Yes	42	67
No	21	33
Wage (€/hour) (n=21)		
<5	16	76
5-10	5	24
Sector (n=39)		
Agriculture	15	38
Street hawking	15	38
Other	9	23
Job satisfaction (n=13)		
Extremely dissatisfied	6	46
Rather dissatisfied	4	31
Neither satisfied nor dissatisfied	2	15
Rather satisfied	1	8
Extremely satisfied	0	0
Started the asylum process (n=63)		
Yes	53	84
No	10	16
Job security (n=27)		
Not job secure	3	11
Little job secure	4	15
Neither job secure nor insecure	14	52
Job secure	5	19
Very job secure	1	4
Type of contract (n=23)		
Permanent	6	26
Temporary/seasonal	17	74
Discrimination at work (n=18)		

| yes | 10 | 56 |
| no | 8 | 44 |

5.4.4   The economic and SWB of respondents

Table 3 presents the results of the analysis of the respondents' economic well-being. It shows that most of the respondents are unemployed, and those who are employed work in informal settings and are often exploited. About one in three of the migrants had not yet held a job in Italy after an average of three years of stay. Those working had jobs predominantly in agriculture or were involved in street hawking. About 74% of those working had temporary employment, which implies a lack of job security. The majority of the tasks done by the migrants were the sort of functions that the natives would not do and what they would not do in Nigeria either. These types of jobs included sweeping the street, street vending, house cleaning, and assisting in house relocation. These types of employment often require physical abilities. Those who could not find any of these informal jobs either begged on the street or worked as prostitutes. Hence, they were compelled to work in jobs that undervalue their skills, and many of the employers were reported to be unfriendly and exploitative.

The consequences of a lack of employment among migrants manifest themselves in frustration and fear for the future. Even when the migrants had jobs, they still faced several challenges resulting in job dissatisfaction. In the survey, about 76% of the respondents working on farms received about €3 per hour, well below the €7 average paid to others. Only 8% of the working respondents indicated they were satisfied with their job, and 77% answered they were extremely dissatisfied. The participants of the FGD spoke about job exploitation. The migrants reported not being paid well or paid lower wages than other workers doing a similar job. Three participants explained this situation.

> "There are usually no known jobs for us. Most guys here beg before they eat. They sit with their bowls at the supermarket, begging the white for money while the girls take up prostitution as their job. Even in the cold weather, they wear a mini skirt and bum shorts; they light fire close to them (M, 28, Jesi).

> "Sometimes we do community work like street sweeping and trimming the flowers, but often we do not get paid to do such volunteer works. Sometimes when they pay, we do not get the money" (F, 20, Ragusa).

> "Most times, we are paid less than what those bosses who are in charge receive on our behalf. Like 80% of them (our bosses) are not friendly. At the same time, when you do something for them, they do not usually want to pay" (M, 29, Jesi).

> "You work all the time, like 8,12, 15 hours, and at the end of the day, they pay you not more than 20 Euros per day. If she or he is white, he can be paid between 50 to 100 Euros for the same work, but because we are black, they give us a small amount of money" (M, 28, Jesi).

The result of the SWB of the respondents is presented in Figure 5.2. The results show that the majority of the respondents were dissatisfied with their migration experience in Italy. More than 95% of the total respondents were not satisfied with their quality of life in Italy in contrast to their premigration expectations. The poor SWB among the respondents indicates negative expectation gaps, meaning that the migration to Italy is yet to lead to improved SWB for the respondents.
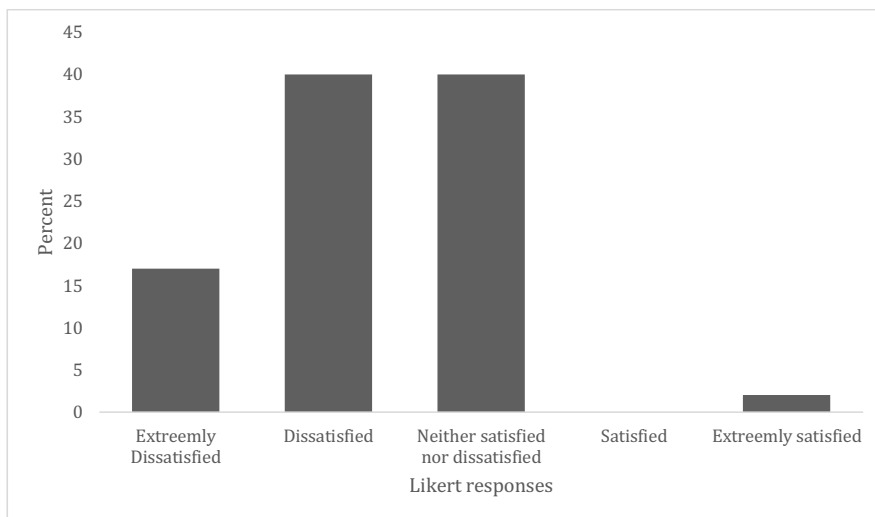

Figure 5.2 How satisfied are you in Italy compared to your expectation before migrating

5.4.5   The expectation gaps among the respondents

More so, the issue of negative expectation gaps was discussed in the FGDs. Most of the participants feel that their premigration aspirations were not met and that irregular migration achievements were not worth the risk after all. For instance, instead of going to school or working, most women found themselves in the sex business. On the other hand, the men had their expectations cut short as they could not find jobs but are instead begging on the street or engaging in some economic activities below their qualification.

Although they could make some money from these activities (begging, sex business, and other informal activities), the income is often below expectations. Generally, the participants of the FGD acknowledge that only a few of their colleagues were happy in Italy. According to them, only about 30% of those waiting for asylum results could be said to be happy. Most FGD participants explained that expectation gaps exist when they do not find a job, earn less, or

engage in different economic activities contrary to expectations. The comments of one of the participants captured these issues:

> *"Like 70% of the people would say their expectations were not met, especially the ladies who left the country without the knowledge of the type of job they would be doing. Some were told that they would find a job when they get here, but that is not the situation; therefore, they opt to go to the street to sell their body [...]. This is the false information they get from Nigeria. However, some are aware of what they are coming to do, maybe 20% of them, and feel they should do this and help their families. The boys beg on the street from one supermarket to another. There are people in Nigeria that make more money than them [...] their expectations push them to the road (migrate irregularly), and at the end, they get frustrated, [...] when you come here, and your expectations are not met, you have mental poverty, even if you work and earn money". (M, 30, Ragusa).*

According to the respondents, the consequences of this negative expectation gap include frustrations and deprived capabilities. They are deprived of the capability of adequate accommodation, especially when they are asked to leave the camp. They also face food insecurity and financial deprivation. In many cases, they lacked the capabilities to make vital life decisions. Indeed, they are not considering returning to Nigeria because they lack the proper documentation. While the expectation gap is negative, we gather from the FGDs participants that a future access to residence permits and public services could improve their wellbeing. One of the respondents summarised the consequences of capability deprivation:

> *"I cannot pay my house rent, feed myself and help my family back home. The documents are not easy to get, not to think of getting a job or earning money to travel back home. You can even be arrested at the airport for leaving the country (Italy)" (F, 20, Ragusa).*

5.5 DISCUSSION

We identified five critical issues by linking the integration experiences of the migrants with the aspiration-capability framework. The first issue is that migration expectations are mixed and gendered; it could occur due to capabilities deprivation for the female migrants or capabilities enhancement for the male migrants. The men were mostly drawn by the prospects to achieve higher wellbeing; they had some information and were supported to migrate by close ties such as friends. As such, they fall within the agency of economic and irregular migrants. The female migrants were more likely to report that deprivations to work or study and domestic abuses motivated them to migrate. Yet, they are also victims of human trafficking and are less likely than men to have information about migration, especially in transit. As such, they are economic migrants but also victims of human trafficking. Literature has captured this mixed migration flows where both refugees, trafficked persons, and economic-irregular immigrants move together (Castles et al., 2012). Our results suggest that there may be a gendered pattern within the mixed migration flow and that individual migrants may take more than one agency. For

instance, the women we interviewed are economic migrants because of their desire to work and help their families; they were also trafficked persons because human traffickers sponsored their journeys.

Secondly, the migrants enter into the host country with some capabilities, which remain untapped. The first finding shows the respondents possess some assets, which are yet to be tapped by the host country. The majority of the respondents interviewed were young, literate, lucky, and are willing to work. Although they may not have had the capabilities to migrate through legitimate means, they could achieve the goal to migrate through the help of smugglers and friends. They were lucky not to have died, willing to work, and had some form of determination that could be an asset. They, therefore, possess some abilities which the host country can utilize. Fokkema & de Haas (2015) showed that the premigration profile of African irregular migrants, such as education level and age, are dominant factors explaining their level of sociocultural integration. However, the long period of waiting for asylum decisions and the limited possibilities they have during this time means that their assets are wasted.

Third, migrants face several integration barriers which prevent them from maximizing their capabilities for achieving their expectations. The immigrants face several integration barriers that reduce the freedoms they have to make use of the capabilities with which they enter the host country. These constraints include structural constraints relating to the long waiting time for the asylum result. They are also affected by psychological constraints due to the harrowing journey experience they endured. They had economic constraints because most do not have jobs. Those who had jobs lack job security, earn a relatively lower wage than fellow employees, and are dissatisfied with their jobs. They also experience social constraints because of discrimination and exploitation. Most of these constraints have been reported in the literature of irregular migrants' integration in Europe (Busetta, Mendola, Wilson, & Cetorelli, 2019; Rustenbach, 2010; Urzi & Williams, 2016). The respondents' time to acquire sufficient capabilities such as having accommodation, earning income, sending remittances, and making long-term decisions are elongated because of these constraints. These results are in line with Gosselin et al. (2018), who showed that it takes about seven years for Senegalese migrants to settle down in terms of possessing documentation and housing in France. In Italy, Bimonte, Bosco, & Stabile (2019) associated these constraints with decreasing happiness for irregular migrants.

Fourth, the inadequate capabilities for achievements result in low subjective well-being. The immigrants have low SWB due to the constraints explained above and their inability to meet

their premigration expectations. The asylum seekers had expected to have a better life for themselves and their family and had migrated to escape the hardships at home, to use their skills to enjoy a better life in Europe. Yet, after an average of 3 years in Italy, about 95% do not achieve their premigration expectations. The long waiting period for asylum decisions denied them a residence permit and a meaningful life. In line with the literature (Chen et al., 2019; Knight & Gunatilaka, 2010; Mähönen, Leinonen, & Jasinskaja-Lahti, 2013; Stillman, Gibson, McKenzie, & Rohorua, 2015), we opined that the expectation gap is also associated with the low SWB they reported.

The final consequences of integration barriers are untapped assets, expectation gaps, and limited capabilities to make postmigration decisions. A first consequence of poor integration and low well-being is untapped assets, which is detrimental to the host communities. The time that migrants wait in the asylum process is often time wasted for utilization of their capabilities. When the immigrants are discriminated against, this could lead to job dissatisfaction and then to low productivity. More so, poor integration makes most migrants work in areas undervaluing their skills, beg on the street, or work as sex workers. These informal activities rarely bring benefits to destination countries.

Another consequence is that poor integration could lead to the inability to improve the premigration issues that drive migrations. Migration has been seen as a development process that can improve poor people's capabilities in low-income countries (van Heelsum, 2016), but constraints deprived migrants of these capabilities. It made them frustrated, living in continual misery, which results in minimal benefits for themselves and their families (Becchetti & Rossetti, 2009; Genicot & Ray, 2017; Murphy & Mahalingam, 2006). Since the migrants' ability to send remittances and help their families is dependent on their economic achievements, when asylum seekers do not work, their families suffer as well. Studies have suggested that the absence of remittances will make migrant families fall into poverty, which could motivate more migration (Delpierre & Verheyden, 2014; Ivlevs, Nikolova, & Graham, 2019).

Finally, poor interaction and low wellbeing may prevent immigrants from making the right post-migration decision, such as returning to Nigeria. A UNDP study (2019) showed that self-returning is more likely to occur when migrants are successful and have achieved sufficient income and economic status. Our study shows that asylum seekers are reluctant to return even after their asylum applications have been rejected because of shame, fear of persecution, or lack of financial and legal means. Therefore, creating hostility, and expecting the irregular migrants to return home, are counterintuitive policies that could lead to more irregular stays (De Haas,

2008). Toma & Castagnone (2015) show that rather than going back to their countries, asylum seekers and irregular migrants facing integration constraints would instead relocate to other European countries.

5.6 CONCLUSION

This paper is motivated by the need to study the integration situation and wellbeing of economic irregular migrants and trafficked persons seeking asylum. The study is designed for this unique group focusing on their experiences when they are waiting for asylum results. We argue that the capability approach could be used to understand the relatively low levels of this group's well-being. We conceptualized that while they moved with the expectation to improve their well-being and had some premigration assets, they may be lacking the capabilities to overcome the integration constraints, which affect the level of well-being they could achieve.

This study is interesting because it focuses on a minority that is yet to receive sufficient attention in the integration/well-being nexus research. The study highlighted several integration barriers or constraints faced by Nigerian asylum seekers caught up in a protracted refugee status determination (RSD) system. These constraints range from psychological, structural, economic constraints to social constraints. These constraints impact the capabilities that asylum seekers would need in order to improve their wellbeing. Specifically, in terms of structural and economic constraints, the migrants face delays in the processing of residence permits, inability to access jobs, lower relative wage, job insecurity, and job dissatisfaction, resulting in limited livelihood choices. In psychological and social constraints, they have traumatic journey experiences that affect their emotional wellbeing. They are often discriminated against and are at constant risk of being exploited due to their status. We associate these constraints as the reasons they have low well-being levels. They consider their life satisfaction higher in Nigeria than in Italy. Their premigration assets, e.g., being educated, young, lucky, and determined, are untapped. These issues elongate the time to achieve the capability to live a meaningful life, such as to get their accommodation, to earn money, to support their families, or make vital decisions about their life. These deprivations lead to frustration which has several social consequences.

Therefore, we underscore that policymakers should note that a conscious policy that reduces the integration constraints of these minority groups could be beneficial to the migrants and society. Leaving the asylum seekers without policy assistance undermines the development opportunities that migration brings and tampers on their human rights. Their wellbeing could be improved with policies that enhance their access to public services, e.g., education and

psychological services, and protect them from exploitations—for example, introducing rules that penalize those who exploit the asylum seekers. We also recommend a speedup of the asylum procedure in Italy. This will enable asylum seekers to know their fate and make informed decisions about their lives.

6 HOW DOES INTERNATIONAL MIGRATION IMPACT ON RURAL AREAS IN DEVELOPING COUNTRIES? A SYSTEMATIC REVIEW[14]

Abstract

This study is a systematic review of the literature on the impacts of emigration by rural workers on their origin households and communities in developing countries. We examined the impacts of migration on six rural welfare indicators: labor, livelihood activities, income, food security, land use, and rural development. We present a detailed analysis of 44 papers retained from a pool of 1544 articles published between 2007 and 2018. We find that the impact of international migration on the selected indicators varies and is highly context-specific. The results point to the existence of heterogeneity in the impacts, capable of creating a space of losers and winners among migrant and non-migrant households. The immediate impact is the labor loss effect. This leads to a process of feminization of agriculture and increases the number of children participating in informal labor activities. The intermediate impact involves changes in power relationships in rural areas. This briefly increases the opportunities for non-migrant households to control land. However, remittances help migrant households move up the income ladder, improve their food security, enable the repurchase of land, and transition away from agriculture. We conclude that international migration from developing countries could create a dynamic process of structural and functional transformations in rural areas, ultimately leading to a transition away from agriculture as the primary source of income and livelihood.

6.1 INTRODUCTION

International migration has become an essential topic in the academic literature. Speculation about the drivers and impacts of international migration shapes public opinion and is perceived to be a central topic in the current political debate. International migration from developing countries has been increasing since the last decade due to financial crises and displacement caused by wars, climate change, poverty, and underdevelopment (Mohapatra & Ratha, 2010; FAO, 2016). For many rural dwellers, these issues have resulted in a decline in agricultural production, a rise in unemployment, and unprecedented increases in food prices (Sirkeci, Cohen, & Ratha, 2012). Many rural households started to adapt by participating in external labor activities, increasing children's participation in labor and, at the same time, demanding increased remittances from migrants (Alcaraz et al., 2012; Tilly, 2011). The emigration of rural

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[14] This Chapter is based on "Obi, Bartolini, Brunori, D'Haese (2020) How does international migration impact on rural areas in developing countries? A systematic review. *Journal of rural studies* DOI 10.1016/j.jrurstud.2020.09.016

workers from developing countries also intensified, with the duration of migration generally elongated (IOM, 2019; Mohapatra & Ratha, 2010). A decade later, the number of international migrants has continued to grow, and the volume of remittances sent to developing countries has been accelerating. A recent report from the International Migration Organization (IOM) shows an increase in the estimated number of international migrants from 221 million in 2010 to 272 million in 2019, and an increase in remittances sent to developing countries from 307 billion USD in 2009 to 554 billion USD in 2019 (IOM, 2019).

Researchers have produced a vast number of papers on the development impacts of emigration by rural workers on rural households' welfare (McGregor et al., 2014; OECD, 2014; Ratha et al., 2011). One concern in rural areas is whether international labor mobility is a viable livelihood option capable of solving the constraints in production resources, income, and food security, which drive migration (FAO, 2016). Another concern is whether the labor loss effect caused by the migrants' departure could be compensated for by remittances. While evidence holds that the financial and social remittances from migrants could contribute to the rural economy and smooth consumption by migrant households (De Haas, 2010), this paradigm has come under criticism for its naivety and methodological challenges, and because these studies do not go beyond the impacts of the migrant households' welfare (Geiger & Pécoud, 2013; Preibisch et al., 2016). Moreover, comprehending the impact of international migration on rural welfare is complicated due to the possibilities of heterogeneity. Other reasons could be the different perspectives taken by researchers, the differences in setting, context, and methods (Aguilar-Støen et al., 2016; Sachs, 2016; Sharma, 2013; Sunam & McCarthy, 2016; Tumbe, 2015).

Although the literature addresses the impact of international migration, its contribution to rural welfare development remains a debated topic with no consensus. Rooted in this background, our study investigates the heterogeneous impact of emigration by rural workers on the welfare of rural households. To do this, we systematically reviewed the literature on international migration and rural welfare in developing countries, considering the different settings, methods, and perspectives adopted by researchers. We cover papers that were published during the last decade. This undertaking is essential, given the growing numbers of emigrants leaving rural areas in developing countries, which may be a valuable livelihood alternative for many of them (Mohapatra & Ratha, 2010). Therefore, our systematic review covers the processes through which the impact on the welfare of rural households occurs. This includes remittances that are sent by migrants as well as the knowledge they share during their stay abroad and upon their return. In particular, we examined different rural welfare

perspectives using indicators that capture rural labor use, livelihood activities, income, food, land use, and rural development. We consider the impacts on these indicators across different levels, namely: immediate, intermediate, and ultimate impacts. By following this broad view, we go beyond the impact on migrant households alone and consider the spillover effects on overall rural welfare. As such, the study aims to contribute to the understanding of the developmental role of international labor migration in improving rural welfare in developing countries. We considered the countries that fall within the low and middle-income economies classified by the World Bank and refer to these as 'developing countries' hereafter.

Our study extends the findings of previous reviews to which we offer a comprehensive analysis of the heterogeneity in the impacts on rural welfare. The previous reviews include the study by de Haan (1999), which reviewed the role of migration in livelihoods and poverty for migrant households alone. Mendola (2012) and Adams (2011) reviewed the impacts of remittances solely on the economy. Thow et al. (2016) reviewed the role of remittances in household food consumption and nutrition alone. In addition to being comprehensive, we hope that our review will help inform policies that strengthen the developmental impact of international migration in developing countries.

6.2 METHODOLOGY

6.2.1 Description of process and intended outcome

The systematic review was conducted through content analysis, and we followed a deductive approach. We commenced by developing a broad conception of what is known about the topic. By brainstorming and based on previous field knowledge, we identified the essential areas to our study (Figure 6.1). We decided not to consider the drivers of emigration. We focus instead on the following critical processes through which migrants impact rural welfare, namely financial remittances, knowledge sharing, and the return of migrants (Adhikari & Hobley, 2015). Nevertheless, we argue that not all migrant households have access to these benefits, and some non-migrant households, such as friends, neighbors, and relatives, may equally benefit (de Bruyn, 2005; Fonta et al., 2015). We are, therefore, of the opinion that a comprehensive assessment of migration impact should not be restricted to migrant households but should also consider the spillover effects on non-migrant households.

We differentiate between financial and social remittances. Financial remittances to rural dwellers are the monetary assets that could directly increase household income in the home country in addition to their use for food consumption purposes, investments, and repayment of the cost of migration. Financial remittances can directly impact non-migrant households when

collective remittances from diaspora organizations sponsor charity or community development initiatives in rural areas (Bada, 2016). Migrants remit cash for several purposes, most often due to altruism to help households and friends at home or self-interested recognition-seeking behavior (Carling, 2008; Hagen-Zanker & Siegel, 2007). The amount and frequency of financial remittances depend on the migrants' economic situation in the host countries and the cost of remittances (Gupta, 2005).

Social remittances are the foreign knowledge gained by rural households from migrants. Migrants transfer different technologies and norms to their households, either through information technology or upon their return (Levitt & Lamba-Nieves, 2011). The extent of the information shared depends on the frequency of contact between migrants and households and the power relationship between them (Batista & Narciso, 2018).

The impact of international migration on rural welfare can be measured using several socioeconomic indicators. In this research, we considered impacts on labor, livelihood activities, both farming and non-farming, income, food security, land use, and rural development. We considered these indicators because they are central to migration decisions by rural households in developing countries. These indicators are also among the primary drivers for emigration by rural workers (FAO, 2016). We broke down the possible impacts into those that occur immediately after departure and those that occur within the intermediate timeframe, and the ultimate impact.

The immediate impact is the loss of labor effect, occurring due to the void created by the migrants' departure. The magnitude of the labor loss effect may depend on the skill of the migrants and their role within the household (Adhikari & Hobley, 2015). For instance, the departure of the female head may influence food security when a less experienced female child takes up the task of food preparation. Another possible manifestation of the labor loss effect is the reduction in family farm labor, which may increase the likelihood of hiring external labor or abandoning farming altogether. Therefore, the departure of migrants may increase competition and wages for hired labor, which benefits non-migrant households.

The intermediate impact includes a series of adjustments made by migrant households due to the loss of labor at home and when remittances are received. Both financial and knowledge-based remittances can help households improve their income, consumption, and expenditure (Hagen-Zanker & Siegel, 2007). Households may decide to continue farming activities, shift to self-employment in non-farm activities, or engage in waged employment. Whichever livelihood

choices households make, it may impact their food security, easily identified in children's growth patterns.

