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INTERNATIONAL  
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# Addressing Irregular Migration through Principled Programmatic Approaches

## Examining the West Africa Route and WFP Operations

# Contents

<b>Executive Summary</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>5</b>
<b>What is Irregular Migration?</b> .....	<b>8</b>
Profile of Irregular Migrants .....	8
Why Migrate Irregularly? .....	10
Wage differentials between origin and destination countries.....	12
Role of social networks .....	13
Risks of migrating irregularly .....	14
<b>Food Security and Irregular Migration – Analysing the ‘Routes-Based’ Approach</b> .....	<b>16</b>
At the Origin .....	16
Irregular Migrants in Transit.....	17
Destination or Protracted Transit Locations .....	18
<b>Discussion</b> .....	<b>19</b>
Recommendations.....	19
Programming in transit – providing needs-based support to migrants on the move .....	20
<b>Annexes</b> .....	<b>21</b>
Annex 1 .....	21
References .....	22

# Executive Summary

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The World Food Programme (WFP) and the International Food Policy Research Institute (IFPRI) collaborated on research analysing the drivers, profile, and risks of irregular migration in the West Africa context. This study uses a route-based approach, examining the origin location of migrants, their transit experience, and situation in their respective protracted transit location or desired destination. Drawing on a mixed methods approach the study includes case studies in Mali and Libya, representing an analysis of the migration route of the Ténéré desert crossing of the south-central Sahara. The overall analysis features the profiles of irregular migrants and the primary factors influencing their migration decisions. It also examines links between food insecurity and irregular migration to understand the risks and address the needs of this increasingly vulnerable population. This study accompanies related studies conducted in Central America, [The Complex Motivations and Costs of Central American Migration](#), and [At the root of exodus: Food security, conflict and international migration](#); to present a similar analysis for the West Africa region. This study is also supported by an additional analysis conducted by the Massachusetts Institute of Technology focussed on a deep dive of protection risks migrants face.

Irregular migration from West Africa is a complex issue that drives tens of thousands of people to undertake perilous journeys (IOM 2020). The most important drivers are wage differentials and those seeking better economic opportunities, although political instability, conflict, and climate change are also contributing factors. The lack of legal and regular pathways for migration often leads to dangerous and deadly journeys across the Sahara Desert and the Mediterranean Sea, and ultimately, thousands perish in their pursuit of a better life. [The Global Compact for Safe, Orderly, and Regular Migration](#) endorsed by Member States and the UN in 2018, outlines eleven objectives, this study supports objectives 1, 2, and 7.

## OBJECTIVES FOR SAFE, ORDERLY AND REGULAR MIGRATION<sup>1</sup>

- 1) Collect and utilize accurate and disaggregated data as a basis for evidence-based policies
- 2) Minimize the adverse drivers and structural factors that compel people to leave their country of origin
- 3) Provide accurate and timely information at all stages of migration
- 4) Ensure that all migrants have proof of legal identity and adequate documentation
- 5) Enhance availability and flexibility of pathways for regular migration
- 6) Facilitate fair and ethical recruitment and safeguard conditions that ensure decent work
- 7) Address and reduce vulnerabilities in migration
- 8) Save lives and establish coordinated international efforts on missing migrants
- 9) Strengthen the transnational response to smuggling of migrants
- 10) Prevent, combat and eradicate trafficking in persons in the context of international migration
- 11) Manage borders in an integrated, secure and coordinated manner

<sup>1</sup> Extracted from the Global Compact: [https://refugeesmigrants.un.org/sites/default/files/180711\\_final\\_draft\\_0.pdf](https://refugeesmigrants.un.org/sites/default/files/180711_final_draft_0.pdf)

The International Organization for Migration defines irregular migration as **migration that occurs outside of regulatory norms**, and unlike refugees, irregular migrants do not have a formal status when crossing international borders (IOM 2011).

Due to its clandestine nature, irregular migration flows are difficult to track. However, in 2020, the IOM estimated that there were over 9,000 deaths and disappearances of migrants worldwide, with many of these occurring along the routes taken by irregular migrants from West Africa to Europe. These figures only represent known cases, and the number of deaths and disappearances is likely higher.<sup>2</sup> Irregular migrants rely on smugglers to navigate border crossings and treacherous routes to avoid immigration authorities.

Migration is an essential aspect of human development, and it is crucial to ensure irregular migrants who experience adverse shocks are treated with compassion and provided with the necessary support and resources to rebuild their lives safely and with dignity.