The ultimate outcome of our research considered the long-term overall changes in rural areas due to migrants' departure, remittances sent, and the migrants' return. Noticeable changes over the long term due to migration include changes in land-use patterns and rural development (Lambin & Meyfroidt, 2011). In the long term, where the quantity of migrants from the same rural areas allows the formation of diaspora organizations, their collective actions could influence local politics and contribute to rural infrastructure development (Bada, 2016). We assume that sustained emigration of rural workers will ultimately lead to structural and functional changes in rural areas of developing countries.
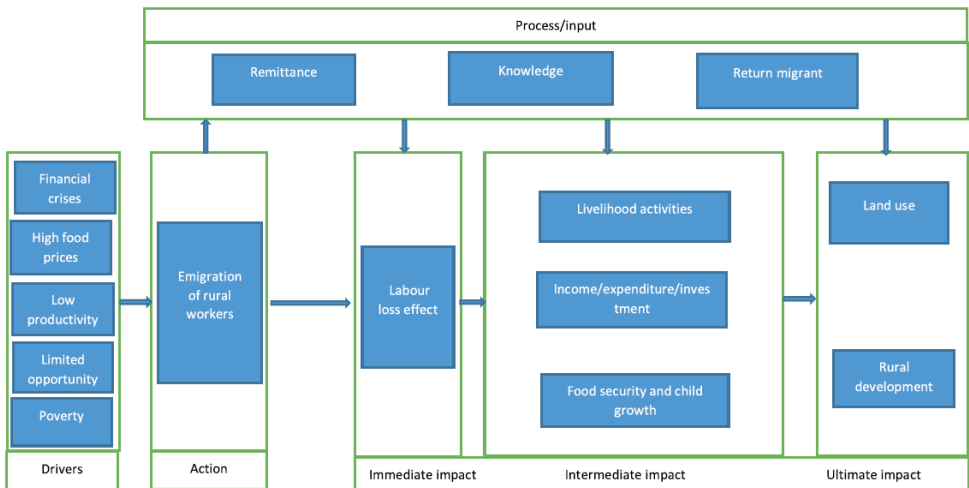

Figure 6.1 Conceptual framework

Literature search

The systematic review involved a search process conducted between January 2018 and March 2019. A pilot search was undertaken to identify relevant keywords, which were then used to develop a matrix of search terms for the second search. We conducted a detailed article search on three major social science literature databases: Web of Science, Scopus, and Sage journals. The primary search terms included a combination of "international migration" as the main keyword with other outcomes of interest, such as "labour", "farmworker", "agricultur* labour",

"agriculture", "agricultur* work", "land use", "food", "income", and "rural development". We searched for articles based on literature published between 2007 and 2018. Due to the high volume of papers generated in the initial search, we decided not to use a Boolean search approach. Hence, each outcome of interest was searched separately using the 'AND' operator to combine international migration with a given item. For example: "international migration AND labor." Table 6.1 shows the search terms used in the systematic review. Overall, the literature search generated 1554 possible articles.

Table 6.1 Search terms used in the database search

	Outcome	Searched item
1	Immediate outcome	International migration AND
		Labour
		Farmworker
		Agricultur* labor
		Agricultur* work
2	Intermediate outcome	International migration AND
		Agriculture
		Food
		Income
3	Outcome	International migration AND
		Investment
		Land use
		Rural development

6.2.2   Exclusion and Inclusion criteria

Given the significant number of articles retrieved in the first search, a rigorous inclusion and exclusion method was adopted. The first level of elimination from the 1554 articles was undertaken to remove duplicates (223 articles). After removing duplicates, an additional 54 articles were added through a snowball search of the references cited in some of the articles. The snowball search was conducted in Google scholar. The combined literature (1375 articles) was subjected to an eligibility test using the following criteria. First, to be included in the final set, the articles should explicitly study the impact of international migration – not internal migration - based on original research. Second, the impact should focus on at least one of the items listed in the search terms. Third, data should be collected and discussed at the household level, not the macro level. Fourth, the evidence should be from developing countries. Fifth, the data in the study should be collected from 2007 onwards. 2007 was set as the start year for analysis due to the global financial crises that prompted migration and the occurrence of several internal crises in developing countries at that time (Mohapatra & Ratha, 2010). We also considered panel data, as long as the end line survey was conducted from 2007 onwards. Using these criteria, we screened the title and keywords of the articles. About 695 articles were

excluded for irrelevance. These articles mainly focused on migration politics, policy, and theoretical frameworks.

A second elimination was undertaken after a review of the abstracts, and 598 articles were eliminated. The reasons for eliminating these articles were because they focus on macro-economic impacts, internal migration, and the work experience of migrants in the host countries. After this step, the remaining 82 articles were uploaded in the Mendeley desktop software for full-text study. After reading the full texts, an additional 38 articles were eliminated. The primary reason for eliminating these articles was because the data used in the analyses were collected before 2007. Although these articles satisfied other criteria, they fell short of providing evidence of the impacts of international labor migration in rural areas after 2007.

Furthermore, seven more articles that did not use household data were eliminated. They provided evidence from the data collected from migrants that were still living in the host countries. Finally, ten articles that were beyond the scope of the study were eliminated. These articles looked at the impact on other dimensions of rural welfare, such as education and health. The total number of articles included in the study is 44 articles. In Figure 6.2, we illustrate the step-by-step data screening and elimination, together with the reasons.

6.2.3   Data extraction

The 44 selected articles were coded in a spreadsheet to allow easy identification. Each article was given an ID, and the relevant information was extracted, including the name of the first author, the year of publication, the year of data collection, the country on which the analysis is based, the data source, the sample size, the method of analysis, the process outcome in terms of either remittances or information, the measured outcome of interest, and the primary conclusion. An overview of the studies is given in Table 6.2.

Furthermore, the papers were analyzed using a qualitative comparative assessment (QCA). A standard quality assessment of the articles was conducted using the checklist and approach provided by the Health Technology Assessment Unit Initiative (HTA Initiative, 2004). The checklist includes five assessment criteria, namely: (1) the question/objective is sufficiently described; (2) the study design is evident and appropriate; (3) the sampling strategy is fully described, relevant, and justified; (4) data collection methods are clearly described, without bias; and, (5) data analysis is clearly described and systematic. The articles were given two points if they satisfied the underlying criteria, one point if they partially satisfied the criteria,

and zero if they did not. Following this procedure, the maximum quality score for a paper is 10. To be included, articles had to have a quality standard of more than five (Table 6.3). All 44 papers passed this quality test.

Finally, we examined the study setting by describing the study countries and the study year. We categorized the countries represented in our study using the human development index classification for developing countries. We also compared the indicators of interest using tables and charts.
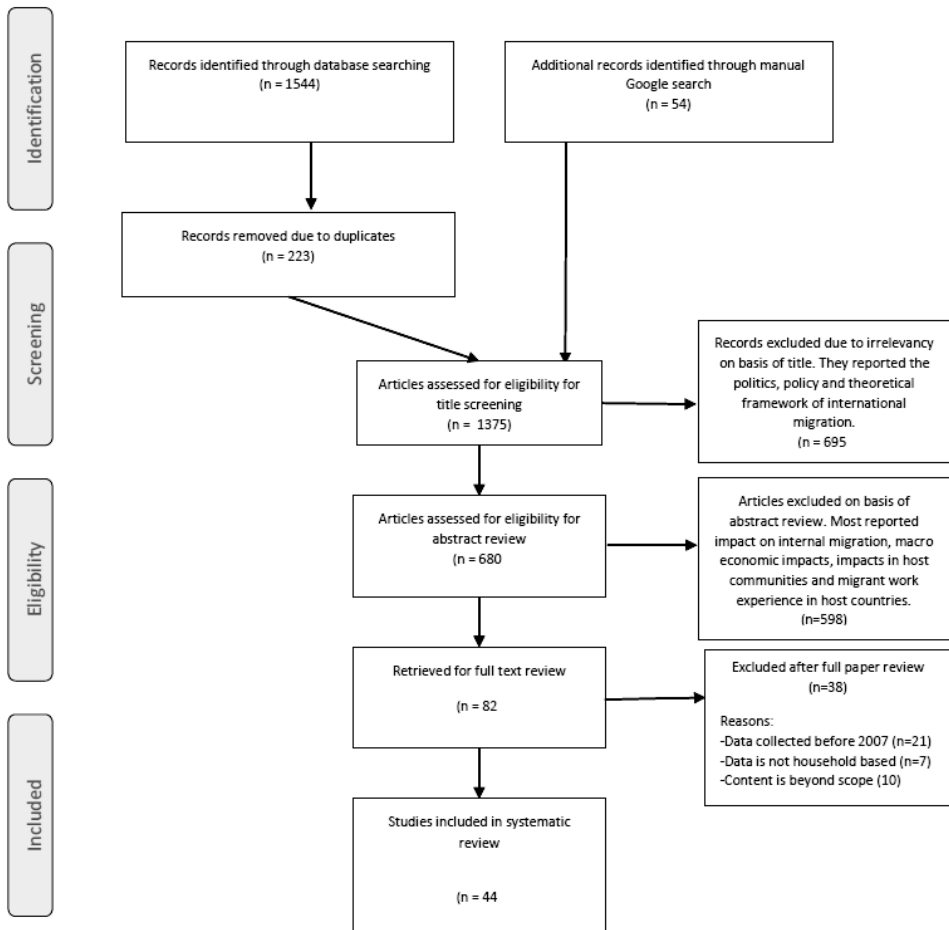

Figure 6.2 Flow diagram of the paper inclusion process

Table 6.2 Overview of studies included in the systematic review

ID	First author	Publication year	Year of study	Country	Data source	Sample size	Study method	Process channels	Outcome	Major finding
1	Adhikari	2015	2012	Nepal	Field survey in two districts	Ten critical informants for 321 households	Key informant surveys	Migration	Labour	Migration increases the workload of women, both for farm-based and non-farm activities. It increases the ability to send girls to schools, but it does not increase girls' quality of education. Overall empowerment of women is unclear, as migrant males still control some women
2	Aguilar-Støen	2016	2010 - 2012	Guatemala	Field survey in 4 rural communities	401 households	Ethnographic research and satellite images	Remittances	Livelihood, Land use	Remittances help migrant households access to land in places where local land distributions have been unequal, but the secured land may not improve the broader agrarian structure. Remittances also lead to more emphasis on cash crops than on arable crops. There is no evidence of forest transition
3	Ajaero	2017	2009	Nigeria	World Bank household survey	2000 households	Quintile estimation, ordinary least square, and probit regressions	Having migrants and remittances	Income/Expenditure	Asset accumulation is higher for remittance-receiving households

4	Alcaraz	2012	2008 - 2009	Mexico	Mexican national occupation employment survey	14608 children aged between 12 and 16 years	A difference - in- difference method	Remittances	Labour	The reduction in remittances due to economic crises leads to an increase in child participation in labor activities and a decrease in school attendance
5	Arouri	2018	2006 - 2012	Egypt	Egypt labor market panel survey	5830 households and 28,770 individuals	Fixed effect regression	Migration labor effect and remittances	Livelihood, Income/Expe nditure	The migration does not significantly increase the external employment of the remaining household members. Remittances increase income sources (wealth index) and are used to improve living conditions and for the purchase of durable assets
6	Atamanov	2012	2007	Kyrgyzstan	Representative household survey of Kyrgyz from the Asian Development Bank	1,836 households in 86 communities	Simultaneous regression equations	Remittances and migration	Income/Expe nditure	Remittances lead to an increase in crop income, but not for farmers with the highest land ownership. Seasonal migration has a more positive overall impact on crop income than permanent migration
7	Azzarri	2011	2007	Tajikistan	Tajikistan living standard study survey	1018 households and 2480 children	Two-stage least square model (2SLS) and quantile regression	Migration	Food security and child growth	Migration has a positive impact on the growth patterns of children under five years old through an increase in kilocalorie intake. However, the authors could not find a positive impact on breastfeeding
8	Bada	2016	2009	Mexico	Fieldwork trips and snowballing	12 interview and observations	Transcription using extended-case methods	Collective remittances	Rural development	Collective remittances give more power to diasporas to participate in local development

#	Author			Country	Survey	Sample	Method	Migration	Livelihood	Findings
9	Böhme	2014	2008	Mexico	Two nationally representative rural household surveys in Mexico	1511 households	2SLS			International migration has a significant positive effect on the accumulation of agricultural assets, but no effect is found on livestock capital
10	Carletto	2011	2008	Guatemala	Field household survey	1222 households	Difference-in-difference method	Migration	Food security and child growth	Migration has a large and significant impact on child growth. HAZ is 0.45 SD higher for children of migrants, and stunting is 6% lower compared to children in non-migrant households
11	Cuong	2018	2010 - 2012	Vietnam	Vietnam household living standards survey	4157 households	Fixed effect regression	Remittances	Income/Expenditure	Remittances help households to increase per capita income and expenditure. Households use remittances not only for consumption but also for savings and buying household assets
12	De Brauw	2011	2008	El Salvador	Field survey	398 households and 2455 children	Multivariate models	Remittances	Food security and child growth	Although there is a general decline in child growth due to crises, children of households who have access to remittances have a much lower decline in HAZ scores
13	Ducanes	2015	2007-2008	Philippines	Annual poverty indicator surveys	8000 households	Panel regression analysis	Migration and remittances	Income/Expenditure	Migrant households experience an increase in income transfer, which helps them move up the income ladder. They increase spending and also increase inter-household transfers
14	Garni	2013	2006 - 2007	El Salvador	Field survey	102 interviews	Ethnographic research and	Migration and remittances	Land use	Previously landless households who work as shareholders are now acquiring land as landowners migrate.

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	Author	Year		Country	Data collection	Sample	Method			Findings
15	Gray	2014	2008	Ecuador	Site visits, census data, and environmental spatial data	106 rural communities and 869 households	Multivariate econometric and remote sensing method	Migration and remittances	Land use	Emigration of rural workers leads to expansion of the agricultural area, but receipt of remittances has a countervailing negative effect on actual land use for agriculture. However, government policies that reduce the profitability of farming encourage the abandonment of agriculture
16	Hassan	2018	2011-2012	Bangladesh	Bangladesh integrated household surveys	5219 households	Propensity score matching	Migration	Income/Expenditure	Migration increases the capabilities and functioning of migrant households by increasing consumption expenditure and women's participation in decision-making. However, migrants are exposed to more financial risks
17	Hernández-Solabac	2011	2008	Mexico	Observation and interviews	46 family production units	Qualitative comparative assessment	Migration	Livelihood	Families who presented with the highest level of technology management in coffee plantations have a member abroad and have access to remittances which increase their capital to purchase more expensive technologies.
18	Hossain	2017	2014	Bangladesh	Field household surveys	720 households	Logistic regression	Remittances	Income/Expenditure	Physical and financial investment increases when households receive remittances. Investments increase by 1.30% for every 1% increase in remittances

(Note: historical data — associated with row 15 data collection)

No	Author	Year	Period	Country	Data source	Sample	Method	Migrations	Topic	Findings
19	Hübler	2016	2013	Thailand, Vietnam, Laos, Cambodia	Field household surveys	5000 households in 500 villages	A linear endogenous treatment regression model		Rural development	Migration leads to rural technology diffusion through increased ownership of mobile phones.
20	Isoto	2017	2008-2010	Tanzania	Kilimanjaro livelihood and climate surveys	225 households	2SLS and quantile regression	Remittances	Food security and child growth	Remittances increase the intake of nutrients such as proteins, vitamins, and calcium, which are essential for improving physical development in children and health in adulthood.
21	Jaquet	2016	2013-2014	Nepal	Field survey in an area vulnerable to natural disaster	317 households	Focus group discussions and remote sensing methods	Migration	Land use	Migration has led to land abandonment and increases in forest cover, exposing the land to flooding. Migration of men reduces labor and increases decision-making responsibilities for women. Farming activities are being abandoned for non-farm activities, and this leads to an increased reliance on remittances
22	Javed	2017	2016	Pakistan	Field household survey	400 households	Propensity score matching	Migration	Income/Expenditure	Migration increases both food and non-food household expenditure. Migrant households invest more in real estate instead of agricultural land purchases
23	Jayatissa	2016	2012	Sri Lanka	Sri Lanka National nutrition and micronutrient survey	321 children	Probit model	Migration	Food security and child growth	Undernutrition is a big problem in the poorest households if the mother is a migrant

No.	Author	Year	Year	Country	Data source	Sample	Method	Remittances	Outcome	Findings
24	Karki Nepal	2016	2012	Nepal	Nepal living standards survey	3296 children	2SLS		Labour, Income/Expenditure	Migration increases household consumption expenditure, but no effect of international remittances was measured on children's engagement in labor activities, or their education
25	Macours	2010	2008	Nicaragua	Household survey	4000 households	2SLS	Seasonal migration	Food security and child growth	Shock-driven seasonal migration of mothers has positive effects on early child development, such as cognitive ability, because of the income and knowledge of the mothers
24	Maharjan	2013	2007	Nepal	Field household survey	280 households	2SLS	Migration	Labour	Migration reduces family labor, but this is replaced by hired labor. Female labor is available due to male migration, promoting the feminization of agriculture
27	Manning	2014	2002-2007	Mexico	Mexico national rural household survey	2850 households	IV method and Heckman selection model	Migration	Land use	Migration significantly reduces reliance on firewood collection and increases stove and gas purchases
28	Mergo	2016	2010	Ethiopia	Ethiopian Diversity visa lottery winners	494 households	Randomized control trial	Migration	Income/Expenditure	Migration increases the consumer expenditure of the family left behind
29	Merger	2015	2008	Senegal	Event history and in-depth interview	1067 individuals	Logistic regression	Migration	Income/Expenditure	Personal migration experiences stimulate investment in assets, but the type of investment differs based on migration experiences. While European migrants invest in assets, return migrants from Africa invest in a business

#	Author	Year	Period	Country	Data/Method	Sample	Analysis	Concept 1	Concept 2	Findings
30	Moran-Taylor	2010	2001 - 2010	Guatemala	Ethnographic research and household surveys	102 households + 37 in-depth interviews	Descriptive statistics	Remittances, knowledge, and finance	Land use	Migrants supply ideas and earnings that change land use through the purchase of land for house construction. The demand produces land inflation and a reduction in food production. Those who use the land for agriculture dedicate it to non-subsistence farming, producing more cash crops for the market. There is also a shift in the use of firewood
31	Nava-Tablada	2012	2008	Mexico	Ethnographic research, historical documentation, and in-depth interviews	21 in-depth interviews	Descriptive statistics	Migration	Land use	Migration accelerates decreases in coffee production due to decreasing family labor; and when migrants return, they do not take up agricultural work but alternative paid jobs
32	Oldekop	2018	2000-2012	Nepal	Longitudinal data from the national census	2727 village development committees (1.36 million households)	Matching based regression analysis	Migration	Land use	International migration is associated with a substantial increase in forest cover, even after controlling for multiple confounding factors.
33	Piras	2018	2007-2013	Moldova	Household budget survey and smallholder survey	126 households	Logistic regression and quantile regression	Remittances	Labour, Livelihood	Remittance households reduce drudgery by substituting family labor and self-produced seed and feed with mechanization services and purchased inputs. This change does not necessarily increase production efficiency

34	Rosales	2018	2014-2015	Mexico	Field survey	27 return migrants	Transcript of code	Return migration	Food security and child growth	There were dietary changes from subsistence farming to ready meals, abundance and restriction, and new food items. Increased consumption of new cuisines
35	Sauer	2015	2005-2008	Kosovo	Agriculture household survey	2217 households	Frontier technique and propensity score matching	Migration	Livelihood	The negative effect of migration on-farm efficiency
36	Sharma	2013	2007	Sri Lanka	IFPRI household survey	1105 households	Propensity score matching	Contact-based migration	Income/Expenditure	Positive impact on food expenditure, health, and non-food goods
37	Sunam	2016	2012-2013	Nepal	Fieldwork	54 households	Ethnographic, in-depth interviews	Migration	Livelihood, Land use	Migrant households receiving remittances become successful through diversification. However, migration increases farm labor opportunities for the poor and induces increases in wages. The process of urbanization due to migration helps the poor to access non-farm work. Shifting land relationships as the landless poor acquire land
38	Taylor	2016	2000-2010	Guatemala	Field household survey	156 households	Ethnographic, in-depth interviews	Migration	Land use	Migration impact is not permanent. After the initial forest decline, there was forest recovery due to remittances. Farmers took advantage of federal

#	Author	Year	Year	Country	Data source	Sample	Method			Finding
										forestry incentives and left all, or parts of, their land forested.
39	Thomas-Hope	2017	2011	Jamaica, St. Vincent and Grenadines	Field survey	42 interviews	Stakeholder consultation, focus group discussion, and in-depth interviews	Financial and social remittances	Labour, Livelihood	Migration benefits small-scale farming and domestic food production and increases food accessibility in Jamaica. In Jamaica, those who participated in seasonal farm work in the USA were more likely to engage in farm work in return; they also brought back foreign technologies. However, in St. Vincent, migration was used by the rural poor to replace farming
40	Thomas	2013	2008	Malawi	Malawi census data	120,829 households	Logistic regression	Migration	Livelihood	Return migrants do not participate in agriculture but engage more in self-employment activities
41	Urama	2017	2013	Nigeria	Nigerian general household survey	5000 households	Propensity score matching	Remittances	Labour	Remittances negatively reduce the labor supply for self-employment in agriculture
42	Viet Cuong	2012	2006-2008	Vietnam	Household living standards survey	4157 households	Fixed effect regression	Remittances	Income/Expenditure	Most remittances are spent on housing and land, debt repayment, and savings, but not on agricultural production
43	Walters	2016	2006 - 2015	St Lucia	Field household survey	43 interviews	Ethnographic and historical data	Migration	Land use	The migration will first induce forestation, but return migrants will buy land and build, leading to deforestation
44	Zhunusova	2018	2015	Kyrgyzstan	Panel household data	1012 households	Three-stage least-square GMM model	Migration	Livelihood	Remittances are favorable for livestock production and non-agricultural activities

Table 6.3 Article quality standard assessment

ID	First author	Year of publication	Question /objective sufficiently described	Study design evident and appropriate	Sampling strategy described, relevant and justified	Data collection methods clearly described, without bias	Data analysis clearly described and systematic	Total score
1	Adhikari	2015	2	1	1	1	1	6
2	Aguilar	2016	2	2	2	2	1	9
3	Ajaero	2017	2	2	2	0	1	7
4	Alcaraz	2012	2	2	2	1	1	8
5	Arouri	2018	2	2	1	1	1	7
6	Atamanov	2012	2	2	2	0	1	7
7	Azzarri	2011	2	2	2	1	1	8
8	Bada	2016	2	2	2	1	1	8
9	Böhme	2014	2	2	2	1	1	8
10	Carletto	2011	2	2	2	1	1	8
11	Cuong	2018	2	1	1	1	1	6
12	De Brauw	2011	2	2	1	0	1	6
13	Ducanes	2015	2	2	2	0	1	7
14	Garni	2013	2	2	2	2	1	9
15	Gray	2014	2	2	2	2	1	9
16	Hassan	2018	2	2	2	1	1	8
17	Hernández	2011	2	2	1	1	1	7
18	Hossain	2017	2	2	1	0	1	6
19	Hübler	2016	2	2	2	1	1	8
20	Isoto	2017	2	2	2	1	1	8
21	Jaquet	2016	2	2	2	2	1	9
22	Javed	2017	1	2	2	1	1	7
23	Jayatissa	2016	2	2	1	0	1	6
24	Karki Nepal	2016	2	2	1	1	1	7
25	Macours	2010	2	1	2	1	1	7
24	Maharjan	2013	2	2	2	1	1	8
27	Manning	2014	2	2	2	1	1	8
28	Mergo	2016	2	2	2	2	2	10
29	Mezger	2015	2	2	2	0	1	7
30	Moran	2010	2	2	1	2	0	7
31	Nava	2012	2	2	2	2	1	9
32	Oldekop	2018	2	2	2	1	1	8
33	Piras	2018	2	2	1	0	1	6
34	Rosales	2018	2	2	1	1	1	7
35	Sauer	2015	1	2	2	1	1	7
36	Sharma	2013	2	2	2	1	1	8
37	Sunam	2016	2	2	1	2	1	8
38	Taylor	2016	2	2	2	2	1	9
39	Thomas	2017	2	1	1	1	1	6
40	Thomas	2013	2	2	1	0	1	6
41	Urama	2017	2	2	1	1	1	7
42	Viet Cuong	2012	2	2	2	1	1	8
43	Walters	2016	2	2	2	2	1	9
44	Zhunusova	2018	2	2	2	1	1	8

6.3 RESULTS AND DISCUSSION

6.3.1 The Study Settings and Design

Table 6.4 shows the developing countries represented in our study. Of the 44 reviewed articles, 18 reported findings from Latin America and the Caribbean, 11 from South Asia, seven from East Asia, six from Sub-Saharan Africa, and five from Central Asia. Only one study was found in the Arab region. Although the Arab region has experienced significant international migration due to the Arab Spring and the Syrian war, it may be that researchers have strategically avoided this region for security reasons. In general, the literature is dominated by evidence from Mexico (n=7) and Nepal (n=6), which contributed close to 30% of the total literature selected. The high number of articles in Mexico is perhaps more due to the country's participation in a seasonal agricultural worker program with the USA and Canada. Hence, many researchers tend to study the impact of Mexican labor migration on household members' welfare at home. The high number of articles on Nepal may be explained by secondary data availability, as most research in the country was conducted using the World Bank Living Standard Measurement Survey data.

While we selected literature published from 2007 to 2018, we found considerable differences between the year of publication and the year in which data were collected (Figure 6.3). Most data were collected between 2007 and 2016, and many articles were published from 2010 to 2018. The implication of this finding is of interest but beyond the scope of this study.

Table 6.4 Developing regions and countries represented in the articles

Regions		Country	Number of papers
Arab States	1	Egypt	1
East Asia and Pacific	7	Cambodia	1
		Laos	1
		Philippine	1
		Thailand	1
		Vietnam	3
Europe and Central Asia	5	Kosovo	1
		Kyrgyzstan	2
		Moldova	1
		Tajikistan	1
Latin America and the Caribbean	18	Ecuador	1
		El Salvador	2
		Guatemala	4
		Jamaica	1
		Mexico	7
		Nicaragua	1
		St Lucia	1
		St. Vincent and Grenadines	1
South Asia	11	Bangladesh	2
		Nepal	6
		Pakistan	1
		Sri Lanka	2
Sub-Saharan Africa	6	Ethiopia	1
		Malawi	1
		Nigeria	2
		Senegal	1
		Tanzania	1
		Total	48

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Year of publication	0	0	0	2	4	4	4	3	4	10	6	7
Year data was collected	6	12	3	4	1	8	4	2	3	1	0	0
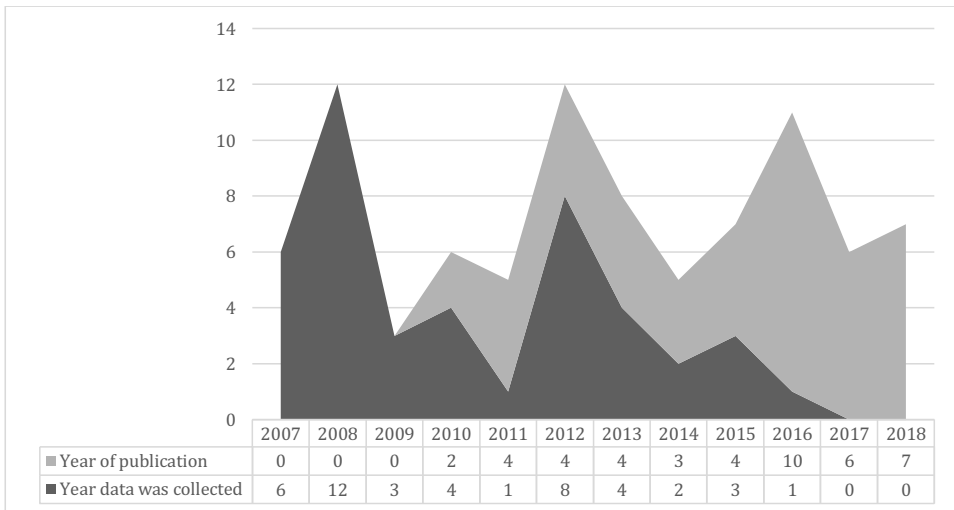
Figure 6.3 Difference between the year of publication and year of data collection

The second level of assessment is the description of the research design and methodology adopted in the literature. Primary data were used in 52% of the studies, while 48% used

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secondary data (Table 6.5). Primary data were mostly captured via focus group discussions, in-depth interviews, and ethnographic data. Most of the studies used cross-sectional data (n=25), with 19 studies out of the 44 conducted with panel data. In terms of the study design, quantitative methods dominated with 25 articles, followed by qualitative (n=13) and mixed methods (n=2). Among those that used analytical methods, about half of the articles adopted a quasi-experimental method (n=20), using propensity score matching, instrumental variables, difference-in-difference methods, and fixed-effect methods to control for possible selection bias and endogeneity issues associated with causal impact analysis. Nine of the quantitative studies used a regression analysis (including probit, quantiles, and logit), which does not control selection bias. The selection bias problem often occurs in this type of analysis as they do not control for self-selection in emigration. The people who emigrate are generally considered to be better off than those who do not. It becomes a bias to compare migrants with non-migrants simply. Remote sensing analysis was also used in nine studies, especially on the impact of land use. Qualitative research, including simple narrations, transcribing of qualitative information, and simple descriptive statistics, was used in five studies.

Generally, the top way of investigating migration's impact is to compare households that migrate (or/and received remittances) with those that do not. Evidence from a randomized assignment, which remains the best experimental method to investigate the causal impact, is lacking given that only one study adopted this method.

Table 6.5 Description of the research design and methods

		Frequency	Percentage
Data source	Primary data	23	52.3
	Secondary data	21	47.7
Data type	Cross-sectional data	25	56.8
	Panel data	19	43.2
Study design	Qualitative	13	29.5
	Quantitative	29	65.9
	Mixed method	2	4.5
Analytical method	Qualitative Comparative Assessment	5	11.4
	Remote sensing	9	20.5
	Regressions	9	20.5
	Quasi-experimental methods	20	45.5
	Randomized experiments	1	2.3
	Ethnographic and remote sensing	9	20.5
	Non-Quasi experimental methods	9	20.5
	Randomized experiments	1	2.3

6.3.2 The Process and Outcome Indicators

The indicator adopted by 12 of the studies was financial remittances; two studies used both financial and social remittances, and one used the information and income of return migrants (Figure 6.4). However, most articles (n=24) adopted migration as a unit of analysis, showing a dichotomous difference between a migrant and non-migrant household concerning the process of interest. Aside from the selection bias that this type of analysis may bring, it is also worrisome that these studies do not show whether and how migrants connect with their households. The assumption that migration may result in household welfare changes may not hold in a case where the migrants discontinue communication with their households. Nevertheless, these additional inquiries may be challenging due to the unavailability of this type of data in most national household surveys.

In terms of the outcome of interest, Figure 5 shows that the impact on income and expenditure is the most often investigated by the authors (n=13). This is followed by the impact on land use (n=11). Ten papers examined the impact on livelihood activities, seven on both labor and food security, while two studies considered rural development's impact.
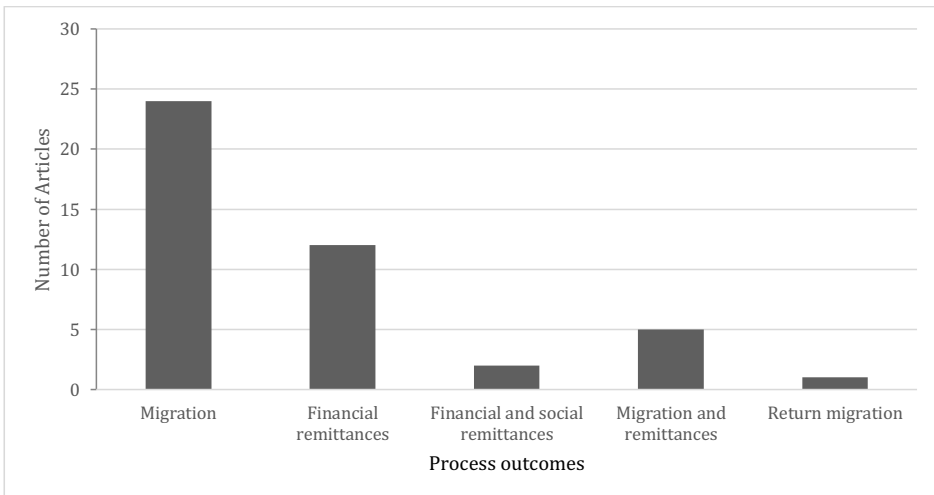
Figure 6.4   Process outcomes examined
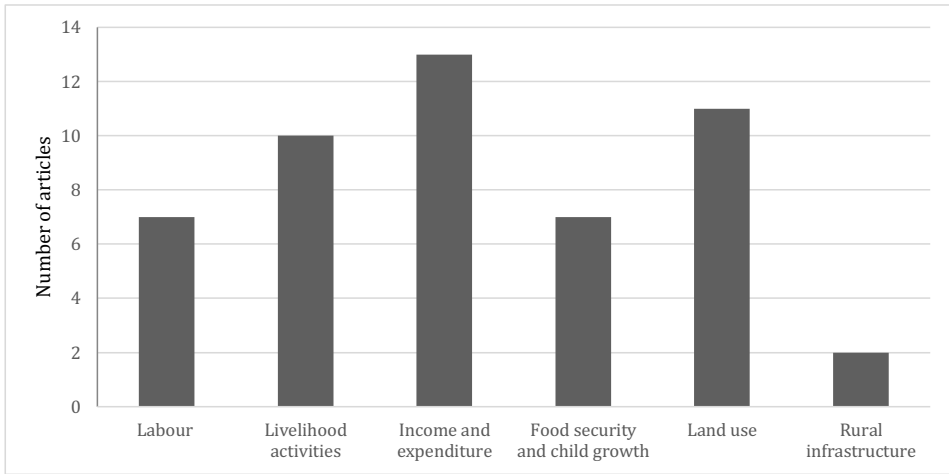
Figure 6.5 Welfare indicators examined in the papers(n=44)

6.3.3 Impact on Immediate Outcome

a) Labour Loss: The immediate impact of international migration on rural household welfare is labor loss. We assume that family labor is reduced as the migration occurs, leading to more hired labor. In a perfect labor market system, remittances are expected to relax the constraints caused by a loss of family labor by providing finance to hire external labor or investment in mechanized agriculture (Adhikari & Hobley, 2015). Out of the seven papers that studied the impact on family labor, only two supported this view. Five of the studies show that the migration of male household members (so-called missing men) may increase the agricultural workload of women and children. Despite receiving remittances, many households still suffer from labor loss, which will eventually reduce farming activities.

In Nepal, Adhikari & Hobley (2015), Maharjan et al. (2013), and Karki Nepal (2016) used a gendered perspective to describe how the departure of men in the households leads to a feminization of agriculture. They showed that because of the increased role of women in the household, men's migration reduced the households' participation in agricultural practices, and remittances are rarely used to hire additional farm labour. Many households engage children in labour activities to compensate for the loss of labour. Alcaraz et al. (2012) found that, in Mexico, migration increases children's participation in informal labor activities. Moreover, in Nigeria, Urama et al. (2017) found that the additional roles by non-migrant members of the family as labor providers caused a shift away from farming activities. They observe that the

reason for this shift is that agriculture in many developing countries is still labor-intensive, and the drudgery increases when child or female labor replaces that of more muscular men.

Therefore, the effects of international migration on family agricultural labor are ambiguous, yet most articles report family labor loss. Succinctly, we found only a few cases where migration and remittances produced a positive labor effect. This occurred when remittances were used to hire external labor, as found in Moldova and Jamaica (Piras et al., 2018; Thomas-Hope, 2017). In these countries, the researchers confirmed that this positive effect occurred because the migrants were interested in engaging in farm work on their return.

6.3.4   The Intermediate Outcome

a) Livelihood activities: The literature on the intermediate impact investigates whether the reduction in family labor and the receipt of financial and social remittances significantly impact livelihood activities, household income and expenditure, and household food security. In terms of livelihood activities, the household has to choose to move to commercial farming activities or diversify to non-farming activities. Only three papers conducted in a setting where migrants participated in the seasonal agricultural workers' program in the USA, report commercialization of farming activities. For example, in Mexico, Hernández-Solabac et al. (2011) showed that farm production units that presented the highest level of mechanization in their coffee plantations have a member abroad who brings new technology and remittances that increase capital for the purchase of more expensive technologies. This evidence is also provided by Thomas-Hope, (2017), who showed that Jamaican migrants who participated in seasonal agricultural work in the USA were more likely to engage in commercial farming activities, as they brought back different technologies on their return. Three papers also showed that migrant households might also intensify their cash crop production while reducing their participation in subsistence farming. We found this evidence in studies conducted in Mexico, Kyrgyzstan, and Guatemala. Böhme (2015) observed that migrant households in Mexico accumulate more agricultural assets in cash crop production than in less lucrative livestock production. Zhunusova & Herrmann (2018) added that receiving remittances helps households venture into more expensive but lucrative livestock production in Kyrgyzstan. Also, in Guatemala, Aguilar-Støen et al. (2016) found an intensification in cash crop production.

Six papers show that through remittances, migrant households can diversify into non-farming activities. Thomas-Hope (2017) provides evidence of how local settings and conditions influence the decision for migrant households to move out of agriculture. The paper describes the case of Jamaica, where migration has led to commercialization, as stated above. In St.

Vincent, international migration was a pathway through which the rural poor replaced farming as their main livelihood activity. This study by Thomas-Hope (2017) is in line with the studies conducted in Moldova and Nepal, which showed that most poor households are likely to invest their remittances in non-farming activities (Piras et al., 2018; Sunam & McCarthy, 2016). In Kosovo, Sauer et al. (2015) provided more evidence of the transition away from agriculture. In Egypt, Arouri & Nguyen (2018) found that international migration increased the likelihood of diversification to self-employment in a non-farming activity. Thomas & Inkpen (2013) also showed that, in Malawi, migrants who returned from other African countries shied away from agriculture but engaged more in self-employment.

The main concern here is whether and to what extent international migration would lead to improved farming activities in rural areas or lead to a greater emphasis on non-farming activities. This section's significant findings agree that international migration may lead to a structural shift away from traditional subsistence farming practices. This shift may be either through commercialization or diversification away from agriculture. The types of shifts in rural livelihood activities depend on the local setting and conditions, such as whether migrants engage in seasonal agricultural work. As more migrant households leave agriculture, the volume of food production may be affected unless the shift is compensated by mechanized inputs, as seen in Mexico and Jamaica.

b) Household income and expenditure: The departure of a family member means a reduction in family labor, impacting household income. However, most of the papers showed that remittances help households to increase their income and expenditure. We found 13 contributions to this effect with evidence from Egypt, Senegal, Pakistan, Kyrgyzstan, Vietnam (n=2), the Philippines, Bangladesh (n=2), Ethiopia, Nigeria, Nepal, and Sri Lanka. These studies indisputably showed that remittances served as extra income, increasing household wealth, which improved household expenditure on food, education, health, housing, and intra-household money transfers (Ajaero et al., 2017; Arouri & Nguyen, 2018; Atamanov & Van den Berg, 2012; Cuong & Linh, 2018; Ducanes, 2015; Hassan & Jebin, 2018; Hossain et al., 2017; Javed et al., 2017; Karki Nepal, 2016; Mergo, 2016; Mezger & Beauchemin, 2015; Sharma, 2013; Viet Cuong & Mont, 2012). Breaking down this evidence shows that in cases like Egypt, Senegal, Bangladesh, Vietnam, and Pakistan, households are more likely to invest in real estate than in agricultural assets (Arouri & Nguyen, 2018; Hossain et al., 2017; Javed et al., 2017; Mezger & Beauchemin, 2015; Viet Cuong & Mont, 2012). Moreover, in Bangladesh and Sri Lanka, where

most migrants are sponsored through loans to engage in seasonal migration, loan servicing contributes significantly to the migrant's remittances (Hassan & Jebin, 2018; Sharma, 2013).

There is no question that international remittances increase household incomes, which makes receiving households move up the income ladder (Mergo, 2016). The increased income is equally beneficial to non-migrant households through intra-household money transfers from migrant to non-migrant households and the repayment of loans. Remittances increase expenditure and purchases of goods from non-migrant households — these trends result in spillovers that could lead to social and economic transformation in rural areas.

c) Food security: Research on the nexus of international migration and food security mostly focuses on the ability of migration to improve household access to food in general, and particularly to nutritious food. The research in this field considers the hypothesis that remittances are expected to increase a household's liquidity, which may translate into dietary changes, mostly noticed in child growth patterns. The papers reviewed in this section (n= 7) find that international migration increased dietary changes and promoted better child growth. For example, in Sri Lanka, Jayatissa & Wickramage showed that when the mother is a migrant in a poor household, undernutrition will become a problem, but when the father is the migrant, there is a positive impact on child care. Evidence from Nicaragua and Mexico showed that seasonal migration of mothers helps them to gain knowledge of different food cuisines, which, upon return, are translated into improved dietary changes that are capable of impacting positively on the development of their children (Macours & Vakis, 2010; Rosales et al., 2018). In Tanzania, Isoto & Kraybill (2017) found that remittances increase the intake of nutrients such as proteins, vitamins A, C, and calcium, which are essential for child growth.

Furthermore, three papers that directly examined the relationships between migration and child development used anthropometric measures, such as height-for-age (HAZ), weight-for-age (WAZ), and weight-for-height (WHZ), as criteria for their assessment. In Guatemala, Carletto et al. (2011) found that the HAZ was 0.45 SD higher for children in migrant households, and stunting was 6% lower when compared with children in non-migrant households. In Tajikistan, Azzarri & Zezza (2011) found a higher HAZ for children under five years old. Furthermore, De Brauw (2011) specifically looked at the impact of remittances during the food crisis in El Salvador. He found that although there was a general decline in child growth due to the crisis, children who had access to remittances had a slower decline in their HAZ scores.

It is evident from the above studies that international migration and remittances may lead to adjustments in dietary choice in rural areas and improvements in child growth. The knowledge

gained through migration helps the migrant household spend more on nutritious food (Macours & Vakis, 2010; Rosales et al., 2018). As such, households in rural areas could benefit from new food knowledge, new food preparation methods, and new cuisines brought back by returning migrants.

6.3.5 The Ultimate Outcome

a) Land use: The first outcome considers whether there are changes in land use in the rural area. The data from ethnographic and remote sensing dominate the studies on the impact of international migration on land use. These studies seek to understand whether migration would lead to land-use changes, land tenure, and forest cover in rural areas. The assumption is that migration will lead to forest transitions through agricultural land abandonment and regrowth of native vegetation (Lambin & Meyfroidt, 2011). Latin America and the Caribbean contributed nine out of the 11 papers reviewed in this section, and Nepal contributed the remaining two. The results evidence agricultural land abandonment. The departure of migrants will first increase the availability of farmland for non-migrant households, but this change in land tenure may not result in definite agrarian improvement, given that in the long term, migrant households would likely buy off the land and make non-farming investments. For example, in Ecuador and Nepal, research showed that rural workers' emigration would lead to land abandonment, which will initially increase land for non-migrant households (Gray & Bilsborrow, 2014; Jaquet et al., 2016; Oldekop et al., 2018). However, this increases the risk of expansion in forest cover, exposing the land to flooding and providing an opportunity for landless poor to buy land at a cheaper rate (Oldekop et al., 2018). In El Salvador, Garni (2013) showed that previous landless households would acquire more lands to engage in agricultural activities. However, this shifting of land tenure is not permanent, as migrants through remittances or upon their return, would buy these lands for speculative motives, evicting the poor, and reducing farming entrepreneurship with their investment in estates (Aguilar-Støen et al., 2016; Gray & Bilsborrow, 2014; Sunam & McCarthy, 2016).

Moreover, external forces such as government policies could affect how migration impacts land use. Nava-Tablada & Martínez-Camarillo (2012) found that, in Mexico, migration alone may not lead to changes in land use, but reductions in public funding for agriculture make agriculture less attractive for migrant households. Taylor et al. (2016) also show that, in Guatemala, migrant households purchase more land and leave the land fallow to benefit from the national forestry policy that rewards rural dwellers for leaving land forested. In St. Lucia, the World Trade Organisation ruling that reduces bananas' export encourages return migrants to invest instead in estates and tourism rather than in agriculture (Walters, 2016). Further evidence of

transformation in land use is reducing fuelwood used for cooking for most migrant households. Manning & Taylor (2014) and Moran-Taylor & Taylor (2010) observed these changes in rural Mexico and Guatemala. They showed that the change in ideas and earnings of migrants leads to growing awareness and purchase of alternative cooking fuels, as many migrant households reduced their reliance on firewood collection and started using stoves and gas instead. This shift in the dependence on land for firewood offers positive environmental implications in rural areas.

Generally, in terms of land use, migration and remittances contribute to inequality in land access in rural areas, causing unstable power relationships between migrant and non-migrant households. The primary benefits pointing to land abundance provide opportunity and power for the landless to control production factors. However, this power swiftly changes when migrant households start buying off the land and using the remittances they receive to invest elsewhere. This unstable power relationship makes poor landless non-migrant households the significant losers of international migration. Moreover, this trend leads to a shift away from agriculture, given that migrant households often invest in estate rather than in agriculture.

b) Rural development: Finally, only two papers provide evidence of how international migration and remittances lead to rural social and infrastructure development. The first evidence is the study by Bada (2016) that presented a unique partnership in Mexico, which increased collective remittances for rural development activities. According to this paper, the Mexican government established the three-for-one program, which matches remittance dollars sent by US-based migrants using the ratio of 3:1. This means that if Mexican migrants send 3 million dollars for the program, the government tops up this amount with 1 million dollars. The program enables the government to extract remittances to fund infrastructure in rural Mexico.

Moreover, the collective remittance initiative improved social interaction between diasporas and non-migrants, helping diasporas contribute to rural development. With the help of this state-society partnership, diasporas have maintained their loyalty to home communities and preserved the flow of remittances invested in community infrastructure needs. The challenge in this partnership is in the risk of ignoring the voices of non-migrants, as diaspora groups have the power to select the local project. Further evidence of how migration improves rural social development is by increasing the diffusion of information technology. A study conducted in four developing countries, Thailand, Vietnam, Laos, and Cambodia, showed that international migrants had increased the use of mobile phones in rural areas (Hübler, 2016). Although the impact is minimal when controlled for the respondent's education and age, information

technology remained the most effective way in which rural households interacted with international migrants.

6.4 Conclusion

This study presents a systematic review of the literature investigating the impact of international migration on rural households' welfare. We conducted a strict and rigorous article search in Web of Science, Scopus, and Sage journals, selecting 44 papers that show evidence from 2007 to 2018. Six rural welfare indicators were adopted for the review: labor, livelihood activities, income and expenditure, food security and child growth, and land use, and rural development. International migrants contribute to rural development, as captured by these rural indicators, by sending remittances or transferring knowledge. We found more considerable evidence from Latin American countries, especially Mexico, with little evidence from the Arab countries.

We found that the development impact of international migration on rural areas of developing countries varies, and findings are highly context-specific. As a migrant departs, the immediate impact on rural welfare is a labor loss effect. We found that this leads to a process of feminization of agriculture and an increase in child participation in informal labor activities. Although remittances could replace the lost labor with hired external labor for agricultural intensification, most of the evidence shows a shift to commercial farming or transition away from agriculture as the main livelihood activity. At an intermediate level, the power relationships within the rural areas change, briefly increasing the opportunities for non-migrant landless poor to access agricultural land. However, with remittance receipts, or upon return, migrant households swiftly become the dominant players in rural economic activities, moving up the income ladder, buying more land, improving their food security, as well as investing more in non-agricultural activities.

Therefore, we submit that the increase in international migration in developing countries creates a dynamic process of structural and functional transformations in rural areas. We see international migration as a development process capable of increasing wealth for the rural poor and empowering rural women. We found evidence to conclude that sustained migration in developing countries would ultimately lead to a transition away from agriculture towards other livelihood activities in rural areas. We also found that remittances and migrants' knowledge are the most viable process through which international migrants influence rural welfare.

Finally, we highlighted some research gaps that may be of interest to future research. First, our review finds that most studies are designed in such a way that the drivers of migration are disconnected from the impact. Future research assessing the impacts of international migration should consider linking the outcome with the causes of migration. Furthermore, there is a need for more evidence from the Arab region. The region is critical given the significant number of international migrants leaving the region since the Arab Spring. Another critical area is the need to provide more evidence on the spillover effect of international migration on rural dwellers' welfare in general, not just focusing on the impact on migrant households.