From a humanitarian perspective, migrants in transit and protracted transit situations lack basic services and protection. WFP's Executive Board policy document: *WFP's commitment to the Humanitarian Principles*<sup>3</sup> (WFP/EB.A/2004/5-C) reiterates the organization's responsibility to address the food insecurity and malnutrition needs of vulnerable populations, regardless of location or situation.<sup>4</sup> The [2020 Protection and Accountability Policy](#) (WFP/EB.2/2020/4-A/1/Rev.2) furthers WFP's approach to planning the design and delivery of its programmes and fosters the integration of protection and accountability across a range of functions critical to WFP operations so as to ensure that food assistance is safe, appropriate and received in a dignified manner.



2 IOM <https://www.iom.int/news/more-5000-deaths-recorded-european-migration-routes-2021-iom>

3 The principles of humanity, neutrality, impartiality and independence are fundamental to humanitarian action.

4 [World Food Programme, Executive Board Annual Session, Agenda Item 5, May 2004.](#)

# Introduction

*“Migration is an expression of the human aspiration for dignity, safety, and a better future. It is part of the social fabric, part of our very make-up as a human family”*

~ Ban Ki-moon, Former UN Secretary General

The International Organization for Migration defines irregular migration as migration that occurs “outside of regulatory norms”, unlike refugees, irregular migrants do not have a formal status when crossing international borders. (IOM 2011). Irregular migrants face unique challenges, particularly in transit, at their destination, or in protracted transit locations. Throughout their journey, they are vulnerable to food insecurity, exploitation, abuse, discrimination, and other human rights violations. Due to these risks, irregular migration poses unique challenges to WFP and the overall humanitarian community. In 2021, the EU reported a rise of 57 percent of irregular border crossings compared to 2020 and a 38 percent rise from 2019.<sup>5</sup> Worsening economic situations in low-income countries will likely fuel more irregular migration. Recovery from the economic turmoil caused by Covid-19 has greatly affected countries of origin, and the numbers of arrivals continue to rise. GDP in low-income countries in 2022 was only projected to grow by 5.1 percent, an increase far below pre-pandemic forecasts and insufficient compared to the adverse economic effects of Covid-19.<sup>6</sup>

While factors that induce migration are complex and varied, consistent with existing literature, this report demonstrates that the desire to improve one’s economic situation remains the strongest motivator to undertake irregular migration. Wage differentials between a migrant’s country of origin and potential destination countries are exceptionally high, regardless of one’s level of education or skillset. Receiving a higher wage in a destination country allows migrants to provide for

themselves and their families. As this report discusses, remittances dwarf Official Development Assistance (ODA) and have been consistently proven to be highly beneficial for receiving countries- including benefits towards improving food security.<sup>7</sup>

Due to the exorbitant costs associated with irregular migration, such individuals in West Africa are not considered among the most vulnerable or food insecure in their home countries. Evidence suggests that these individuals either have access to loans or possess the financial resources necessary for the journey, and the average cost of the journey between West Africa and Libya is US\$2000, and almost 60 percent pay smugglers in advance (IOM 2023). However, existing literature and this study underscore that migrants become extraordinarily vulnerable and food insecure as soon as their journey commences because of the wide variety of risks they face. The associated analysis conducted by MIT Civic Data Design Lab outlines significant risks from violence, conflict along the route, food insecurity, smugglers, remote and barren landscapes, and extreme heat.<sup>8</sup> Smuggling services are often unreliable and dangerous: since 2014, more than 4,000 deaths have been recorded annually along migration routes globally.<sup>9</sup>

The overall analysis includes the profiles of irregular migrants and the primary factors influencing their migration decisions. It also examines links between food insecurity and irregular migration to understand the risks and address the needs of this increasingly vulnerable population. This study accompanies related studies conducted in Central America, [The Complex Motivations and Costs of Central American Migration](#), and [At the root of exodus: Food security, conflict and international migration](#); to present a similar analysis for the West Africa region. This study is also supported by an additional analysis conducted by the [Massachusetts Institute of Technology](#) focussed on a deep dive of protection risks migrants face.

5 International Center for Migration Policy Development. Migration Outlook Annual Report (Introduction & Key Figures). January 2022.

6 Ibid.

7 Subramaniam, Y., Masron, T.A. and Azman, N.H.N. “Remittances and food security”, Journal of Economic Studies, Vol. 49 No. 4, pp. 699-715. 2022.

8 “The Journey” involves significant risks from violence, conflict along the route, food insecurity, smugglers, remote and barren landscapes, and extreme heat. Users of this interactive website are immersed in the harsh realities of the migrant experience by following the migrant pathway from Mali to Libya. Interactive maps turn into a transect of data that provides evidence of the risks migrants face along the passage. This data is combined with depictions of how those risks translate into a lived experience. This immersive exploration combines, for the first time, data about the multiple risks of the migrant passage exposing its harsh realities with compassion and hard evidence.