7 INTERNATIONAL MIGRATION, REMITTANCE AND FOOD SECURITY DURING FOOD CRISES: THE CASE STUDY OF NIGERIA[15]

Abstract

The paper argues for the need to integrate the linkages between migration, remittances, and food crises in the migration-food security literature. Food crises that are exacerbated by erratic climatic changes, violence, and other uncertainties are essential drivers of international migration. Research on the impact of migration and remittances on food security has grown lately, but it is arguably not comprehensive in its approach. The role of remittances in improving household food security experience during food crises is a vital stream being neglected, and the impact of remittance on food security over the long-term is yet to be studied comprehensively. To fill this gap, we analyzed the case study of Nigeria using a World Bank Living Standards dataset and followed an instrumental variable approach. Our results showed that remittance is valuable in meeting both short and long-term food security, and it is a veritable instrument for meeting household food security during food crises. It is particularly crucial for female-headed households who are more vulnerable to food insecurity. Although it does not significantly improve dietary diversity, households receiving remittances are less likely to adopt unhealthy coping practices such as eating less nutritious food and less likely to be worried about meeting household food requirements due to lack of money. We conclude that migrants' remittances do not only smoothen consumption; they also have the capabilities to place households on higher food security equilibrium during food crises.

7.1 INTRODUCTION

Food crisis is arguably the primary driver of international migration in low-income countries (FAO, IFAD, IOM, & WFP, 2018). It is exacerbated by erratic climatic changes, conflicts, insecurities, and uncertainties, threatening the livelihood and survival of many households (FAO, 2016; FSIN, 2018). The shock caused by the food crisis is predominantly felt by vulnerable groups such as the poorest households, female-headed households, households with many dependents, and those living in regions with little or no insurance mechanisms (Grófová & Srnec, 2012). Food crises cause food insecurity by rising food prices, which increase hunger and malnutrition, especially in young children, and forces vulnerable households to adopt diverse coping strategies (Compton *et al.,* 2010). Migration and remittances are among the critical coping strategies, which can improve household food security experience during food

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[15] This Chapter is based on Obi, Bartolini, Marijke (2020) International migration, remittance and food security during food crises: the case study of Nigeria. *Food Security* 12, 207-220. DOI: 10.1007/s12571-019-00990-3

crises (Adger *et al.,* 2002; Ebadi *et al.,* 2016; de Brauw & Ambler, 2018; Sikder & Higgins, 2017; Sirkeci *et al.,* 2012).

The link between migration, remittance, and food security is centered in the new economic theory of labor migration (Stark & Bloom, 1985). The theory specified migration to be a coinsurance arrangement. Households collaborate to send a member abroad with the expectation that remittances will improve insurance against risk and loosen financial constraints caused by varieties of market failures, including food crises (Taylor, 1999). The remittance sent home becomes an altruistic contribution to withstand current or future food crises and insecurities. Previous research linked migration, remittance, and food security in at least three different ways. The first subset of literature considers how the departure of migrants may lower household food consumption requirements and reduce the number of family labor available for food production (Maharjan *et al.*, 2013; Urama *et al.,* 2017). The second subset of studies examines the household's potential to receive remittances and information that could directly increase the expenditure and consumption of nutritious food (Damon & Kristiansen, 2014; Isoto & Kraybill, 2017; Karamba *et al.,* 2011). The third subset shows the possibilities of remittances and information to indirectly improve food security by enabling the household to invest in food production and other non-agricultural activities (Atamanov & Van den Berg, 2012; Böhme, 2015). These studies were conducted using several food security indicators such as household per capita food expenditure, caloric consumption, food diversity, food preparation assets, and child growth standards.

While these studies concluded that the decision to migrate and send remittances is reflected by households' need to meet their basic needs, including food security, essential gaps still exist in the literature. Choithani (2017) and Crush (2013) observed the disconnect between migration and food security and argued for the need for more research and evidence to bridge this divide. Moreover, existing studies that analyzed food security use mostly short-term direct measures that may not capture food insecurity during food crises (Maxwell & Caldwell, 2008; Moltedo et al., 2014) or its long-term effects. We also added that although remittance income may smoothen consumption as literature has shown, the real welfare impact could be explicitly captured by the extent remittance income was able to make household food secure not only in the short term but also over the long term, especially during food crises (Abadi *et al.*, 2018; Smerlak & Vaitla, 2017). The critical question that research is yet to answer is, does migration and remittance receipt makes a household more food secure during food crises, and to what extent, whether short or long term? Answering this question will increase the understanding of

migration and remittance potentials as a critical household coping strategy against food crisis and an instrument to maintaining long-term food security.

To answer this question, we build from the reality that during food crises, households select different livelihood and coping strategies that are available and are entitled to them (Pritchard *et al.,* 2013). The option(s) adopted by the households to smoothen consumption could have a short-term impact and long-term implications (Sikder & Higgins, 2017). Poor and non-migrant households may decide to eat cheaper and less nutritious foods or reduce food rations, minimizing short-term food insecurity experiences (Christiaensen *et al.,* 2018). However, these short-term coping strategies are unhealthy and could further lock them in low food security equilibrium, making them more vulnerable to long-term food shock (Chiripanhura & Niño-Zarazúa, 2016; Smerlak & Vaitla, 2017). The privileged households may send a member abroad, receive remittance and information from the household members who migrated. This household decision could bring positive impact both in the short and long term through several pathways, as shown in the literature. First, in the short term, migration and remittances could reduce the household consumption requirements via the reduction in food partakers and an increase in per-capita food expenditure. Second, in the long term, the enhanced investment in agriculture and non-agricultural activities due to remittances and information could improve household food production, food availability, sales revenues, and income which would lead to more purchase of diverse and quality food (Craven & Gartaula, 2015; De Brauw, 2011; Zezza *et al.,* 2011). Therefore, we argue that households that do not have access to remittance operate at a higher-risk base with food insecurity during food crises. Hence, we search empirical evidence that shows that households that receive remittances have access to extra income and food supply that enable them to operate at lower risk with food insecurity, making them more likely to achieve short-term and long-term food security.

Following the study rationale explained above, our analysis studies the short-term and long-term food security experience of remittance and non-remittance households during food crises. We considered international remittance in this paper because it tends to be larger than internal remittances during hardships, and its magnitude is less responsive to domestic shocks (Mckay & Deshingkar, 2014). Our study contributes to the literature on migration-food security nexus by showing how remittance is vital to household food security during hardships. Our study differs from the previous studies that consider this nuance subfield but have used qualitative data method (Adger et al., 2002; Sikder & Higgins, 2017). We draw evidence from the World Bank's living standard surveys using the context of Nigeria, a critical remittance-receiving

country that has several experiences with food crises. We equally adopted an instrumental variable approach that provides significant quantitative insights on the role of remittances on household food security and capable of controlling for the possible selection bias that arises in this kind of research. The results and conclusion provide insights that are relevant to both research and policy.

7.2 THE NIGERIAN CONTEXT

Nigeria provides a relevant case study for this study, owing to its massive migration and remittance flow and its food crisis experience. Food security represents a significant challenge in Nigeria since the 1980s, when the country abandoned agriculture as a focal sector for commercial oil exploration (Matemilola & Elegbede, 2017). A higher incidence of food insecurity has dramatically been manifested in rural farming households (Jabo *et al.,* 2017). In 2016, data showed that about 32.4% of the total population is undernourished (FAO, IFAD, UNICEF, WFP, & WHO, 2017). Internal conflicts (such as Boko-haram terrorism and farmers-herdsmen clashes), the oil price-induced recession, and climate change have limited domestic food production and increased food prices, resulting in food crises in many communities (Nwoko *et al.,* 2016; Obi & Peart, 2016). The food price in Nigeria increased by 15.3% between mid-2015 and mid-2016 (National Bureau of Statistics, 2016).

A survey of the impact of food crises in Nigeria showed a significant degree of heterogeneity between northern and southern regions and urban and rural areas (Chiripanhura & Niño-Zarazúa, 2016). Many poor households have adopted several coping strategies to ensure food stability, for example borrowing food from friends, reducing portion sizes of food, and consumption of street food (Akerele *et al.,* 2013; Fonta *et al.,* 2015; Ike *et al.,* 2017; Jabo *et al.,* 2017). Another coping strategy used by households is migration and remittances. Nigeria is one of the significant departure hubs for migrants into Europe (UNHCR, 2017). Migration is generally common in the southern regions, where food is usually more expensive than in the northern regions (Afaha, 2012; Carling, 2006). With a remittance flow of $22 billion in 2017, Nigeria is the highest remittance-receiving country in Africa and 5th in the world (World Bank, 2018)*.* Although this value may be underestimated[16], formal remittance inflows are significant in the country when considered as a share of GDP, contributing to about 5.6% of the GDP. The Central Bank of Nigeria (CBN) reported that home remittance compares favourably as a source

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[16] *In Nigeria, due to the exchange rate fluctuations, undocumented resident statue of some migrants, and challenges of remitting directly to rural areas, there is often more incentives to use informal channels to remit money back home than the formal channels (Hernandez-Coss & Bun, 2007; World Bank, 2018). This unrecorded informal transfer had been reported to constitute about 50% of total transfers from the UK to Nigeria (Hernandez-Coss & Bun, 2007)*

of foreign income inflows with crude oil (CBN, 2017). The impact of remittance on the national economy has been studied extensively with majority views indicating that remittances contribute positively to the Nigerian economic growth (Afaha, 2012; Eigbiremolen & Nnetu, 2015; Olubiyi, 2014). Research has shown that a significant portion of migrants' remittance in Nigeria is used for food expenditure (Fonta *et al.,* 2015). Nevertheless, aside from few mentions (Ajaero *et al.,* 2017; Urama *et al.,* 2017), studies of the impact of remittance on household food security are scarce, and research on whether migrants' remittance can reduce food insecurity experiences during food crises in Nigeria is practically non-existing.

7.3 METHODOLOGY

7.3.1 Data

The data used in this paper was collected from the Nigerian 2015/2016 General House Survey (Nigeria National Bureau of Statistics, 2015). It is implemented in collaboration with the World Bank Living Standards Measurement Study. The period of data collection fell when Nigeria experienced severe food crises due to the drop in crude oil price and a rise in domestic violence. This period also corresponded with the period of migration crises in Europe, when many Nigerians migrated into Europe through Italy. About 5% of the households that were sampled received international remittances during this crisis time. A strategic sample selection is required to adequately capture the impact of remittance on household food security. This is to ensure a fair comparison between households that receive remittances and those that do not. We restricted our analysis to states where migration/remittances are large enough to yield sufficient comparison.

We follow a multistage stratified sampling procedure to ensure the regional representativeness of our sample. This was done by selecting only the top 3 remittances receiving states each from the country's Northern and Southern region. Further cleaning was done to drop enumeration areas from these states that do not have at least one remittance-receiving household. Finally, 570 households were used in the study; 107 remittance households against 463 non-remittance households. We carried further tests on the data, confirming that households' exclusion would not cause a significant change in the results[17]. Figure 7.1 shows the case study

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[17] *To ensure that our sample does not lose its representativeness and external validity, we tested if there are significant differences in the household characteristics of the control groups and the households not selected in the study (result table is provided in the supplementary material). We found that the household size, sex of household head, household total expenditure, marital status of head, and ownership of insurance were not significantly different at a 5% significant level. Nevertheless, the t-test also returns that households included in the sample are more likely to practice agriculture than those not included. Our results clearly showed that the exclusion of the households would not cause a significant change in the result. Furthermore, the result compares favourably with earlier research conducted in Nigeria and neighbouring West African countries.*

areas; Plateau, Bauchi, Kaduna for the northern region, and Anambra, Edo, and Lagos for the southern region.
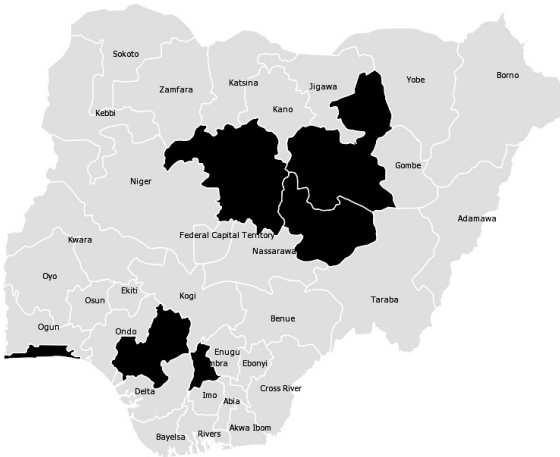
Figure 7.1 Nigerian Map showing the case study areas

7.3.2   Econometric Approach

The paper aims to test the hypothesis that remittance income is beneficial to the household food security experience by improving their food expenditure and food diversity, and as such, it has a short-term impact. The ultimate impact on long-term food security depends on the ability to cope during persistent food shocks. Thus, to test this hypothesis, the data of the case study areas were included in econometric models. The aim is to compare the short-term and long-term food security of remittance households with non-remittance households and how they cope during food crises. Four food security instruments were used in the analysis. (1) Household food expenditure per-capita, (2) Household Dietary Diversity Score (HDDS), (3) the Reduced Coping Strategy Index during food crises (rCSI), and (4) the Long-term Food Insecurity Experience Scale (FIES). The combination of these indicators has proved to be a consistent proxies measure of the different dimensions of food security in both the long and short term and during food crises (Maxwell *et al.*, 2013; Ike *et al.*, 2017).

We defined these indicators according to Ballard *et al.* (2013), Leroy *et al.* (2015), Maxwell & Caldwell (2008), and Maxwell *et al.* (2013). Household food expenditure per-capita is a summation of the amount spent on food in the last seven days, divided by the number of household food partakers. HDDS is the total number of food types eaten by household members in seven days. The scale used in the survey includes seven food groups- starch, pulses, fat and

oil, fruits and vegetables, sugar, meat and fish, condiments. The rCSI is a set of weighted five questions with seven days recall period asked to ascertain the vulnerable households that struggle to meet their food need during food crises. The question for the rCSI is: in the past seven days, how many days have you or someone in your household had to: 1, rely on less preferred foods; 2, borrow food or rely on help; 3, limit portion size at mealtimes; 4, restrict adult consumption for children; and, 5, reduce the number of meals. The sum of the weighted score was used to calculate the household rCSI, and households with lower rCSI are regarded as more food secure. FIES is a 12-month recall period question that asked a set of eight questions on the household's subjective well-being regarding food consumption. The FIES question is during the last 12 months, was there a time when you were: 1, worried you would not have enough food to eat because of lack of money; 2, unable to eat healthy and nutritious food because of lack of money; 3, ate only a few kinds of food because of lack of money; 4, had to skip a meal because there was not enough money; 5, ate less than you thought you should because of lack of money; 6, your household ran out of food because of lack of money or other resources; 7. were hungry but did not eat because there was not enough money; and, 8, went without eating for a whole day because of lack of money. The sum of the raw score of the questions was used to calculate the household FIES, of which a higher score means more problems with long-term food insecurity. Further description of the indicators is presented in Table 7.1.

Table 7.1 Summary of leading indicators used in the study

Indicator	Description	Data	Measures
Per-capita food expenditure and expenditure on food classes	This is a summation of the amount spent on food in the last seven days divided by the number of household food partakers. It includes food eaten away from home, purchased, own production, and food as a gift. This value is further disintegrated into different food classes.	The continuous variable measured in Naira Per capita per day	Short-term food expenditure
Household Dietary Diversity Score (HDDS)	This is the total number of food types eaten by household members in seven days. We categorized the food classes into seven groups, including starch, pulses, fat and oil, fruits and vegetables, sugar, meat and fish, condiments.	Count variable from 1 – 7, indicating the total number of food class consumed	Short-term food quality and diversity
Reduced Coping Strategy Index (rCSI)	Household Coping strategy during food shock. This is a set of weighted five questions with seven days recall period asked to ascertain the households that struggle (cope) to meet their food need during food crises.	Count variable between 0 – 56 with lower values signifying higher food security	Sufficiency of food supply during food crises
Food Insecurity Experience Scale (FIES)	This is a 12-month recall period question that asked a set of eight questions on the subjective well-being of household as regards food consumption	Count variable between 0 – 8 with lower values signifying higher food security	Long-term food stability perception

Source: Ballard et al., (2013); Leroy et al., (2015); Maxwell & Caldwell, (2008) and Maxwell et al., (2013)

The dependent variables include food expenditure parameters (per-capita food expenditure and per-capita food expenditure on different food classes), which were natural log-transformed for the analysis, and the HDDS rCSI and FIES, which are count variables. The primary independent variable, remittance, is a discrete dummy variable represented as 1 for a household that receives international remittance within the period of food crises and 0 for the non-remittance household. Considering the kernel distribution of these variables (see figure 2), it is appropriate to use two modeling approaches. First, we use a two-stage least square equation to estimate the impacts of remittance on the log of household food expenditure and the log of the expenditures on food classes. Second, an exponential mean model with endogenous regressors was used to examine the impact of remittance on HDDS, rCSI, and FIES. As will be explained, these models are a considerable improvement on the standard ordinary least square (OLS) and Poisson regression model (PRM), which served as the first stage analysis.

Formally, the structural form of the OLS and PRM can be expressed below as:

OLS: $y_{1i} = \beta_1 y_{2i} + x'_{1i}\beta_2 + u_i$ ----- (1)

PRM: $E(y_{1i}|y_{21}, x_{1i,}u_{i1}) = \exp(\beta_1 y_{21} + x'_{1i}\beta_2 + u_{1i})$ ------ (2)

where y_{1i} is the dependent variable (OLS: log of food expenditure per-capita per day, and log of food class expenditures per-capita per day; and for PRM, dependent variables are HDDS, rCSI, and FIES), y_{2i} is remittance household, x'_{1i} represent the control variables, and u_i is the error term.

The control variables include several covariate factors collected from the household head and are expected to influence the outcome variables such as sex, marital status, education, insurance, household expenditure as a proxy for income, household size, agriculture occupation, and household assets such as access to the internet, possession of gas stove, fridge, and insurance. Some community-level variables that control for possible community variation in the food crisis experience were collected from the community head. This includes region, either south or north, location in urban or rural, the average price of table water, and the incidence of food crises in the community.

Remittance is the variable of interest in our analysis. A dummy variable of receiving remittance against non-receiving remittance was used. Another possibility would have been to use a continuous variable that represents the magnitude of remittance received. However, due to data inconsistencies, we were not confident enough to use the latter during data cleaning. Equally, we decided not to use migrants versus non-migrants as some researchers have done because of the possibilities of non-migrant households receiving remittances during food crises, which may lead to noise in the analysis (Adger *et al.*, 2002; Sikder & Higgins, 2017). Moreover, at least in the context of Nigeria and other West African communities where communal life still exists, it may be the case that non-migrant households receive remittances from friends and distant relatives.

Receiving remittance nevertheless does not occur randomly across households resulting in potential endogeneity problems. Endogeneity problems caused by reversed causality, selection bias, and omitted variables have been extensively discoursed (McKenzie & Sasin, 2007). In this study, similar problems emerge because households that receive remittances during food crises may be different from households that do not receive remittances. They may be those that experience severe shocks from the food crises and can seek and acquire help from relatives abroad, or they may be those that are already privileged to have a migrant household member. Hence, survivor and selection bias may exist when this group is compared to non-remittance households with a similar privilege. To account for this bias, we adopted an instrumental variable (IV) regression approach (McKenzie et al., 2010).

Specifically, we developed our instrumental variable through the migration network theory (S. E. Lee, 2010; Mckenzie & Rapoport, 2007). This theory assumes that residing in migrants' communities increases the propensy to migrate, and by extension, increasing the likelihood of remittance receipt (S. E. Lee, 2010; Mckenzie & Rapoport, 2007). However, another bias may be created when using the migrant network as an instrument. It may not satisfy the exclusive restriction law, as migration itself may affect food security by reducing household food productivity (Arouri & Nguyen, 2018; McKenzie et al., 2010). Previous studies have made some modifications concerning this issue. Taylor & Lopez-Feldman, (2010) added another instrumental variable to compensate for the lapses of migration network variables, Böhme (2015) divided the GDP growth of the destination country by the migrants' network, and Nguyen & Winters (2011) strengthened the migration network approach by including an interaction between the network and adult equivalent household size.

In our case, we used the interaction between the community migration network and the household head's age as our instruments. During food crises, the household head's age may affect remittance receipt but may not directly affect household food security. For instance, older household heads may have middle-aged children that could migrate and remit, and they are more likely to receive remittance from non-relatives out of share empathy and respect. To be convinced that the adjusted migration network variable does not capture other community factors that could be linked to the outcome of interest, we ran a correlation test with the community-level variables (table 3 of supplementary material). We found a weak correlation between the community variables and the adjusted migration network.

We conducted a series of exclusion restriction tests to justify the IV equations. The Robustified Durban-Wu-Hausman test of the endogeneity model leads to a firm rejection of the null hypothesis that the remittance variable is exogenous (p=0.003), confirming the endogeneity of remittance. The Cragg-Donald Wald F statistic is approximately 10 (9.699), satisfying the widely used thumb of the rule suggested by Staiger & Stock (1997) for identifying the weak instrument. The R-square is approximately 0.08, which, according to Cameron & Trivedi (2010), is not low enough to flag the weak instrument problem in a just-identified model. We also conducted a test and conditional sets estimation (Mikusheva & Poi, 2006). The three coverage-corrected tests gave a similar 95% confidence interval of [0.93, 5.76] which is more extensive than the regular asymptotic interval of the endogenous variable [0.45, 3.59]. This result suggests that there is no strong need to correct for the weak instrument. We also followed the recommendation of Angrist & Krueger (2001) that when the number of instruments is equal

to the number of endogenous variables, the weak instrument's bias is approximately zero. Finally, The Pagan-Hall general test statistics confirm that the error term is heteroskedastic (p=0.09). Hence, to make allowance for the heteroscedasticity of the errors, we used the robust standard errors in our estimation and clustered the errors at the regional level. It is also important to note that for a further robust check, we rerun the experiment with the whole population and find no significant changes in the results. The next section reports the results of the IV regressions and Poisson regressions with endogenous regressors (IV Poisson), of which the results are robust to Treatment effect model.

7.4 RESULTS

7.4.1 Description of household and food security variable

Table 7.2 presents the descriptive statistics of the variables included in the analyses. The means of the variables are shown for both remittance households and non-remittance households. The table provides valuable insight into the profile of households that receives remittances during food crises. On average, the remittance household heads are significantly older (57 years) than the non-remittance household heads (52 years). About 61% of the remittance household heads are married than 71% for non-remittance households that are married. More so, 39% of remittance household heads are widowed, which is significantly higher than the percentage of non-remittance households that are widowed (29%). More female-headed households receive remittances (31%) than male-headed households (22%). Remittance households have a smaller household size than non-remittance households, confirming that they have lower consumption requirements.

Moreover, about 8% of remittance households have at least one international migrant, which is significantly higher than the 2% of the non-remittance household with an international migrant. Remittance households are more likely to possess fridges and cooking gas, which could improve food preparation. As expected, receiving remittance (average 136,326.43 naira per year per household, approximately $500) translated to higher income for remittance-receiving households. The community-level questions confirm that food insecurity was a covariate risk borne across all communities in the period under review.