9 Migration Data Portal. Migrant Deaths and Disappearances. June 2022. The number of deaths recorded, however, represent only a minimum estimate because the majority of migrant deaths around the world go unrecorded.

## RESEARCH QUESTIONS AND METHODOLOGY

This global report aims to answer the following research questions:

1. What are the characteristics of irregular migrants and the key drivers motivating them to relocate?
2. How is food security compromised for migrants, and what are the risks they face in transit?

## METHODOLOGY

The research was structured to understand the context and problem statement, and solutions through a 'routes-based' approach. The Mali case study represents the migrants' origin, and the protracted transit/destination is reflected in the Libya case study. The transit route in the study was the Ténéré desert crossing of the south-central Sahara.

As the normative framework for enhanced cooperation on international migration, the [Global Compact for Safe, Orderly, and Regular Migration](#) calls for **the collection and analysis of data on migration to help produce evidence-based policy and allow for effective monitoring and evaluation over time.**

This study builds upon existing evidence related to food security, humanitarian needs, and migration. The research commenced with a literature review, including previous evidence in the broader literature and previous WFP studies.<sup>10</sup> Global-level key informant interviews were conducted with WFP staff, subject matter experts in academia and practitioners, donors, and other UN agencies focusing on migration.<sup>11</sup>

In Mali, secondary data analysis was conducted primarily using the *Enquête Agricole de Conjoncture Intégrée aux Conditions de Vie des Ménages* (EAC-I 17),<sup>12</sup> a national household survey covering a range of topics including agriculture, demographics, education, food security, labour, livestock, savings, and shocks.<sup>13</sup> Key informant interviews were conducted to understand irregular migrant-origin communities better.

Finally, the Libya case study encompassed quantitative surveys in Sabha and Tripoli. In addition, a qualitative survey was employed in the border crossing town of Sabha, alongside key informant interviews. In Tripoli, the research team conducted focus group discussions with community leaders from various African countries to learn about their communities' mixed experiences with migration to Libya.

## CASE STUDY SELECTION

Mali was selected to represent the 'origin country' due to the high mobility of its population, both internally and internationally.<sup>14</sup> Mali is located at the intersection of many migratory routes from Sub-Saharan African countries to the Maghreb. Libya was selected given its historical importance as a destination for migrant workers, for the strong presence of Malian migrants, and for its role as a significant transit country along the Central Mediterranean Route to Europe.

The gradual deterioration of well-being, living standards, and resilience of migrants in Libya caused by the economic crisis and exposure to violence also underscores the importance for WFP to expand its understanding of the operational context.

An important feature of the methodology is that the secondary data analysis directly informed the qualitative work in Mali. To identify the locations for this research component, the EAC-I 17 was used to determine regions with high out-migration: other than Bamako, regions with the highest migration rates are Kayes and Kouliboro. Within those two regions, locations were selected from lists of places with recent WFP activity. Households were then selected within communities that had experience with migration to better understand the viewpoints, experiences, and perspectives of irregular migrants and their plans, either through the lens of their families or through discussions with returnees.

10 Among the most influential research works conducted by the WFP in this area are *The Roots of Exodus*, on the role played by food insecurity and conflict in compelling cross-border migration (World Food Programme, 2017), and the *Migration Pulse*, a comprehensive and in-depth study of migrants using data collected through innovative web surveys deployed in over a dozen countries, including several rounds conducted in Libya (World Food Programme, 2019a) and surveying of Venezuelan migrants across three host countries, Colombia, Ecuador, and Peru (World Food Programme, 2019b).

11 Jointly with other organizations, WFP has also conducted extensive work studying the links between food insecurity, violence, and migration in the Northern Triangle of Central America (World Food Programme & International Organization for Migration, 2016; World Food Programme, et al., 2017).

12 EAC-I 17 is the result of a partnership between the Cellule de Planification et de Statistique du Secteur Développement Rural (CPS/SDR) of the Ministry of Agriculture of Mali, USAID, and the World Bank's Living Standards Measurement Study.

13 The most recent round of the Mali Demographic and Health Survey (DHS) was used to learn about child nutritional status in Mali (INSTAT, 2019).

14 Mali is also an important transit country for migrants from other parts of West Africa, who travel through the country en route to the Maghreb. However, the case study conducted in Mali focuses mostly on its role as an origin country due to the difficulties in collecting data from migrants in transit in the country.



# What is Irregular Migration?

The International Organization for Migration (IOM) defines irregular migration as *“the movement of persons that takes place outside the laws, regulations, or international agreements governing the entry into or exit from the State of origin, transit or destination.”* Irregular migration is difficult to track as it occurs outside the regulatory norms of countries and in a manner meant to avoid detection. Changes in the migration status of an individual, into or out of irregularity, are also fluid. However, a vital aspect of this form of migration is that it is undertaken through channels **outside formal travel norms and largely depends on facilitators or smugglers**. Migration literature is rich with references to the relationship between irregular migration and smugglers, and these phenomena are interlinked and reinforce one another.