Table 7.2 Descriptive statistics of variables

	Remittance household (n = 107)		Non-Remittance Household (n =463)		
	Mean	Std. Dev	Mean	Std. Dev	t-test
Key household characteristics					
Age (head age in number of years)	57.17	16.16	52.71	13.98	2.64***
Sex: female headed household (1: yes)	0.39	0.49	0.22	0.42	3.28***
Married: head is presently married (1: yes)	0.61	0.49	0.71	0.45	-2.03**
Education: attended post-secondary (1: yes)	0.15	0.36	0.13	0.33	0.61
Household size (number)	5.41	3.57	5.55	3.21	-0.39
Occupation: agriculture (1: yes)	0.51	0.50	0.59	0.49	-1.39
Household expenditure (Naira)	408,023	486,423	303,408	313,324	2.125**
Remittance Characteristics					
Remittance (Naira receive per year)	136,326	247,983	0	0	-
Migrant: has international migrant (1: yes)	0.08	0.27	0.02	0.13	2.42**
Household assets					
Internet: head has access to the internet (1: yes)	0.15	0.36	0.15	0.94	0.07
Insurance: head has insurance (1: yes)	0.07	0.25	0.03	0.18	1.30
Gas: household has gas cooker (1: yes)	0.14	0.36	0.05	0.22	2.35*
Fridge: household has a fridge (1: yes)	0.44	0.55	0.28	0.54	2.69***
Community Variable					
Region: a household in the south (1: yes)	0.68	0.47	0.65	0.48	0.58
Location: a household in an urban location (1: yes)	0.58	0.50	0.49	0.50	1.63
Price of table water (per 50CL)	9.49	9.34	9.81	10.49	-0.29
Experience sharp change in food prices (1: yes)	0.51	0.50	0.54	0.50	-0.53
Instrumental Variable					
Migrant Network: the presence of other migrants (1: Yes)	0.43	0.50	0.32	0.50	2.09**
Adjusted migrant network with the age of head	3577.86	1876.27	3010.14	1558.70	2.91***

***, **, * are significant in 1%,5% and 10% respectively. All monetary measures are calculated in Naira; 1 US dollar = 305 Naira in 2016

The summary statistics of the food security indicators considered in this analysis are shown in Table 7.3 and Figure 7.2. The Table also includes disaggregated expenditure on food classes. The food classes are divided into food eaten at home; such as (a) starch staples (grains, flour, starchy roots), (b) pulses, nuts, and seeds; (c) fats and oils, (d) fruits and vegetables, (e) meat, fish egg, milk and other animal products, (f) sugar, beverages, alcohol and juice and (g) condiments, water and miscellaneous, and food eaten away from home. The table suggests that remittance households spent significantly more on food per-capita per day (660 naira) compared to non-remittance households (501 naira). Consistent with previous results (Ike *et al.,* 2017; Kuku-shittu *et al.,* 2016), the overall household food consumption is predominantly on starch staples. The HDDS indicator equally shows that remittance households tend to eat more diversified food than non-remittance households. More so, the remittance households

recorded lower scores for both the reduced coping strategy index (rCSI) and the long-term food insecurity experience scale (FIES). The distribution plots further explain these results. As expected, the food expenditure shifts to the right for the remittance households while the rCSI and FIES are denser towards zero, indicating a higher food security level for remittance households.

Nevertheless, the above interpretations are relatively intuitive and do not imply causality as they do not control for possible household and community characteristics that may influence the level of food security. For instance, the distribution plots for HDDS seem very similar for remittance and non-remittance households. To explain causality, a more robust econometric strategy is required, as discussed later.

Table 7.3 Comparing food security level of remittance and non-remittance households

	Remittance Household		Non-Remittance Household		
	Mean	Std. Deviation	Mean	Std. Deviation	t-test
Total food expenditure per capita per day	660.75	731.29	501.17	517.52	2.14**
Food expenditure away from home	79.08	193.78	59.33	114.12	1.02
Grains, flours, starchy roots	270.59	345.08	220.42	328.15	1.41
Pulses, nut and seeds	29.25	99.50	18.38	37.19	1.11
Fats and oils	7.30	15.83	6.53	16.88	0.43
Fruits and vegetables	88.76	170.93	73.53	150.13	0.92
Meat, fish eggs and milk	86.92	132.58	63.89	92.93	1.70*
Sugar, beverages, alcohol and juice	65.63	151.46	34.80	108.17	1.99**
Condiments, water	33.21	100.52	25.10	58.29	0.80
HDDS	6.40	0.76	6.22	1.02	2.07**
rCSI	4.67	7.14	5.63	6.61	-1.33
FIES	2.66	2.86	3.71	2.91	-3.36***

***, **, * are significant in 1%,5% and 10% respectively. Questions on food category expenditure are measured in per capita per day. 1dollar = 305 Naira in 2016
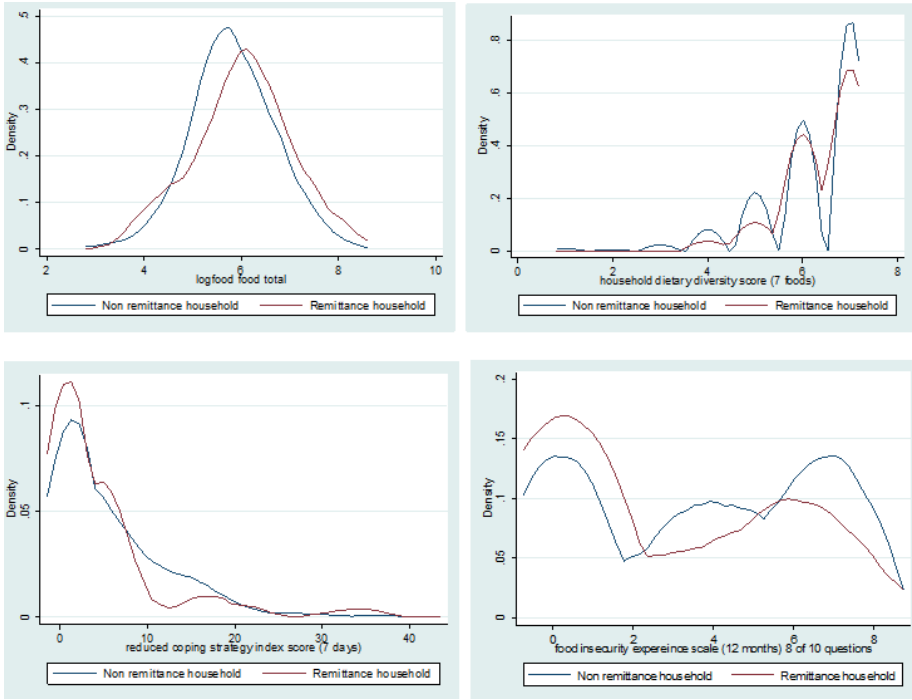
Figure 7.2 Distribution Pattern of the Food Security Indicators

7.4.2 Econometric Results

Table 7.4 shows the result of the short-term impact of remittance on household food security. This is measured by the food expenditure per-capita per day and the food expenditure of different food classes. The table is a truncated version that reports only the remittance coefficient. The results of the full model are found in the supplementary material. We find that without controlling for selection bias, the OLS analysis result suggests that remittance has no significant impact on household food expenditure per-capita. After controlling for selection bias and possible heteroskedastic issues, we find that receiving remittances has a tremendous impact on the food expenditure parameters. The alternative treatment effect models equally produce a similar and consistent result. These models report significant but lower coefficients.

Table 7.4 Model estimates of the impact of remittance on food expenditure levels (n=570)

	OLS	IV regression	Treatment effect model
Lnfood expenditure	0.04	2.02**	1.84**
	(0.06)	(0.85)	(0.69)
Lnfood away	-0.26	-4.37**	-4.38**
	(0.16)	(1.63)	(1.65)
Lnstarch	0.13	2.51***	2.39**
	(0.09)	(0.76)	(0.92)
Lnpulses	0.07	1.81**	1.39
	(0.13)	(0.72)	(1.03)
Lnfats	-0.12	0.89	1.00
	(0.12)	(1.30)	(0.90)
Lnfruits and veg	0.04	3.54**	3.39**
	(0.13)	(1.42)	(1.34)
Lnmeat and fish	0.12	3.45**	3.07**
	(0.12)	(1.59)	(1.21)
Lnsugar	0.24	1.39	0.69
	(0.18)	(1.44)	(1.31)
Lncondiments	-0.12	1.71**	1.13
	(0.10)	(0.86)	(0.80)

Note: the full models control for the head of household characteristics (sex, marital status, education), household characteristics (insurance, total expenditure, household size, agriculture occupation), household assets (internet, gas fridge), and community characteristics (region, location, table water price, and food price changes). Standard errors are presented in parenthesis. All analysis is clustered at the regional level that includes all the six geopolitical regions. *, **, *** are significant at 10, 5 and 1 % level respectively.

In general, the IV models indicate that remittance households spend more on starchy staple foods than non-remittance households. It further shows a negative impact on expenditure on food away from home. This means that remittance households are more likely to prepare their food at home rather than purchasing food from the street. This may be due to the possibility that preparing food at home is more expensive than street food during food crises. This is in line with the study of Compton *et al.* (2010), who showed that street food is often cheaper during food crises than home cooking due to economies of scale. Hence, as a coping strategy, non-remittance households with limited liquidity may rely on the purchase of cheap meals from local street food vendors. Although this choice may increase their access to food by enabling them to buy food cheaper, on credit, or purchase smaller portions, the diversity, and quality of food will matter. Nevertheless, remittance income increases the liquidity of remittance households, enabling them to overcome financial constraints enabling them to purchase food items for home cooking.

We inferred that the positive signs of remittance on food expenditure might be more pronounced in high migration regions. To confirm this, we disaggregate our results into the northern and southern region, and we find that remittance contributes significantly more to food expenditure for households in the southern region than it does in the northern region, and more in the rural locations compared to the urban settings *(Table 7.5).* This suggests that

migration and remittance are veritable tools for improving household food security in migrant-sending communities. In particular, it provides evidence for the use of migration and remittances as a community coping strategy against food crises. If food crises drive young people from the southern region of Nigeria to migrate to help households left behind, it is possible that solving the problem of food security could help to curtail the incidents of irregular migration occurring in the region.

Table 7.5 Estimate of the impact of remittance on food expenditure levels on sub-samples by region

	Northern region	Southern region	Rural	Urban
Food expenditure	2.85	1.33**	3.88*	0.86**
	(2.20)	(0.61)	(2.22)	(0.40)

*, and ** show significant differences with the comparison groups (non-remittances households). ***, **, * are significant in 1%,5% and 10% respectively. The standard error in parenthesis.

We now focus on the impact of remittance on household dietary diversity, coping index during food crises, and the long-term food insecurity experience (*Table 7.6*). The results from Table 7.6 show a positive but insignificant increase in dietary diversity for remittance households. This result is surprising but robust to other models. It is surprising because we saw that remittance households were more likely to spend more on different food classes than non-remittance households. A plausible explanation of the insignificant effect is that the bulk of food expenditure during food crises is often stable.

Table 7.6 Remittance, dietary diversity, coping practices, and long term food security experiences

	Poisson	IV Poisson	Treatment effect model
HDDS	0.02	0.20	0.02
	(0.01)	0.16	(0.01)
rCSI	-0.09*	-1.55**	0.18***
	(0.05)	(0.68)	(0.06)
FIES	-0.26**	-1.25*	-1.99***
	(0.13)	(0.74)	(0.75)

NB: The sample is 570 households. The report provides remittance coefficient estimates from models that include all the households and community-level characteristics described in Table 7.2. Standard errors are presented in parenthesis. *, **, *** are significant at 10, 5 and 1 % level respectively.

The results of the rCSI and FIES models are significant and negative. The rCSI model results indicate that with fixed values for the other regressors, remittance households are less likely to resort to unhealthy coping strategies during food crises. For instance, remittance households are less likely to eat less nutritious food or ration food because of lack of money or purchase low-quality food from street food vendors. These are some of the short-term coping strategies

that are more likely to be adopted by non-remittance households, which may negatively affect the household health and food security level in the long term. This proven ability of remittance households to maintain a higher food security level during food crises pays off over the long run. The FIES model results show that remittance households have a strong subjective perception of long-term food stability. They were less likely to be worried about not having enough to eat in the year that the food crisis occurred. This probably would be due to the regular inflow of remittance that serves as insurance against the food crises.

7.5 DISCUSSION

The main question we tried to address is if remittance can improve households' short and long-term food security during food crises. Although a significant heterogeneity exists, households that receive international remittances succeed in achieving higher food security during food crises. This is very true for the short-term food security experience and possible for long-term food security. In the first place, it is essential to reiterate that remittance households are predominantly headed by older women who are likely to be widowed or divorced. This finding is in line with the literature that shows the role of gender in the migration-food security nexus (Kassie *et al.,* 2014; Maharjan *et al.,* 2013; Tibesigwa & Visser, 2016). Indeed, female-headed households are less food secure than male-headed households and vulnerable to food insecurity during food crises. However, our finding goes further to show that this disadvantage places the female-headed household in a strategic position to receive more remittances in times of hardship. Their ability to receive international remittances can be explained by the possibility of having children who may have migrated and remitted and their position of being old and widowed, which makes them more likely to receive altruistic remittances from non-family members living abroad. This insight also resonates with the finding that non-migrant but vulnerable households also receive remittances during food crises. In India, Choithani (2017) highlights the crucial role of remittance in improving food access among vulnerable rural households. In the Nigerian context, the community way of living has necessitated a norm where vulnerable people could be supported through remittance and gifts from non-relatives during hardship.

Secondly, our study provides evidence on the different pathways through which remittances impact long-term food security. Generally, while non-remittance households are more likely to adopt unhealthy short term coping strategies such as eating cheaper and less nutritious foods or reducing food rations which could be detrimental to their long term food security experience, our study confirms that remittances serve as an extra income that places the remittance

households at lower risk with food insecurity during food crises, making them less likely to adopt the unhealthy coping practices. Households that receive remittances have significantly higher food expenditure per-capita per day. This is possible because they have lower consumption requirements, as they are likely to have more migrated members. They can also consume more quality home-made food, which means that they have more money to purchase the priced market food items, or they have invested in domestic food production. They also invest more in cooking gas and fridges, which improve food preparation and ensure longer preservation of food. Generally, these healthier coping practices enable remittance households to be more confident and less worried about meeting the household's food requirements over the long term. The finding implies that as remittance households become less worried about meeting the household food demand, they could channel their efforts towards the investment in other meaningful human capital such as sending children to schools and improving household health care, which has long-term benefits.

Finally, it is essential to note some limitations of our result that should be of interest in future research. We adopted mostly point estimates to make projections about long-term food security. Although FIES is a fundamental instrument that enables us to estimate households' reflection of long-term food security experience, we agree that long-term food security experience may be graciously captured using panel data assessment. Moreover, we used HDDS as an easy and less complicated measure of food quality, yet we recognized the shortcoming of HDDS and its criticism in literature. For instance, a simple summation of different classes of food consumed may not sufficiently reflect the nutritional quality of the food.

7.6 CONCLUSION AND POLICY IMPLICATIONS

This study examined how international remittances could impact households' short and long-term food security during food crises. We argued that this subfield is relevant but neglected in the migration-food security literature. Taking the case study of Nigeria, our results showed that remittance is an essential coping strategy, valuable in meeting both short and long-term food security during food crises. International remittances are very much crucial for older female-headed households, who are more vulnerable to food insecurity and making them more likely to receive altruistic remittances even from non-household members that are migrants. Although receiving remittance does not significantly increase household food diversity, it enables the household to maintain higher food security equilibrium during persistent food crises. Households that receive remittances have higher food expenditure per-capita per day, a lower likelihood of adopting unhealthy coping strategies such as eating cheaper but less

nutritious food, and are less likely to be worried about meeting household food requirements lack of money. Invariably, the improved capability to maintain higher food security could enable them to concentrate more on improving other human capital with long-term consequences.

Necessary policy implications can be drawn from the results. First, we saw a significant impact of remittance on household food consumption expenditure and, at the same time, an insignificant increase in household food diversity. This is a concern, especially as to how remittance influences the food choices of beneficiary households. Previous research has confirmed this problem when they saw that migrants households often make wrong food choices, shifting towards consuming potentially less nutritious food, mostly starch and sugary food (Karamba *et al.,* 2011). Consistency in this way of feeding may lead to child obesity (Damon & Kristiansen, 2014). Hence, the policy that encourages dietary choice education in high migrant communities is necessary for improving the nutritional level of migrant households. This is of utmost importance if the migrant community is also experiencing food crises.

Second, we found significant heterogeneity in impacts between the high migrating southern region and low-migration northern region and between rural and urban areas. Remittance contributes significantly more to food expenditure for households in the southern high migrating region than in the northern low migrating region and more in rural locations than in urban areas. Generally, this implies a need to improve the remittance channels to high migrating regions and rural areas to contribute to a better food security experience. Moreover, as our analysis captures that remittances are significant in meeting food security in high migrating regions, it is imperative to assert that the migration policy that hinders regular migration and distorts remittance may have a countervailing effect on food security in migrant communities. In extreme food insecurity crises, young people may seek possible ways to migrate to high-income countries to help their households. Based on this, we reiterate the need for policies that aim to solve the root causes of migration in low-income countries to see reducing food insecurity and improving remittance outlets as critical goals.

Finally, although we did not estimate this pathway, the remittance level may also depend on the economic and financial status of the migrants in the host community. Hence, for migrants to provide for households during food crises, a healthy "second-order effect" of policy instruments that enable them to maintain gainful labor in host countries is very important (i.e., agricultural policy or structural funds). Thus, further studies may seek to develop conceptual and empirical models to estimate the spill-over effect of policy in promoting migrant jobs in host countries.

8 CONCLUSION

Abstract

This final Chapter summarizes the critical results, the answers to the three research questions, and the research and policy recommendations. Generally, the dissertation shows that capabilities act as the qualifiers of migration, explaining why some people do not migrate. Access to information is a critical capability that reduces the threshold to qualify for migration. Migrant networks and social media that convey migration information can lead to misinformation and irregular migration decisions. Nevertheless, the capability to make safe migration can be improved through access to complete and accurate information via information campaigns. Irregular migrants often experience capabilities deprivations due to the protracted asylum application system. These deprivations can affect the migrants' well-being and societal contribution. Hence, there is a need for policy reformation to protect migrants, mostly the vulnerable irregular migrants, to achieve the benefits of migration

8.1 SUMMARY OF THE RESULTS

This dissertation used the capability-based migration framework to explain the socioeconomic reasons for migration decisions and outcomes. It considered Nigeria to Italy migration corridor, collecting data from Nigerian migrants, those who are yet to migrate, and those that have already migrated to Italy. I argue that the neoclassical migration theories are inadequate in explaining contemporary migration dynamics. This inadequacy is because they focus mostly on the linear economic perspective, they do not account for immobility, and they neglect human agencies and capabilities. The capability-based migration framework that I conceptualized in this dissertation could be a prospect to migration theory. The framework adopts four elements in assessing multifaceted and multidimensional aspects of migration decisions and outcomes. The elements include resources and conditions, capability sets, migrants' agency, freedom, and mobility functioning. Using the capability-based migration framework, I addressed three research questions. I present a summary of the results that answers the research questions here (see Box 8.1).

Box 8.1 Summary of key results

> **How do capabilities influence migration decisions in migrants' home country? -** Capabilities act as the qualifiers of migration. Capabilities and freedom of choice can explain why some people do not migrate. Access to information is a critical capability that reduces the threshold for migration. Social networks and social media (social capabilities) that distribute migration information can lead to misinformation and irregular migration decisions. The capability to access complete and accurate information can be enhanced through information campaigns, and this capability can encourage safe and orderly migration.
>
> **What are the capabilities depriving constraints faced by irregular migrants in destination countries? -** Irregular migrants, especially those who applied for asylum, experience capabilities deprivations due to the protracted asylum application system. These deprivations come in the form of psychological, financial, and social constraints in destination countries, which affect the migrants' wellbeing and societal contribution.
>
> **How do migrants contribute to capability improvement at home? -** Migrants' remittances are essential to their households. Migrants insure their households during crises. Migrants' contributions go beyond their immediate households; they are agents of transformation in the rural area as a whole.

8.1.1   How do capabilities influence migration decisions in migrants' home country?

a) Capabilities act as the qualifiers of migration. In chapter 2, I explained how the capabilities one owns and freedoms of choice one could make qualify who can migrate and who cannot migrate when exposed to the same level of conditions. This result implies that irrespective of the resources and conditions that drive migration, whether negative such as poverty and hardship or positive such as opportunities and prospects, ones' capabilities tell if migration aspirations can be realized. The exploratory study in Nigeria confirmed that the essential capabilities that qualify those who can migrate are financial, social, psychological, physical, and information capabilities. Migration requires sufficient investment in money. Some migration costs are obligatory, such as passport, visa, transportation, or paying human traffickers. Financial capabilities enable people to pay for these costs. As such, it is those that have sufficient financial capabilities that would eventually migrate if they desire. Others who lack sufficient financial capabilities may rely on social capital such as migrant networks, family and friends, and even the human traffickers to sponsor their migration. Psychological and physical capabilities are also crucial for migration to occur. It is often those with a sound mind and physical health that could migrate successfully, without depending on others, an issue that is crucial in irregular migration.

Therefore, this study adds to the literature in three ways. The first way concerns the consideration of multiple factors that influence migration decisions. The second way is explaining why economic factors do not provide complete knowledge of migration drivers. The

third way concerns the likelihood of irregular migration occurring among those with limited capabilities, i.e., those experiencing hardships. These three key messages challenge the neoclassical theories, which suggest a linear association between hardship and migration.

b) Capabilities and freedom of choice can explain why some people do not migrate: One of the neoclassical theories' challenges is the inability to explain immobility. However, the capability-based migration framework helps us to do so. The framework suggests that even when people possess the same level of capabilities, they have the freedom to choose whether they want to migrate or not. In Nigeria, I identified four distinct groups with regard to migration decisions by combining capabilities and freedom of choice. They include voluntary mobility, constraint mobility, voluntary immobility, and acquiescent immobility groups. When conditions at home are unfavorable, the groups that choose mobility include those that could migrate because they have sufficient capabilities and those who are constrained to migrate. However, the latter may find ways to migrate in the future through assistance from networks. The groups that may not migrate are those that voluntarily choose not to migrate although having sufficient capabilities to migrate. It also includes those who are so deprived that they no longer aspire for change or believe they could migrate. This result means that capabilities need to be combined with agency and freedom of choice to explain immobility. Immobility can occur because of choice (voluntary immobility), limited capabilities (constraint mobility), or both (acquiescent immobility). Generally, by examining these migration decision dynamics, the capability-based migration framework can be seen to give a broader view of migration decisions than the neoclassical approach.

c) Social capabilities can lead to misinformation and irregular migration decisions: Among all the capabilities necessary for migration to occur, access to social networks and information is vital in Nigeria. This is especially true for the people with migration aspirations but who have a lower financial capability to migrate. Social networks are explained as informal intermediaries that facilitate migration, such as neighbor and family networks, migrants' networks, migration brokers, and social media. These networks play a dual mediating role in facilitating migration, including reducing the threshold cost required to migrate and introducing a bias in terms of misinformation. Social networks are often the reason for irregular migration decisions in Nigeria. The research in Nigeria shows that people who receive information from social networks tend to have higher migration intentions than others. In particular, those that use social media are also more likely to have the intention to migrate. Those with access to migrant networks and those that use social media are more likely to be exposed to incomplete

information. The information provided by these informal sources focuses on the opportunities of migration rather than on the risk, a challenge that has increased the irregular migration of people in Nigeria.

d) The capability to access complete information can encourage safe and orderly migration: The potential migrant's abilities to make the right migration decision can be improved through formal information campaigns. Information campaigns tend to deter potential migrants from entering Europe irregularly. Although at the moment, several discussions are going on about the campaigns' operationalization and effectiveness. In the case of Nigeria, where cases of irregular migration are prevalent, information campaigns can encourage people to make better choices. In Nigeria, due to irregular migration, many young people have lost their lives because of the harrowing journey they experienced. Most of them taking the irregular routes either are deceived by their social networks or have discounted the risk involved. Of course, to improve the capability of potential migrants to make the right decisions about migration, information campaigns should be effectively designed to convey the complete information in the right manner to the right audience.

8.1.2 What are the capabilities depriving constraints faced by irregular migrants in destination countries?

People migrate to enhance their capabilities to live a desired life or enhance their families' wellbeing. The capabilities of migrants to achieve these objectives often decline when they move irregularly or are undocumented in the host country. The case of Nigerian irregular migrants in Italy shows that despite their possession of some human capital and willingness to work, the substantial constraints they face lead to a negative aspiration gap. For example, they experience psychological constraints due to the harrowing journey. They experience financial constraints due to lack of a work permit, lack of job access, and job exploitation. They also experience constraints in social capital due to the poor attitudes of the natives, which often lead to job dissatisfaction and discrimination. The effects of these capability deprivations include poor subjective wellbeing for the migrants and low productivity. These issues hurt the migrants' households through reduced remittances and reluctance for the migrants to return.

8.1.3 How do migrants contribute to capability improvement at home?

a) Migrant remittances are essential to their households: In many communities in Nigeria, migrants are often the breadwinners of the family, and their households live at the upper end of the social ladder. However, this does not always show throughout the migration trajectory. When migrants leave, there is a brief period of shock caused by labor loss. The effect of labor loss will become more conspicuous if the households' primary means of livelihood is labor-

intensive, for example, agriculture. Household productivity could reduce drastically if a high productive member migrates. Many migrant households may rely on women or increase the number of children participating in informal labor activities at this early migration stage. Migrants' household capabilities to convert land to food or income decline, a problem that intensifies if the migrants do not send remittances. Migrants' financial and knowledge remittances are their households' lifeline to move up the social and income ladder. Remittances are extra income or information that can help the household intensify agricultural activities or diversify in non-agricultural activities, improve household asset accumulation, and increase human capital, e.g., education, food, and health.

b) Migrants insure their households against crises: The last Chapter of this dissertation particularly pays attention to migrants' capabilities to contribute to their households' food security during food crises. It is not surprising to see that migrants help their household be food secure when other households are experiencing a shock. In Nigeria, households receiving remittances are less likely to adopt unhealthy coping practices such as eating less nutritious food and less likely to be worried about meeting household food requirements over the long-term. The contribution to food security and other dimensions of wellbeing goes beyond their immediate households. Migrants could create employment by investing in housing projects or large-scale agriculture. Through diaspora networks, migrants can give youths loans or scholarships and engage in local development initiatives.

c) Migrants are agents of transformation in the rural area as a whole: I also show that migrants can turn out as agents of transformation in the home communities. They have the capabilities to improve local conditions and challenges that drive migration. They can do this in two ways. The first occurs through a successful migration when the migrants are appropriately integrated into the host community and are offered opportunities to contribute to the home community. Through their remittances, knowledge, and investment, they can create employment, remove dependence on agriculture and improve socioeconomic development at home. The second occurs through a failed migration. This latter scenario could arise when strict integration policies reduce migrants' capability to work or send sufficient returns back home. The little money or information sent by the migrants could be used for migration by those at home. Hence, the kind of contributions migrants make to society depends on the level of integration they received.

8.2 Research and policy implications

From now on, I made several research and policy implications and recommendations from what I learned from my research.

8.2.1 Research Implications

a) The capability-based migration framework provides an opportunity to see international migration as a complex, multidimensional, multifaceted, multidisciplinary, and dynamic phenomenon that may not be sufficiently understood from the neoclassical viewpoint. There is a need to shift from the narrow-minded way of theorizing migration to a more pragmatic human-centered way. Some researchers have adopted the novel multidimensional capability-based framework introduced in this paper. Popular among them are Carling (2002), De Haas (2014), and Schewel (2020), who have used the concept to explain migration decisions. Also, the likes of Boccagni (2017), Borselli & van Meijl (2020), and van Heelsum (2017) used the model in explaining migration outcomes, especially the integration experience. The framework developed in this dissertation adds to the literature by simultaneously explaining the decisions, the integrations, and the contributions of migrants from a specific group. Hence, the capability-based migration framework helped analyze the holistic view of the migration trajectory for a particular group of migrants, which is lacking in the literature.

Through this way, my study was able to answer some vital questions that have puzzled researchers. For instance, why are the majority of people in Nigeria not migrating when migration is perceived as a pathway for wellbeing improvement in Nigerian society? Indeed, my study shows that the capability-based migration framework can be a far-reaching model to understand contemporary migration dynamics. This opinion is in line with the earlier suggestions of Preibisch et al. (2016) that the capability-based migration approach could improve the understanding of modern-day migration dynamics. I, therefore, recommend that future studies on migration decisions and outcomes should look into the possibilities of integrating the elements of the capability-based migration framework introduced in my dissertation. They should assess migration decisions from the standpoint of migrant's aspirations, agency, and capabilities. More so, these elements – aspirations, agency, and capabilities – should be seen as essential elements for understanding migrants' integration and contributions.

b) A diverse source of data – national and international database, primary survey, literature review - is required to understand the contemporary migration dynamics. My dissertation also provides a relevant methodological contribution to migration research. At the moment, there

is none yet a well-established methodology to describe the migration-related issue as well or standard procedure for data collections. Several methods are used for collecting international migration data. Data can be collected from national population databases, international data sources, e.g., IOM, personal surveys, and recently social media data sources. Indeed, it has not been shown that one method is better than the other. Hence, one needs to adopt the method that best suits the research context and design. A holistic view of a particular group of migrants' migration trajectory requires large data sources, which sometimes is challenging. My dissertation collected data from individuals living in Nigeria to access their migration decisions. Data were also collected from Nigerians living in Italy to examine the integration experiences. It adopts secondary data sources to investigate migrant's contributions. Future research that wishes to conduct a holistic investigation of migration decisions and outcomes also needs to collect data from several sources or adopt the more strenuous path of following a particular group of migrants from the decision stage in home countries to the outcome stage in host countries. Generally, a mixed source of data will reduce bias and provide a broader understanding of the discourse than when one data source is used.

c) An observational case study approach facilitated by a researcher that can relate to the situation through previous experience or ethnic membership is a suitable method for conducting primary surveys on the difficult to reach population. Since migrants are considered vulnerable populations and part of the difficult to reach groups, a more humane approach is required to reach them, especially when they are in limbo or waiting for asylum decisions. I adopted an observatory and case study research method in my assessment of Nigerian asylum seekers in Italy. Although being a Nigerian helped improve my access to the respondents, I also consider that the observational study approach did even more. Through my presence, living with them, following them to work, eating with them, observing their experiences, and speaking in Nigerian pidgin, I communicated better with the study group, which gave me a richer understanding of their pains and challenges. Other survey approaches may not achieve this level of insight. I recommend that observatory methods should be adopted to survey these difficult-to-reach migrant groups. Observational studies need to be conducted in a way that the researcher maintains his researcher agency, yet he/she should be seen as part of the migrants' community by the migrants. It would also be an added advantage when researchers who had a similar experience with the targeted migrants' groups or researchers of the same ethnic group or nationality lead this kind of migration survey.

d) Experimental methods like randomized control trials are equally appropriate for examining the impacts of information campaigns. Following the success of my randomized control trial experiment, I recommend that studies that analyze the relationships of migration decisions and information campaigns can be conducted using an experimental method like a randomized control trial. Generally, studies of this nature require three strategies. The first is to profile the characteristics of a potential migrant. Profiling potential migrants will help produce tailored information capable of appealing to the emotions of the selected participants. Second, the researcher should seek to understand their baseline knowledge and risk perceptions before implementing the campaigns. Third, impact data should be collected consecutively after three, 6, or 12 months and beyond to check the short and long-term impact of information campaigns.

8.2.2 Policy Implications

a) Improving youth's capabilities to access accurate information in their home countries can enlighten them about migration risk and opportunities. In 2018, the United Nations General Assembly formally endorsed the Global Compact on Safe, Orderly, and Regular Migration as a non-binding international treaty. Many countries have keyed into the compact to address the issue of irregular migration. Information campaigns have been the dominant method used to deter young people from engaging in irregular migration. Indeed, there is a gross misconception among young people that living abroad provides better opportunities irrespective of the migrants' status. This incomplete information has made many youths develop a mindset of traveling abroad and neglecting the opportunities at home. It also makes them vulnerable to human traffickers and smugglers. Therefore, it is imperative that accurate and complete information, including integration processes, actual lifestyles of migrants, and better livelihood alternatives in home countries, are communicated in migration information campaigns.

While information campaigns may have several benefits, many underlying factors need to be improved to ensure the campaigns' success. First, several researchers have criticized the way the campaigns are designed and assessed so far. The major criticism is that information campaigns lead to the externalization of border security and the problematization of population movements. This criticism can be addressed by revisiting how information campaigns are designed. I recommend that information campaigns follow a bottom-up approach rather than a top-down approach. A bottom-up approach will have the following features: -

A bottom-up migration information campaign requires four messages: message on the dangers on the way, message on the integration experience, message about the opportunities for

irregular immigrants in host countries, and the message about the alternatives to irregular journey. Potential irregular migrants tend to discount the risk associated with the journey with the expectation that a better life awaits them at the destination countries. Nevertheless, this is not always true. Pointing out the dangers without giving information about the life of migrants at destination countries nor giving alternatives may limit the effect of the information campaign. In my experiment, the key factors leading to reduced irregular migration decisions of the participants are the improved understanding of the risk in the journey and the miserable situation of most irregular immigrants in Europe. There is also a need to explain the alternatives to irregular migration. These alternatives should include information about visa applications, scholarships, legal labor migrations, and livelihood opportunities at home.

The channel of disseminating safe migration information is vital; it should include visual aids. It was shown that sensitization and awareness campaigns are capable of tackling the new challenges concerning irregular migration. The most beneficial impact of the intervention occurred when the information was disseminated through a combination of methods. Therefore, the combined use of leaflets, movies, and other visual aids are strongly recommended for migration information campaigns. The messengers need to be respected members of society or people who had experienced irregular migration. The message needs to be conveyed to a targeted audience in the form that would improve the audience learning capability.

Social media can be an essential channel for disseminating safe migration information. The issue of irregular migration caused by misinformation from social networks is discussed extensively in this dissertation. Combatting social media-induced incomplete information is a monumental challenge. This issue is because of the uncontrollable rate at which incomplete information is disseminated by migration brokers and unregulated social media groups. Therefore, it is recommended that accurate information, especially on the living conditions of irregular migrants in Europe, be adequately communicated to potential migrants through all available channels, but most especially through social media. The use of social media influencers and local opinion leaders is recommended.

b) The second way of encouraging safe and orderly migration decisions is by improving the capabilities of the potential migrants to achieve higher wellbeing through investment in job creation in home countries. Indeed, irregular migration decision is often taken by those who lack the capabilities to migrate legitimately. This group may also have lower capabilities to achieve the minimum standard of living in their home countries. In my research, those who migrated

irregularly complained about business failures, inability to secure a university admission, and lack of safety nets in Nigeria. Since information campaigns are not incentivized, they do not solve the challenges that drive irregular migration. Therefore, I recommend that the information campaign be implemented side by side with other interventions like skill acquisition programs, business development initiatives for youths, adult education, and university scholarships. These soft programs could create jobs and a sense of belonging to many who aspired to migrate irregularly. An example of this program is the German foreign office special initiatives in Nigeria (BMZ, 2020). With funding from the German Development Ministry, they have set up migration advice centers in three States in Nigeria. People receive information about the alternatives to migration at the centers and are assisted in job searching. Aside from these services, the center also assists refugees and migrants who are returning to Nigeria. Other European countries can learn from Germany in developing migrant-centered development cooperation in home countries.

c) The third way of achieving safe and orderly migration decisions is by improving options for legal migration pathways. While there have been genuine efforts to improve information through information campaigns in Nigeria and other places where irregular migration is a problem, the public distrust of the intervention may limit its effectiveness. On the one hand, those who desire to migrate may consider information campaigns as government-sponsored propaganda to stop them from migrating. On the other hand, the strict visa requirements introduced by major destination countries hinder those who decided to follow the legal route, thanks to information campaigns. Therefore, information campaigns should not be only about deterrence to irregular migration but also should provide options for legal migrations. The Canadian express entry for skilled immigrants launched in 2015 is an example of a successful legal migration system (Immigration Refugees and Citizenship Canada (IRCC), 2019). A recently launched Match project organizes labor migration between some west African countries and Europe (IOM, 2020b). More information on these two examples is found in Box 8.2. These programs are welcomed, but I recommend that they have broader coverage in terms of the number of beneficiaries and activities. A new activity that could be introduced in these programs is to provide refugees the option to apply for asylum and recognition directly from their home countries, perhaps through online applications without having to risk their lives.

Box 8.2 Examples of legal migration pathways

The Canada's Express Entry Immigration Programme

Launched in January 2015, Express Entry is Canada's evidence-based application management system for specific economic immigration categories: Federal Skilled Worker Program, Federal Skilled Trades Program, Canadian Experience Class and a portion of the Provincial Nominee Program. Express Entry was designed with three main objectives in mind: 1) flexibility in selection and application management; 2) responsiveness to the labour market and regional needs; and 3) speed in application processing. Express Entry uses the Comprehensive Ranking System, which is an evidence-based points system designed to identify candidates most likely to achieve high employment earnings and who were able to maximize their economic performance in the Canadian labour market. An evaluation of the project performance between 2015 and 2018 show that the early economic results for Express Entry principal applicants are positive – they are demonstrating high levels of labour market participation and tangible results in terms of their employment income, as well as the type of occupation in which they are employed. Further, the evaluation found that Express Entry principal applicants generally outperform their non-Express Entry counterparts. In particular, these early results show that 95% of Express Entry principal applicants have become established economically and incidence of employment is high across the four immigration categories.

Source: Immigration Refugees and Citizenship Canada (IRCC), (2019)

The Match Project - Hiring African Talents

MATCH is a 36-month initiative funded by the European Union (EU) aimed at providing highly skilled talents to private sector companies whose needs for qualified staff cannot be satisfied by the offer available on the EU labour market. The MATCH project aims to address existing labour shortages through smart and organised labour migration. The project will facilitate the 'matching' of highly skilled African talents - from Nigeria and Senegal - with companies in Belgium, The Netherlands, Italy and Luxembourg based on the specific needs of the private sector. By joining MATCH, companies from Belgium, Italy, The Netherlands and Luxembourg will be supported with the sourcing and recruiting of African talents from Senegal and Nigeria, two countries offering a surplus of qualified professionals. In addition to the job placements, MATCH will also implement complementary activities such as skills development, capacity building and knowledge sharing between the participating EU and African countries. In Belgium, this initiative will benefit from the support of Voka West-Flanders, Voka East-Flanders, VDAB and Agoria. In Luxembourg, MATCH will be supported by IMS - Inspiring More Sustainability.

Source: (IOM, 2020b)

d) Another action that can lead to safe migration decisions among youths is proscribing human traffickers and smugglers' activities. Human traffickers and smugglers take advantage of the youths' desperation in conducting their illicit businesses. They recruit, finance, and intimidate young people into embarking on irregular journeys. In Nigeria, the human trafficking business has become an international underground business worth millions of euros with networks from Nigeria through Niger, Libya, and Italy. Currently, there are several policies and institutions in Nigeria that tackle human trafficking, but more needs to be done. Examples of these policies include the 2003 Trafficking in Persons Law Enforcement and Administration Act, amended in 2005, eventually re-enacted in 2015, and Nigeria's 2003 Child Rights Act. Institutions include government agencies like Edo State Task Force on Human Trafficking (ETAHT), the National Agency for the Prohibition of Trafficking in Persons (NAPTIP), International agencies like IOM and UNHCR, as well as private institutions like Women Trafficking and Child Labour Eradication Foundation (WOTCLEF), Coalition Against Human

Trafficking and Sexual Exploitation of Children (CAHTSEC), Devatop Centre for Africa Development (DCAD). These agencies, most times, act independently and focus on urban areas. Indeed, there is a need for the consolidation of efforts and coordination among them. They need to invest in grassroots reorientation projects in rural areas through family unit meetings, meetings in religious houses, market and school orientation projects. These grassroots initiatives are necessary because some families sometimes support smuggling, hoping that migration will lead to collective wealth. Traffickers and smugglers adopt voodoo to frighten their subjects, which bonds them to their demands for money, sex, and labor. Responsible agencies need to be empowered to prosecute the participating voodoo masters.

e) Adequate integration of migrants is achievable when host countries soften the hostility against migrants as it pushes migrants to seek the services of human traffickers and smugglers and undermines their human agencies, capabilities, and contributions. For a long time, migration has been treated as a temporal setback or crisis that could end through strict management policies. This new political ideology is a clear departure from the historical perspective where migration was more a resettlement and resource control which significantly benefited the now destination countries in the global North (Van Mol & de Valk, 2016). Hostile migration policies would harm migrants rather than lead to safe and orderly migration. Ambrosini (2017) and Castles (2004) had pointed out that hostile policies may not lead to the desired objectives of stopping irregular migration because of the role of illegal intermediaries and the vested conflicting political agendas in these policies.

Some of these hostile policies that have characterized migration controls recently include externalizing border controls to other nations and institutions who act without proper checks and accountability, the problematization of population movements and the presentation of migrants in negative ways by politicians, denying refugees and irregular migrants access to move to countries of choice for asylum applications, prolonging the asylum application system, toughening the procedure to obtain resident or work documents for undocumented migrants, and refugee repatriation without due process. The problems created by these hostilities affect migrants' health, psychology, and contributions to their household at home and the host countries. It is undeniable that these hostile policies harm migrants of all categories, including regular asylum seekers, irregular migrants, international students, and other economic migrants. The policies create public mistrust and uncordial relationships between migrants and native populations, thereby weakening the sociocultural integrations of migrants. In many cases, the hostile environment makes several migrants avail themselves to human traffickers

and illegal intermediaries in host countries for survival. It also endangers both regular economic migrants and forcibly displaced people who have genuine reasons for migrating (IOM, 2019). According to IOM (2011), migrants need to be accorded economic, social, and cultural rights through the principles of equality and non-discrimination and ensure the provision of adequate economic, social, cultural, material, and intellectual welfare. These provisions include the right to work, to just and favorable working conditions, form and join a trade union, strike, social security, protect the family, provide an adequate standard of living, housing, health, and education. The practical implementation of economic, social, and cultural rights often requires the active intervention of the State. The increasing hostility meant on migrants nevertheless indicates the state's failure to implement these migrants' rights. The state actions also raise concerns on how they contravene the elements in the global compact for safe, orderly, and regular migration (McAdam, 2019) and the inclusive development agenda in the SDGs.

I argue that seeing migrants as fellow human beings, protecting their integrities and fundamental human rights are vehicles for proper sociocultural and economic integration and for achieving a safe, orderly, and regular migration. Hence, there is a need for a change in attitude towards migrants and particularly an understanding of the capabilities-enhancing roles that migrants play in the home and host countries. Unfortunately, it was not until the recent COVID-19 pandemic that the migrants' agency and capabilities became a little more visible in the global political discourse. However, fair integration policies are necessary for migrants' recognition and protection at all times. The recently unveiled EU Pact on Migration and Asylum is indeed welcomed. I believe this pact will protect migrants and offer them the opportunities to utilize their capabilities in achieving societal gains. Other favorable integration policies may be in the form of speeding up the asylum application processes for refugees and trafficked persons, developing fair and empowering migrants' return programs, and enacting laws for the protection of migrants' workers. Others include educating the public about the importance of migrants, criminalizing exploitations and discriminations against migrants, providing social services to migrants, and promoting social activities between migrants and native populations.

f) Proper integration, improved remittance channels, and education of migrants' households are needed to enhance the migrants' contribution to wellbeing at home. I argue that migrants should not be seen as economic tools but as human beings who desire to contribute to their families' wellbeing. Migrants' achievements and contributions can be explained through the lens of

expectation and integration realities in host countries. A good integration can lead to capability enhancement for the migrants. This enhancement will give them opportunities to contribute to their households at home. If properly recognized, successful migrants have the potential to solve some of the challenges that caused migration in the first place. I consider successful migrants as those who enjoy higher well-being in host countries, meet their expectations, and contribute to their households.

g) Finally, improving the opportunities of migrants in host communities can help them utilize their capabilities for the benefit of the home society. The capabilities of migrants to contribute to their home communities do not depend only on their sociocultural and economic integration but also on the ease of transferring new skills and money back home. Due to the transfer cost and other legal requirements, many migrants, mostly irregular migrants, often avoid formal money transfer agencies for remittances. They may adopt informal sources, which may not be trusted or traceable. There is a need to create an opportunity for irregular migrants to send money home. The first way is establishing a threshold at which senders do not require documents for sending remittances. Second, reducing the general transfer cost of money. Third, engaging diaspora or religious groups to supervise money transfer or stand as guarantors for irregular migrants. More so, for proper use of remittances, migrant households need to be trained to use remittances for investment and human capital development.

8.3 LIMITATIONS AND FUTURE RESEARCH

The establishment of the capability-based migration framework as a complement to the neoclassical theories requires sufficient empirical evidence. Of course, the capability-based migration framework is broader than it is presently used in this dissertation. My dissertation centered on migrants' decisions, integration, and contributions. Indeed, more research is needed to understand the capabilities of migrants on transits and the contribution of the diaspora group, which were sparingly mentioned in this work. While this area is beyond this dissertation's scope, future research needs to explore the capability of diaspora groups to contribute to home and host communities.

This dissertation focuses mostly on the conceptualization and proof of concept using exploratory data from Nigeria. I consider this as a nuanced focus with some limitations. It lacks a broad view and cannot be generalizable for Nigeria. Most of the research was conducted with a small number of data, which limits the explanation for that particular case. Future research in both Nigeria and elsewhere needs to be operationalized using a large data set. I specifically recommend that new research from different migration corridors are conducted using the

concepts and elements introduced in this dissertation. More evidence from different data is required to move the capability-based migration framework from its present prospect status to an advanced multidimensional migration model or framework. Another limitation of my research is the inability to collect data from the same source and method. Collecting data from different sources or different methods could be an opportunity to reduce the bias inherent in one method. However, at the same time, different sources of data collected at different times and places using different methods may have some time or method variate challenges.

More so, my study adopts a cross-sectional study design, which is typical for most migration research. One example is the work on randomized control trials that collected data before and after the experiment. However, cross-sectional data are affected by predictive limitations. In cross-sectional studies, the involvement and outcome are assessed concurrently. Hence, there is often inadequate evidence of temporal relationships between involvement and outcomes. However, I tried to correct this problem by looking at two different groups – the group who are in Nigeria and desire to migrate and the group who are already in Italy. The inherent differences in these groups make it challenging to attribute my research as actual cause and effect research. The ideal situation could be tracing the same people from Nigeria when they are making decisions to migrate, in the transit countries when they are migrating, and in the host countries when they are integrating and contributing to societal gain. This ideal situation is an ambitious undertaking that requires an enormous investment in time and money, which, unfortunately, cannot be achieved with the limited research funds and duration for doctoral research. When funding is available, this longitudinal research can produce even a better result.

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APPENDIX

Who would migrate out of Nigeria? Answer and receive a reward for Nigerians only.

Informed Consent
Dear friends, we thank you for accepting to participate in the RicosMigration study, organized by researchers from the Ghent University (Belgium), the University of Pisa (Italy), and the Rural Information Campaign on safe migration (Nigeria). The German Ministry of foreign affairs also supports this project through the German Embassy to Nigeria. Ricosmigration is a rural information campaign for a safe migration project which aims to sensitize young people in Nigeria about the dangers of irregular migration. The findings from this study will help us to understand why young people migrate irregularly from Nigeria to Europe. We will ask questions on demographics, subjective well-being, capabilities, knowledge, social media usage, as well as migration intention. These will help us to contribute to the global migration debate. We encourage you to give honest answers to the questions.

Confidentialities
Know also that the questionnaire is anonymous and that your answers are treated confidentially. Your information and answers are protected and will NOT be released to any third party.

Participation Reward
Following a lucky draw, a reward of Nigerian airtime of choice worth NGN1000 will be provided to 50 persons who filled this questionnaire truthfully. Respondents that completed all sections of the questionnaire and showed interest in the draw would be contacted.

By agreeing to participate, you are indicating that you have read the informed consent. It will take approximately 16 minutes to complete this survey.

○ Yes, I have read the informed consent

Socioeconomic Characteristics
This section constitutes 13 questions that would help us understand the respondents better. We will also ask if the respondents have the intention of traveling abroad.

Please specify your gender?

○ Male
○ Female

Which year were you born?

[dropdown]

How do you describe your current place of resident

- ○ Rural
- ○ Urban

What is the highest education you have achieved?

- ○ No formal education
- ○ Primary education
- ○ Secondary education
- ○ Higher institution

Which is your state of origin in Nigeria

[dropdown ⌄]

- ○ yes
- ○ No

Do you have the intention of traveling abroad?

- ○ Yes
- ○ Maybe
- ○ No

Which of these best applies to you?

- ○ Click to select
- ○ Student / Apprentice
- ○ Recent graduate including NYSC
- ○ Unemployed/Jobseeker
- ○ Employed, unskilled employee/laborer
- ○ Employed, semiskilled employee
- ○ Employed, intellectual/higher-level occupation
- ○ Businessman/woman
- ○ Full-time housewife
- ○ Retiree/pensioner
- ○ Handicapped, not able to work or study

What is your marital status?

- ○ Married
- ○ Widowed
- ○ Divorced
- ○ Separated
- ○ Never married

Which religion, if any, are you associated with?

- ○ Christianity
- ○ Islam
- ○ Jewish
- ○ Traditional worship
- ○ No religion

Monthly personal income is an individual's total income received from all sources, including wages, salaries, or rents in a month. What is your monthly personal income?

- ○ No income
- ○ Between 1 to 20,000 Naira
- ○ 21,000 to 50,000 Naira
- ○ 51,000 to 100,000 Naira
- ○ 101,000 to 250,000 Naira
- ○ Above 250,000 Naira

household income?

- ○ No
- ○ between 1 to 20.000
- ○ 2 .000 to 50.000
- ○ 5 .000 100.00
- ○ 100.0 to 250.000
- ○ 250.00 to 500.000
- ○ Above

How many people currently live in your household

- ○ Only me
- ○ Up to 2
- ○ btw 3 & 5
- ○ btw 6 10
- ○ More than 10

Subjective well-being
This section includes seven questions that would help us to understand subjective well-being, life satisfaction, and the link with migration intention.

Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that the top of the ladder (10) represents the best possible life for you, the bottom of the ladder (0) represents the worst possible life for you. Where on the ladder do you feel you stand at this very moment?

∨

Using the 0 to 10 scale where 0 is dissatisfied and ten is satisfied, considering all things happening around you, how satisfied are you with your life these days?

∨

Ideally, if you could afford it, would you like to move to another country, or would you prefer to continue living in Nigeria?

- ○ Move permanently to another country
- ○ Move temporary to another country
- ○ Continue living in Nigeria

Do you have relatives or friends abroad whom you can count on to help you migrate out of Nigeria?

- ○ yes
- ○ Maybe
- ○ No

Assuming you win a hypothetical lottery of 1 million naira today, how likely would you spend it

- ○ Process my Visa and leave Nigeria
- ○ Travel to Europe through Libya
- ○ Use the money in Nigeria to better my life

If given the opportunity, which country would you like to move to?

[dropdown ⌄]

- ○ Study
- ○ Job search
- ○ Family reunion
- ○ Health purpose
- ○ Seek asylum
- ○ Religion
- ○ Tourism

Social Media Usage
 There are debates that social media influences migration intentions. We ask five questions in this section to investigate this hypothesis.

Which of these media do you personally regard as very important in keeping you well-informed about migration?

- ○ Radio
- ○ Television
- ○ Newspaper
- ○ social media internet
- ○ Word of mouth

Which medium do you use best in communicating with people you know abroad

- ○ Postal service
- ○ letter social
- ○ media

 internet   phone
 calls

In general, how many hours do you spend on social media in a day

- ○ up to 1
- ○ hour 2 to
- ○ 5 hours 6
- ○ to 10

hours   more
than 10 hours

What information are you most interested in when browsing the internet/social media

- ○ Opportunities abroad
- ○ Political news
- ○ Celebrity news
- ○ Chatting with friends
- ○ Sports

Knowledge and Perception of Irregular Migration
Migration is a good thing, and it has brought development to both migrant's homes and host communities. A safe migration is one done with the proper documents and procedure. Some people nevertheless travel out of their countries without the proper documents. This type of migration is called irregular migration. In this section, we will like you to share your opinions as to why people engage in irregular migration and the challenges that are associated with irregular migration.

To what percent would the following factors push you to migrate to Europe irregularly? Please slide to the nearest percentage.

	0	10	20	30	40	50	60	70	80	90	100
Insecurity and crises											

	0	10	20	30	40	50	60	70	80	90	100
Poverty, hunger and lack of jobs											
Pressure from family and friends											
Misinformation and deception											
My life ambition											
Because I am capable											
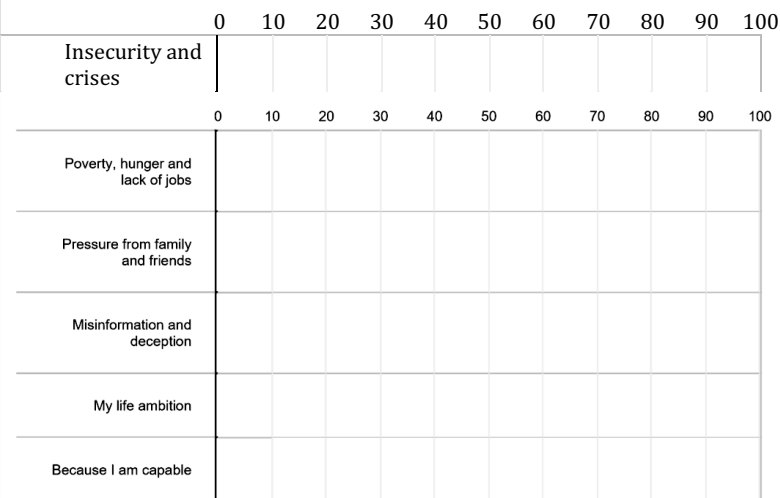
Which of the following statements about irregular migration do you know? *Please slide to the nearest percentage of your knowledge.*

	0	10	20	30	40	50	60	70	80	90	100
Irregular migration involves long stressful journey in the Saharan desert.											
Irregular travelers may be robed, raped, maimed, killed on the way											
Many of the transit countries are facing internal conflicts and wars											
Many irregular travelers can be subjected to harsh labor condition like slavery											
Many people die in the Mediterranean Sea due to overcrowded boats											
On arrival irregular migrants are kept in camps for more than 2 years in Europe											
Most European laws are harsh to irregular migrants											

Capability and Personalities.
In many cases, the capability and personality of an individual could be a deciding factor in migration intention. The last two questions inquire about the capabilities and personalities of the respondents.

	0	10	20	30	40	50	60	70	80	90	100
My current accommodation is adequate for my current needs?											
I have been a victim of domestic violence?											
At present, it is easy to enjoy the love, care and support of your immediate family?											
I find it easy to express feelings of love, grief, longing, gratitude, and anger compared with most people of my age?											
I often lost much sleep over worry?											
I have a clear plan of how I would like my life to be?											
I feel that I am playing a useful role in life, outside work and studies?											
I respect, value and appreciate other people?											
I have recently been thinking of myself as a worthless person?											
I have experienced discrimination because of my ethnicity, gender, religion when seeking opportunities											
I think that within the next 6 months I will be stopped and searched by the police when it is not warranted?											
In my work, I make use of my skills and talents?											

To what percentage do you agree with the following personality statements. Please slide to the nearest percentage.

	0	10	20	30	40	50	60	70	80	90	100
I see myself as extraverted, enthusiastic'											
'I see myself as critical, quarrelsome'											
'I see myself as dependable, self-disciplined'											
'I see myself as anxious, easily upset'											
'I see myself as open to new experience, complex'											
'I see myself as reserved, quiet'											
'I see myself as sympathetic, warm'											
'I see myself as disorganised, careless'											
'I see myself as calm, emotionally stable'											
'I see myself as conventional, uncreative'											

The End Thank you for participating in our survey.

If you would like to participate in the N1000 recharge card draw, please write your contact in the box below (email or phone number)

Hello, my name is Chinedu Obi. I am a Ph.D. student of the Ghent University (Belgium) and University of Pisa (Italy), from the department of agricultural economics. I am conducting a study on the capability and contribution of Nigerian migrants to European society. I humbly request your participation in my study by completing this questionnaire. The questionnaire will take about 7 minutes to complete. I am under oath to keep your information strictly confidential, and analysis would be conducted anonymously. Thank you

Do you agree to complete the questionnaire?. 1. YES, 0. No   Z.4 Date: D / M / 2016

Sign: _____

FOR ENUMERATOR: FILL OUT AFTER CONDUCTING SURVEY
Z.5 Country of interview: _____   Z.6 State or region of interview:_____
Z.7 Location interview: 1. On the farm, Z.8 Respondent found: 1. By manager
                2. At home/Off-farm   2. By other worker/friend
                                        3. In the village/bus stop
Z.9 Is the respondent interested in focus group discussion?   0. No   1. Yes
Z.9.1 Mobile phone number of respondent: _____
Z.10 Comments:
Z.11 This survey is complete: 0. No 1. Yes   Z.8 Revised by: _____

A. Geographical location

A.1 Current living place (village name):			
A.2 Regional district:			
A.3 Do you have a permanent address in another location?		Yes = 1 → No = 0	**YES,** → A.3.1 Where?
A.4 Would you consider moving to another place to live in the future?		Yes = 1 → No = 0	**YES,** → A.4.1 Where?
YES → A.4.2, Why would you like to move?			
A.5 In which country were you born?			A.5.1 State of origin:
A.6 What nationality do your parents have?			
A.7 How long have you been living in this place?	1. Years:	2. Months:	3. All my life

B. Household characteristics

The household is made up of family members living on the same roof with you and sharing the same meal.

B.1 How many persons live in your household here in Europe?
B.2 How many persons currently live in your household in Nigeria
B.3 How many household members in Nigeria currently work?

ID nr	1. Household member	2. Relation to the respondent	3. Where is the person currently residing	4. Age (latest birthday)	5. Sex	6. Highest level of education completed	7. Marital Status	8. Main income activity	9. Strength of relationship with this person
	Respondent on the first line. Rank others from old to young.	Code A	1: Europe 2: Nigeria	Years (If < 1 yr = 0)	1 = M 2 = F	Code B (Below 5 yrs = 99)	Since primary school	Code C (Below 7 yrs = 99)	1. Strong 2 in between 3: Not strong
1	Respondent								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

B.4 Household composition in Nigeria

Code A:	Code B:	Code C:
(0) No family relation (1) Spouse (2) Child (3) Grandparent (4) Brother/Sister (5) Parent	(0) None (1) Pre-School (5-6 yrs) (2) Primary (7-12 yrs) (3) Junior Secondary (4) Senior Secondary (5) Technical Formation	(0) Unemployed/ Housewife (1) Farming/related work on own farm (without wage) (2) Wage labor at the plantation (3) Non-farm related wage labor (construction, services, etc.) (4) Student/goes to school (above 7 yrs)

(6) Other family members	(6) University/Higher Education	(5) Self-employed (own shop, driver, hairdresser, etc.) (6) Other: specify

Income sources of household in Europe	B.5 Since this year, did you or your household member receive…?	YES → B.6 How much is the total money earned last month
	No = 0 Yes = 1 → **B.6**	Euro/month
1 Salary from work		
2 Monetary help from another person		
3 Government support		
4 Part-time Job		
5 Personal business		
6 Other income sources: specify		

C. Savings

C.1 Do you have **savings**?		Yes = 1 No = 0 → **Go to C.2**	
YES → C.1.1 Where do you keep your savings? *(Multiple answers possible)*			
(1) Bank account		(3) Assets, e.g., properties	
(2) Cash		(4) Solidarity association	
(5) Other specify			
YES, → C.1.2 What are you mainly saving for? (*One answer*)			
(1) Properties like House/car		(4) To help the family at home	
(2) Education		(5) Travel	
(3) Resident permit		(6) Other, specify:	

D. Access to assets and essential services at the current living place in Europe

D.1 What kind of house do you live in?		(1) Camp (2) Tent (3) squatting with friends (4) House at the farm (5) Rented house (6) Owned house (7) others _____
D.2 How do you rate your current living place in Europe with that in Nigeria (Africa)		(1)better (2)no different (2) worse

D.3 How many of the following assets do you have in your household in Europe?	Number		Number
1. Car		6. Bicycle	
2. Mixer/blender		7. Motorbike	

3. Iron		8. Mobile phone	
4. Fridge		9. Television	
5. Computer/laptop/tablet		10. Washing machine	

E. Migration history

E1. Which year did you arrive first in Europe		
E2. Which country did you first arrive in Europe		
E3. How many times did you attempt to come to Europe before you succeeded?		(1)once (2)twice (3)between 3 and 5 attempt (4) more than five attempts
E4. Where you able to secure a visa before finally coming here		(1)Yes (2)No
E5. Why did you decide to migrate to Europe?		(1)To work (2)To study / training (3)To get married (4)For health reasons (5)To learn a trade/profession (6)For family reunification (7)For political or security reasons (8) Other *(Specify)*
E6. What are the significant factors that drive you out of Nigeria (select at most 3)		(1)Poverty and hunger (2)Unemployment (3)Family and societal pressure (4)My dreams to make in life (5)Security challenge (6)To help my family (7) Others
E7. How easy was it to come here? (1) Very difficult (2) Difficult (3) Not difficult, not easy (4) Easy (5) Very easy		
E8. How easy was it to integrate into the new society? (1) Very difficult (2) Difficult (3) Not difficult, not easy (4) Easy (5) Very easy		
E9. Who helped you to come here?		(0) No help → **Go to E.10** (1) Close family (2) Friends (3) Colleagues (4) Brokers (5) Company (6) Local migrant community (7) Other: specify
E9.1. What kind of help did they give you?		(1) Shelter/food (2) Work opportunities (3) Information (4) Capital/transport (5) Other: specify
E.10 Is there a local organization supporting/assisting migrants during the integration process?		(0) No support institution (1) NGO/civil society organization (2) Church

		(3) State body (4) Other: specify
E.11 Do you have a work permit or other visa/amnesty?		Yes = 1 → **Go to E.12** No = 0
NO →E.11.1 Did you legally request a work permit?		Yes = 1 → **Go to E.12** No = 0
NO →E.11.2 Reason for not requesting a working permit?		(1) Too costly to request (2) Too much administration (3) Do not know-how (4) fear of deportation (5) Other: specify
E.12 How often do you go back to your family in your home country?		(1) Daily (2) Several times a month (3) Once a month (4) Every three months (5) Every six months (6) Once a year (7) Never

Migrants development perspective		
Imagine a ladder with steps 0 meaning lowest to 10 highest; compare your living conditions before and after migrating	E.13 which step are you in experiencing any changes in your life after migrating in terms of ......?	E.14 which step are you in your satisfaction with the current situation in terms of .....?
	Choose between 0 and 10	Choose between 0 and 10
1. Income/financial situation		
2. Housing and basic services		
3. Education		
4. Household health		
5. Access to loans		
6. Food		
7. social status		

F. Remittance and household welfare

F1. Do you send a monetary gift or in-kind goods to family members at home?		YES = 1 No = 0 → **Go to F8**
YES → F1.1 How much total did you send in the past 12 months?		Euro/Year
F2 How often do you send money home?		(1)at least once a month (2) once every three months (3) once in 6 months (4) once a year (5) anytime it pleases me
F3 Through which channels do you send your household money usually?		(1)Take it home myself (2)through friend/relative (3)Money transfer agency like western union (4)directly to a beneficiary bank account (5)I use a money transfer agent (6)Others pleased specify

F4. What are the most important reasons you send money (select the three most important reasons)		(1)Food expenses (2)Medical expenses (3)Educational expenses (4)Buying Land and building (5)Ceremonies/burials (6)Fund relatives travel (7)Business and investment (8)Savings (9)Donation to community (10)Others specify
F5. What share of your household expenditure has been covered by your remittance?		(1) Substantial share (2)Large share (3)Moderate share (4)Small share (5)Insignificant share
F6. What kind of in-king goods have you sent since this month (select all that matters)		(1)Cars (2)Building materials (3)Foodstuff (4)Children toys and games (5)School materials (6) Clothing (7)Phone, computer, and electronic gadget (8)others
F7. What is the total value of the in-kind goods sent in the past 12 months (in euro)		Euro
F8. For those that do not send remittance, what are the reasons		(1)I send remittance (2) I do not know how (3) too expensive to send remittance (4) my family does not need it (5)It is stressful to send remittance (6) I do not have enough money yet (7) others
F9. Since you arrived in Europe, how wealthy do you consider your family at home have become?		(1) Very wealthy (2) wealthy (3) In-between wealthy and poor (4) Poor (5) Very poor
F9. Before you arrived in Europe, how wealthy was your family at home?		(1) Very wealthy (2) wealthy (3) In-between wealthy and poor (4) Poor (5) Very poor
F10. Since this year, have you made any contribution to your village development		(1)Yes (2)No → **Go to G.1**
F11. What type of contribution was that		(1)Scholarship to poor and brilliant children (2)Village road construction (3)Village market/hospital/school (4)Employing village youths to work for me (5)Church/mosque contribution

	(6)Empowering village women and widows (7)Struggling for freedom from oppression (8)Village politics (9)Others_____

G. Worker characteristics (in the farm)

G.1 What is the name of the farm where you work?	
G.2 What does this farm produce	

G.3 How do you usually get to the farm?		(1) Walking/cycling (2) Public transport (3) Motorbike (4) Car (5) Free company bus (6) Paid company bus (7) Other: specify
G.4 How long does it take you to go from your house to the farm?		Minutes Hours

G.5 In which section do you work the majority of your time? *(choose multiple sections)*			
(1) Field preparation and maintenance (weeding, etc.)		(7) Packing (plant)	
(2) Planting		(8) Fruit selection (plant)	
(3) Harvesting		(9) Administration	
(4) Pesticide application (manual spray)		(10) Transport	
(5) Pesticide application (tractor)		(11) Supervisor	
(6) Fruit estimation		(12) Workshop	
(13) Other: specify			

Contribution			
G.6 Have you worked in a similar job in Nigeria before coming to Europe?		Yes = 1 No = 0	
G.7 Have you ever applied your previous knowledge in this farm		Yes = 1 No = 0	
G.8 Do you consider your physical strength an asset to the farm manager		Yes = 1 No = 0	
G.9 Have you ever connected your manager to the client in your home country		Yes = 1 No = 0	
G.10 Do you sometimes get appreciation from your manager for a job done		Yes = 1 No = 0	

H. Job stability

H.1 How long have you been working at THIS farm?	Years:	Months:	Days:
H.2 Why did you start working at THIS farm (personal motivation)?			
H.3 How would you grade this farm compared to the place you have worked before in Nigeria?		(1) Worse (2) Similar (3) Better	→ H.3.1 Why?
H.4 How secure do you feel about keeping your job on this farm? *Use scale card*		(1) Very insecure (2) Insecure (3) Not insecure, nor secure (4) Secure (5) Very secure	
H.5 has the stability of your job changed over the years?		(1) Less stable (2) No change (3) More stable	
H.6 How many times did you change job/farm **in the last six months**?		→ H.6.1 Why?	
H.7 In which company did you work before coming to this farm? (Type or name)			
H.8 Have you thought about leaving/changing This job in the coming months?		Yes = 1 No = 0 → **Go to H.9**	
YES → H.8.1, Why would you like to change/leave your current job?			
H.9 How easy would it be to find a new job?		(1) Very difficult (2) Difficult (3) Not difficult/nor easy (4) Easy (5) Very easy	

I. Contract

I.1 What type of contract do you have?		(0) No contract (1) Verbal (2) Written
I.2 Have you received a copy of the contract?		Yes = 1 No = 0
I.3 What is your employment status?		(1) Permanent worker (undefined period) → **Go to I.4** (2) Temporary worker (fixed period) (3) Seasonal worker
I.4 What is the duration of your contract?		Months
I.5 Would you like to return to this farm after your contract has terminated?		Yes = 1 No = 0

I.6 How were you recruited to this farm? Who introduced you?		(1) I applied for the job (2) Through a temporary agent (3) Introduced by family (4) Introduced by friends (5) Introduced by neighbor or community (6) Other: specify
I.7 Did you have to show your ID?		Yes = 1 No = 0

J. Working Time

In this section, we will talk about a **typical working week** at the farm you are employed.

J.1 How many days per week do you work?	J.2 At what time do you usually start?	J.3 At what time do you usually finish?	J.4 How many hours worked per day?	J.5 How many hours spent on domestic household chores?
Days/week	AM	PM	Hours/day	Hours/week

J.6 How many breaks do you take per day (breakfast, lunch, coffee, etc.)?		**No breaks → Go to J.7**	
J.6.1 From what time until what time do you have a lunch break?	(a) from	until	(b)
J.7 Is there a cafeteria on the farm?		Yes = 1 No = 0 → **Go to J.8**	
YES → J.7.1 How many times do you eat in the cafeteria of the farm?		meals/week	**Never →** J.7.1.2 Why?
YES, → J.7.2 How much does a meal at the farm cafeteria cost?		Euro/meal 0 = if company provides free meal	

J.8 Do you sometimes have to work **overtime**? 1. Yes, → **J.8.1.1** 0. No, → **Go to section K**

J.8.1.1 How many extra hours in the **last week**?	J.8.1 Was it voluntary?	J.8.2 When was it announced that you had to work overtime?	J.8.4 What kind of compensation do you receive for overtime?	J.8.4.1 How much paid per hour of overtime?
	YES = 1 No = 0	(1) On the same day (2) At least one day before	(0) None (1) Payment (2) Day off (3) Other: specify	Euros/hours

K. Wages (only at this farm)

K.1 How are you being paid?		(1) Per finished individual task (2) Per finished group task (3) Per Hour (4) Per day (5) Other: specify
K.2 When do you receive your salary?		(1) Every day (2) Every week (3) Every two weeks (4) Every Month
K.3 How much do you currently earn in a typical day (on average, net without extras)?		Euros/**day**
K.3.1 How variable is the wage you receive from one week to another?		(1) Not variable (2) Little variable (3) Very variable
K.4 Is your wage enough to cover your basic needs (food, clothing, education, housing)?		Yes = 1 No = 0
K.5 Are you aware of the right to a national minimum wage payment in this country?		Yes = 1 No = 0 Doesn't know = 98 → **Go to K.6**
YES, → K.5.1 Do you think you earn ... than the national monthly minimum wage in agriculture in this country?		(1) Less (2) Equal (3) More
K.6 Do you get paid – than natives doing the same type of job with you?		(1) Less (2) Equal (3) More

K.7 Are you offered annually paid leave days in this job?		**If taken fewer days than entitled to → Go to K.7.1**

L. Social security benefits

L.1 What type of social insurance do you have in the job *(Multiple answers possible)*		(0) No insurance
		(1) work insurance in case of an accident
		(2) government social security
		(3) Pension scheme
		(4) Private personal insurance
		(5) Other: specify
L.2 In case of contract termination (firing), are you entitled to a dismissal indemnity/ severance payment?		Yes = 1 No = 0 Does not know = 98
L.3 How often have you exceptionally NOT been able to go to work **last year**?		Number of exceptional absent days, not present at work **Zero → Go to L.4**
If absent → L.3.1 What was the main reason for being absent?		
L.4 What happens if you do not come to work (generally with proof)?		(0) Nothing (continues to receive wage) (1) Deduction of holidays (2) Wage deduction (day without pay) (3) Warning letter (4) sack outrightly (5) Other sanction: specify
L.5 In case of illness, did you receive a **sick leave**? *(continue to receive payment)*		Yes = 1 No = 0 Doesn't know = 98
L.6 When a woman is pregnant at the farm, does she have the right to maternity leave (pay from an employer in case of pregnancy)?		Yes = 1 No = 0 Doesn't know = 98 **→ L.7**
YES, → L.6.1 How many months of maternity leave?		Does not know = 98
L.7 If a woman is pregnant, is it likely that she will be fired on the farm?		Yes = 1 No = 0 Doesn't know = 98

M. Occupational health and safety

M.1 In the last year, did you suffer from any medical complaints caused by your job?		YES = 1 No = 0 **→ Go to M.2**
YES, → M.1.1 Which medical problem?		
M.2 Have you ever had an accident during work?		YES = 1 No = 0 **→ Go to M.3**
YES, → M.2.1 What accident happened?		
M.3 Are you worried that you will have health problems caused by your job?		YES = 1 No = 0

M.4 In the past year, how many compulsory medical checks did you have at the workplace?		Number of medical check-ups at work
M.5 Is there a person in charge of the occupational health and safety officer at the farm?		YES = 1 No = 0
M.6 Do you have access to a first aid kit?		YES = 1 No = 0 → **Go to M.7**
YES, → M.6.1 Where is the first aid kit located?		

M.7 Do you need protective work clothing?			YES = 1 No = 0 →**Go to N**	
YES → M.7.1 **Indicate** what kind of protective work clothing is provided by the farm and whether you always use it (M.7.2):				
	Provided by the farm	Always used		Provided by the farm	Always used
1.Respirators			6. Boots		
2. Overalls			7. Glasses/mask		
3. Gloves			8. Hat		
4. Rain jacket			9. Sleeves		
5. Apron			10. Other: specify		
M.8 How strict are supervisors regarding the use of protective clothing?			(1) Little strict (2) strict (3) Very strict	
M.9 Are there specific facilities for washing work clothes?			Yes = 1 No = 0	
YES → M.9.1 Do you use the washing facilities at the farm			Yes = 1 No = 0	
M.10 Are there separate changing rooms (bathrooms)?			Yes = 1 No = 0	

N. Training

N.1 In the past year, how many times did you receive job-related training? **Zero → Go to section O**		
N.2 Who gave the training? (*Multiple answers possible*)		
1. Someone on the farm	4. Someone of certification	
2. Trade union	5. agents	
3. Solidarity association	6. Public institution/government	
7. Other: specify		
N.3 Have you received training on…? (*Multiple answers possible*)		
1. Use of protective equipment	5. Migration and work permit	
2. Agricultural practices or pesticide application	6. Labour rights (minimum wage, contract, social benefits, union, etc.)	
3. Global gap/certification norms	7. Recycling, waste, personal hygiene	
4. Prevention of work accidents	8. Recordkeeping, product traceability	
9. Other, specify:		

N.4 Did you learn a lot during this training?	Yes = 1 No = 0
N.5 Would you like to have more training sessions?	Yes = 1 No = 0

O. Job content

O.1 Have you ever been promoted (obtain a higher job position)?		Yes = 1	No = 0
O.2 Would you like to be promoted (obtain a higher position)?		Yes = 1	No = 0
YES → O.2.1 Why?			

Indicate your opinion on the following statements: *use a scorecard* (1) Strongly disagree (2) Disagree (3) Nor disagree/agree (4) Agree (5) Strongly Agree	Answer (1-5)
O.3 I use a variety of **different skills** in my work.	
O.4 I have the freedom to decide how I **schedule/plan** my work.	
O.5 I can influence the **decision making** in my team	
O.6 I **learn new skills** in my job.	
O.7 I am proud to work for this company	
O.8 I have to perform a wide range of tasks in my job (task variation)	
O.9 I like to work overtime	
O.10 I have freedom about **how** (methods used) I do my job.	
O.11 I can reach my full potential at work.	
O.12 I have autonomy in making decisions at work.	

P. Discrimination

P.1 Have you ever heard of events of discrimination (race, gender, ethical, religion, trade union)?		Yes = 1 No = 0
P.2 Have you ever been discriminated against at work?		Yes = 1 No = 0
YES → P.2.1, Why did they discriminate against you?		
P.3 Are you aware of a written policy or plan to combat discrimination at work?		Yes = 1 No = 0

Q. Workplace relations

Indicate to what extent you agree with the following statements: *use a scorecard* (1) Strongly disagree (2) Disagree (3) Nor disagree/agree (4) Agree (5) Strongly Agree	Answer
Q.1 If I have a problem, I can easily communicate this to my supervisor, and he listens.	
Q.2 My supervisor is friendly, helpful, and concerned about the welfare of the people that work for him.	
Q.3 My supervisor praises me for a job well done	
Q.4, I have the opportunity to develop close friendships in my job.	
Q.5 There are people at work I can talk to when I need help	
Q.6 I have many discussions with my supervisor	
Q.7 The company treats all workers equally and in a correct manner	

Q.8 If you have a complaint, to whom do you go for help?	(1) Supervisor (2) Manager (3) agent (4) Trade union (5) Other: specify
Q.9 Is there a complaint box on the farm?	Yes = 1 No = 0 Doesn't know = 98 → **Q.10**
YES, → Q.9.1 Since when?	Año de introducción
YES, → Q.9.2 Have you ever used the complaint box?	Yes = 1 No = 0 → **Q.10**

YES, → Q.9.3 Did they examine your complaint?	Yes = 1
	No = 0

Q.10 In case you are not happy in your job, which **actions** would you carry out to change your situation (improve your working conditions)?

(0) Nothing, it is impossible to take action		(4) Continue studying	
(1) Strike		(5) Work harder	
(2) Join a trade union		(6) Does not know	
(3) Search for another job		(7) Other, specify:	

R. Organization membership

Ask for each organization	**1. Solidarity association**	**2. Trade union**
R.1 Are you aware of the existence of …. at the farm?		
(1) YES → **R.2** (0) No (98) Does not know → **Go to R.9 if No trade union o Does not know**		
YES → R.2 Are you a member?		
(1) Normal member (2) Member of the board/representative (3) No member		
R.3 Why are you (not) a member? **NO MEMBER → R.8**		
R.4 How do you contribute to the organization to be a member?		
(1) % deduction from wage (2) fixed fee per month (3) fixed fee per year (4) Other, specify:		
→ R.4.1 How much is the contribution (% of wage)		
R.5 Does the organization receive managerial support?		
(0) No (1) Yes (98) Does not know		
R.6 Are the representatives democratically chosen?		
(0) No (1) Yes (98) Does not know		
R.7 How many times did you have meetings in the last year?		
R.7.1 When are the general meetings organized?		
(1) during working hours at the farm (2) after work/weekends outside the farm (3) during lunch		

TRADE UNION PRESENT → R.8 Indicate to what extent you agree with the following statements. *Use a scoring card*	Answer (1-5)
1 The trade union ensures that I receive reasonable wages and benefits.	
2 The trade union guarantee that I receive adequate welfare.	
3 The more members the trade union has, the stronger it would be.	

NO TRADE UNION→ R.9 Would you like to become a member of a trade union?		Yes = 1
		No = 0
→ R.9.1 Why?		

R.10 Does the company permit you to join a trade union without any repercussions on your job?		Yes = 1 No = 0 Doesn't know = 98

R.11 Is there a permanent committee at the farm?		Yes = 1 No = 0 Doesn't know = 98 → **R.12**
YES, → R.11.1 What does the permanent committee do?		

R.12 Are you a member of any other organization **at the farm?** (Women's committee, fair trade, etc.)		Yes = 1 No = 0 → **Go to R.13**
YES, → R.11.1 Which organization(s)?		
R.13 Are you a member of any other organization **outside the work environment**? (Church, cooperative, saving group, sports, etc.)		Yes = 1 No = 0 → **Go to section S**
YES, → R.12.1 Which organization(s)?		

S. Social capital

S.1 How many of your friends/family are working on the farm?	
S.2 How many people have you introduced or helped to find a job at this farm?	
S.3 How many people do you personally know who a member of a trade union is?	
S.4 If you have a personal problem, could you count on your neighbors for help?	Yes = 1 No = 0
S.7 How united/attached/involved do you feel with the community where you are currently living?	(1) Not united (2) Little united (3) United (4) Very united

Indicate to what extent you have **trust** in:	Strongly distrust	Distrust	between	Trust	Blindly trust
S.8 Farm manager					
S.9 Colleagues at work					
S.10 Trade union					
S.11 Solidarity association					
S.12 Community leader					
S.13 Family					

T. Certifications

T.1 Do you know if the farm is certified?   1. Yes   0. No, → **Go to section U**

YES, → T.2 Do you know which certifications the farm has adopted? *(Multiple answers possible)*			
(1) Global Gap		(5) ETI	
(2) Fair Trade		(6) ISO	
(3) Rainforest Alliance		(7) Organic	
(4) TESCO		(8) SA 8000	

(9) Other: specify		

T.4 How many **audits**/controls were performed last year?		No audit → **Go to section U** 98 = Does not know
T.5 Were you interviewed by the auditor?		Yes = 1 No = 0

U. Job satisfaction

Indicate your degree of **satisfaction** for the following aspects. *Use a scorecard of 1 to 10* How satisfied are you with…	Answer (1-10)
U.1 Overall job	
U.2 Wage	
U.3 Contract and security to keep a job at the farm	
U.4 Working time and workload	
U.6 Work environment/atmosphere in the team	
U.7 Quality of personal protective equipment	

U.8 **Since you have started working on this farm and in this community,** have you help improve regarding… *(multiple answers possible)*			
(1) Occupational health		(5) Training	
(2) Social projects in the community		(6) Contracts, wages, social benefits	
(3) Farm infrastructure (bathrooms, washing facilities, etc.)		(7) Provision of water, food, transport	
(4) Management relation		(8) Work for organizations	
(9) Other, specify:			

U.8 Personally, what have you contributed to this farm/community?

U. 9 Personally, what changes would you want in this farm/community?

V. Imagine that you can work on another plantation/look for a job at another plantation; which characteristics are essential to you and should the plantation offer to you?

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Rank the 12 work attributes from most important (1) to least important (12) according to your personal preference.

Work attributes	Ranking (1-12)
Social security	
Training	
A wage increase of 1000 colones/hour	
Saving plan	
Medical exam	
Cafetaria at the farm	
Fixed payment (not per hour)	
Work in the field	
Work in the plant	
Boots (protective equipment)	
Permanent contract	
Free transport to work	

Thank you for your time and participation!

Extra: Do you know somebody who works at a pineapple plantation closeby and who could participate in the survey? **YES** → Phone number: _____

Name of student: _____

Name of School_____

Class of student: _____

Personal Characteristics

1. Please specify your gender
   a. Male
   b. Female
2. How old are you this year?
   _____years old.
3. How many times were you absent from school since this term
   a. Never absent
   b. Once
   c. Between 2 and 5 times
   d. More than five times
4. What was your class position last term?
   ------------- out of ---------------------
5. How do you consider a person from your family?
   a. Very rich
   b. Rich
   c. Average
   d. Poor
   e. Very Poor
6. Are you regularly informed about lifestyle abroad?
   a. No idea
   b. Yes
   c. No
7. How do you get information about lifestyle abroad?
   a. I do not get such information
   b. From social media like Facebook
   c. From books
   d. From television and movies
   e. From family and friends abroad
8. What is your perception of lifestyle abroad?
   a. No idea
   b. Life abroad is better than life in Nigeria
   c. Life in Nigeria is better than life abroad
9. Do you think Facebook is an effective means of getting information about lifestyle abroad?
   a. No idea
   b. Yes, it is authentic
   c. No, it could be fake

10. Do you know any relatives or friends that have traveled abroad?
    a. No idea
    b. Yes
    c. No
11. Have you ever been offered the opportunity to travel abroad?
    a. No idea
    b. Yes
    c. No
12. What would you do when people whom you do not know offer to take you to Europe to work?
    a. No idea
    b. Agree and travel abroad
    c. Say no to the person
    d. Report the person to the government agency
13. Assuming you win 1 million naira now, what would you do with the money?
    a. No idea
    b. Travel abroad with the Money
    c. Stay in Nigeria with the money
14. Have you ever traveled abroad?
    a. No idea
    b. Yes
    c. No
15. Do you have the intention of traveling abroad?
    a. No idea
    b. Yes
    c. No
16. How much are 30,000 Euros in Nigerian Naira
    a. 30,000 naira
    b. 1 million naira
    c. 12 million naira
    d. 50 million naira
17. Have you been exposed to any safe migration and human trafficking sensitization program before now?
    a. Yes
    b. No
18. If Yes, where did you receive the migration sensitization program?

a. At school
b. Church/Mosque
19. What is international migration?
    a. No idea
    b. International migration occurs when people send money from one country to another
    c. International migration occurs when people cross the border of a country into another country
    d. International migration occurs when people stay safe in their own country
20. Differentiate between safe and irregular migration
    a. No idea
    b. Safe migration is done carefully, while irregular migration is done frequently
    c. Safe migration is done in the right procedure while irregular migration is done in the wrong way
    d. Safe migration is a bad migration, while irregular migration is a good migration
21. Which type of people are most at risk of being trafficked.
    a. No idea
    b. Older men and women
    c. Young people
    d. People from a wealthy family

22. Select all the dangers of irregular migration from the below list
    a. No idea
    b. sexual abuse
    c. Wealth
    d. Psychological abuse
    e. education
    f. happiness
    g. Exploitation
    h. death
    i. Experience,
    j. Enjoyment
    k. Slavery
23. What is human trafficking
    a. No idea

c. Home
d. Television program
b. Human trafficking occurs when people are held in traffic for a long time
c. Human trafficking occurs abducted and transported to another country to be exploited for the traffickers' gain.
d. Human trafficking occurs when a person goes to another country to engage in an odd job, such as prostitution.
24. Explain the process of human trafficking
    a. No Idea
    b. Act, Means and Purpose
    c. Goal, Objective and Purpose
    d. Act, Goal and Purpose

25. Write about what you can do to avoid being a victim of human trafficking

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26. What are the steps to migrate safely?

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Dear Sir/Madam,

We thank you for accepting to participate in the RicosMigration study, organized by researchers from the Ghent University (Belgium), the University of Pisa (Italy) and the Rural Information Campaign on safe migration in Nigeria. The German Ministry of foreign office funds the project through the German Embassy to Nigeria. Generally, RicosMigration project will serve to know how to promote safe migration among Nigerian youths.

We hope that your response to this questionnaire will help us to understand how migration decisions are made and how to promote safe migration in Nigeria. The findings will be used to contribute to public debates in Nigeria and Europe, including debates on migration and development policies. It is, therefore, vital that you give honest answers. Know also that the questionnaire is anonymous and that your answers are confidential." Your information and answers are protected and will NOT be released to any third party.

The school principal or representative could answer the following questions. This person also gives consent to interview the students, especially the SS2 students, to assess their level of understanding.

Name of Respondents _____

Name of School: _____

Signature: _____

1	Type of School (Public / Private)	
2	Location of school (Rural/Urban)	
3	Number of Teachers	
4	Number of students	
5	Number of male students	
6	Number of the female students	
7	Last WAEC pass rate	
8	School attendance rate (Percentage per year)	
9	Students drop out rate (percentage per year)	

10	Drop out due to migration (percent per year)	

Name of Resource Person:_____

Profile of Resource Person: 1. Corp member 2. School Teacher 3. Professional consultant

1.	Name of School	
2.	Duration of the training session	
3.	Type of presentation	1. Oral presentation 2. Video Presentation 3. Leaflet Presentation
4.	Tick the themes covered	1. What is irregular migration 2. What is human trafficking 3. What are the dangers of irregular migration 4. What is the best way to migrate?
5.	Rate the students level of previous knowledge	1. Very High 2. High 3. Average 4. Low 5. Very Low
6.	Rate the students' Attentiveness	1. Very High 2. High 3. Average 4. Low 5. Very Low
7.	Rate the students' enthusiasm about the topic.	1. Very High 2. High 3. Average 4. Low 5. Very Low
8.	Was there questions and answer sessions	1. Yes 2. No
9.	Rate students' performance to the questions you asked	1. Very High 2. High 3. Average 4. Low 5. Very Low
10.	Do you have further comments and suggestions	

Chinedu Temple, OBI

https://www.linkedin.com/in/chinedu-obi-594a946b/

Email: chinedutemple.obi@gmail.com

Sex: male
Research gate: https://bit.ly/3cc5jfy

Skills

- Impact evaluation – Experimental and Quasi-experimental approaches
- Excellent skills in data collection
- Maintain accurate records of data, safeguarding the confidentiality of respondents.
- Qualitative and quantitative data analysis.
- Statistical Software - STATA, SPSS, R.
- Policy analysis expert
- Project management
- Research report writing.
- Critical thinking.
- Work in a team and can work independently.
- Work remotely and meet deadlines.
- Experience in multicultural/international organization.
- Experience in developing countries.
- Consultancy experience in International organizations, e.g. World Bank, WorldFish

Qualifications

PhD. (2017 - 2020)	Joint PhD degree. Ghent University, Belgium and University of Pisa, Italy Discipline: Rural economic development. Research: Migration, Force displacement and Food security.
M.Sc. (2015 - 2017)	Joint M.Sc. degree. Ghent University, Belgium and University of Pisa, Italy Erasmus Mundus International Master's Degree (IMRD). Erasmus experience (Other universities attended) The University of Pisa, (Italy) The Slovak University of Agriculture in Nitra (Slovakia) China Agricultural University, Beijing (China). *Grade: magma cum laude/great distinction*
B.Sc. (2006 - 2010)	Imo State University, Nigeria Bachelor in Agriculture

	Specialization: Agriculture economics, extension and rural development *Grade: first-class honours.*
Short courses (2011 - 2020)	Social network analysis in R (FLAMES – Belgium) Land tenure and property right - USAID Evaluating social programs - J-PAL/MIT-USA Environmental social-ecological systems- University of Leeds, UK Africa: sustainable development for all? -University of Aberdeen, UK Challenges of global poverty - MIT, USA Age of globalization- The University of Texas, USA Proficiency certificate in management – NIM, Abuja, Nigeria

Teaching and Supervision

2019 - 2020	Teaching Assistant for the course "Development Economics". Topic Taught: Causes and Impact of International Migration. Department of Agriculture Economics, Ghent University
2019 - 2020	Three masters students supervision: - Investigating the role and contributions of migrants in European host economies, a capability approach to the case of Nigerian immigrants in Italy and Belgium. - The impact of agricultural credit on the productivity of Tef farmers. The case study of Ethiopia. - Challenges of Ethiopian food security. The case of food taboo and preferences.

Job Experiences

2020 – 2021	Short term consultant/Young fellowship in force-displacement MENA Poverty and Equity Global Practice -World Bank, Washington DC Working group – Fragility, conflict, and violence group Main activity – Evaluating the Impact of reception arrangements (camp vs. non-camp) on refugees' quality of life and social cohesion. Evidence from Syrian refugees in Jordan and Lebanon. Secondly, I work on the drivers of international migration in Edo State, Nigeria.
2019 – 2020	PhD fellow United Nation University Institute on Comparative Regional Integration Studies (UNUCRIS) Brugge, Belgium. Working group - Migration and digitalization
2019 - 2020	Short Term Consultant/Policy analyst World fish, Malaysia Working group - Monitoring, evaluation and learning, and impact assessment research Main activity – Developing a projected benefit tool for the evaluation of CIGAR projects

2018 – 2019	Consultant African German Information Center, Hamburg, Germany. Team leader. Working group - Skill acquisitions projects in Nigeria and rural information campaign on safe migration project (Ricosmigration) in Edo, Nigeria.
2018 - 2019	Research Assistant/Consultant University of Pisa, Italy Working group - Sufisa horizon 2020 project Main activity – Quantitative analysis of the impact of external factors such as climate change, consumer behavior, regulations, and credit on wine farmers' adoption of sustainable wine production.
2013 – 2015	Entry-level staff Zenith bank plc, Kano, Nigeria Bank teller.

Field Activities

Nigeria, 2018	Ricosmigration project: Field survey on the impact of an information campaign on students' migration decision in Edo State, Nigeria
Italy, 2017	Impact evaluation research: A rapid rural appraisal conducted to identify critical issues in the EU leader program in Garfagnana, Italy.
China 2016	Action research: A community-based natural resource management research in Erbuzi village, Hebei, China.
Slovakia, 2016	Impact evaluation of European rural development project in Nitra, Slovakia.

Conference Presentations

AAAE conference 2019	6th African Association of Agriculture Economics Conference. 23 – 26 September 2019, Sheraton Hotel, Abuja, Nigeria. Presentation: *Can information campaign improve migration knowledge and promote safer migration?*
CESSMIR biannual seminar 2019	Research seminar in the social study of migration and refugees. Ghent University, Belgium. 20 – 24 May 2019. Presentation: *Informed trajectory, the role and impact of information on migration decision and trajectories.*
Cemir-ifo 2019	Junior economist workshop on migration research. Cemir – ifo Centre for excellence for migration research, Munich 4 – 5 July 2019. Presentation. *Can information campaign reduce irregular migration decision? A randomized experiment in Nigeria.*
EU-migration Forum 2019	European migration forum (5th meeting), 3 – 4 April 2019, European Commission Headquarters, Brussel.

	Presentation: *The role of Ricosmigration in promoting safe migration in Nigeria*
Tropentag 2018	Annual Tropentag conference 17-19 September 2018, Ghent Presentation: *Does international migration and remittance lead agricultural households to non-agricultural investment? Evidence from a household study in Nigeria.*
AIEAA, 2018	7th Conference of the Association of Italian Agriculture Economics, Conegliano. 14th -15th June 2018. Presentation: *Impact of international migration on food security during food crises in Nigeria.*

Publications

- Obi, Bartolini, Brunori, D'Haese (2020) How does international migration impact rural areas in developing countries? A systematic review. The journal of rural studies. DoI: 10.1016/j.jrurstud.2020.09.016
- Obi; Bartolini; D'Haese (2020) Digitalization and Migration: The Role of Social Media and Migrant Networks in Migration Decisions. An Exploratory Study in Nigeria. Digital Policy, Regulation, and Governance. DOI 10.1108/DPRG-08-2020-0101

- Chinedu Obi (2020): Combating irregular migration through a rural awareness campaign. The case of Edo Nigeria. UNUCRIS policy brief 2019, number nine. Https://bit.ly/2vcfe2j
- Obi, Bartolini, D'Haese (2020): International migration, remittance and food security during food crises: the case study of Nigeria. *Food security 12, 207-220*. DOI: 10.1007/s12571-019-00990-3
- Obi, Vergamini, Bartolini, Brunori. (2020): The Impact of changes in the regulatory and market environment on the sustainability of wine producers: a structural equation model. *Wine economics and policy.* DOI 10.1460/web-7689
- Obi, Sanou, Juan, Bartolini, Speelman, Gheyesn (2018) Farmers valuation of transgenic biofortified sorghum for nutrition improvement in Burkina Faso, a latent class approach. *Food policy*. Vol 79, page 132 – 140 DOI:10.1016/j.foodpol.2018.06.006
- Obi, Manyise and Moruzzo (2017) Establishment of protected geographical indication in Sub-Saharan Africa: issues and implications. *African journal of intellectual property, art 1, vol 1, issue 2, page 79- 98*

Awards

- Gold medalist (2019): The fifth china college students "internet" innovation and entrepreneurship competition. International track group. Design of plasma smart refrigerator to reduce off-farm fruit and vegetable wastages in Africa. Team members: Chinedu, Flora, Murtaza, Fenghuang, and Clement.
- Research funding for Ricosmigration project (2018). German foreign ministry: value 45,000 euro

- Finalist, Bcfn young earth solution, (2018) doctoral project competition, Milan
- 2018 Ambassador - thought-for-food, USA
- Three years of a PhD research grant, Italian government: value 60,000 euros (2017 – 2020)
- Two years of master's programme funding: Erasmus Mundus fellowship. European Commission. Value: 54,000 euro (2015 – 2017).