Migrants are in an irregular situation when they fall within one or more of the following circumstances:<sup>15</sup>

- They enter the country irregularly: with inadequate documentation, or without crossing at an official border crossing point;
- They reside in the country irregularly: in violation of the terms of an entry visa/residence permit; or
- They are employed in the country irregularly: they may have the right to reside but not to take up paid employment.

It is worth noting that the individuals who reside in a country falling under one of these definitions can be considered part of the stock of irregular migrants in residence, but that does not imply that the person migrated irregularly in the first place. Someone can also be an irregular migrant for a time, e.g., while waiting for an employment visa to be issued or if they overstay a visa in the destination country. As a result, assessing the extent of irregular migrants is a complex task. A reasonable estimate would appear to be that irregular migrants make up 10 and 15 percent of the overall migrant stock of 280.6 million in 2020 (IOM, 2013; UN DESA, 2020).

While this study uses the definition and terminology outlined above, it is important to note that “migrant” and “irregular migrant” are not legal definitions,<sup>16</sup> and these terms carry inherent confusion. This contrasts with the term “refugee,” which has a legal definition and status. The 1951 Refugee Convention defines a refugee as “someone unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion.”<sup>17</sup> While the Global Compact on Migration recognises the human rights of all migrants regardless of their migration status, it continues to recognise that refugees are afforded specific rights by international law, including the right not to be returned to a country where they fear persecution (UNGA, 2019).

## Profile of Irregular Migrants

The literature review, in-depth interviews, secondary data analysis, and analysis of data collected for this study contribute to the profile of irregular migrants in Mali and Libya. Consistent with much of the global literature on the determinants of migration, the research in Mali suggests that irregular migrants (those who cross international borders) tend to be relatively well-educated males from urban areas. Households associated with migrants tend to be less food insecure than other households, controlling for several other factors (Ambler, de Brauw, and Maruyama, 2022). While some of these costs of undertaking the journey can be and are often borrowed, migrants traveling long distances require access to resources to, at minimum, commence the journey. As such, migrants tend not to be the poorest nor those likely to be most food insecure. Regression results from that report (in Appendix Table A1) are consistent with the literature and findings from in-depth interviews, which suggest that access to disposable

<sup>15</sup> This definition follows the International Organization for Migration (IOM, 2011).

<sup>16</sup> Note from IOM: Although a universally accepted definition of irregular migration does not exist, the term is generally used to identify persons moving outside regular migration channels. The fact that they migrate irregularly does not relieve States from the obligation to protect their rights. Moreover, categories of migrants who may not have any other choice but to use irregular migration channels can also include refugees, victims of trafficking, or unaccompanied migrant children. The fact that they use irregular migration pathways does not imply that States are not, in some circumstances, obliged to provide them with some forms of protection under international law, including access to international protection for asylum seekers fleeing persecution, conflicts or generalized violence. In addition, refugees are protected under international law against being penalized for unauthorized entry or stay if they have travelled from a place where they were at risk (Convention relating to the Status of Refugees (adopted 28 July 1951, entered into force 22 April 1954) 189 UNTS 137, Art. 31(1)).

<sup>17</sup> Regional bodies have expanded or clarified the definition of refugee status. For example, in Latin America and the Caribbean, the Cartagena Declaration on Refugees agreed upon in 1984 (OAS, 1984) extends the definition of refugees to “persons who have fled their country because their lives, security or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order.” This definition was recently applied by Brazil related to Venezuelan asylum seekers.

income or loans is necessary to finance long-distance, international migration. Such households, in the West Africa context, would not represent those categorised as highly food insecure. Therefore, while there is a great deal of population movement within West Africa, it is typically an adaptive strategy to deal with seasonal livelihood options. This finding is also consistent with the existing literature, which generally maintains that approximately two of every three West African migrants stayed in the region.<sup>18</sup> Economic considerations are the primary motivation for both internal and cross-border migration: a separate study by Afrobarometer in 2019 found that **finding work, economic hardship, poverty, and better business prospects** were all listed as the key reasons for considering emigration.<sup>19</sup> Evidence from data collected in Libya is consistent with these observations: migrants are almost all young male adults. Additionally, two-thirds of migrants interviewed in Libya are from urban areas (Table 1). These figures are consistent with data from IOM on migrant flows to Libya (e.g., they find migrants are 90 percent male). About 60 percent of surveyed migrants residing in Libya have completed junior secondary, senior secondary, or tertiary level education, higher than the 40 percent suggested for sub-Saharan Africa from survey data (Evans and Acosta, 2021). Just under 15 percent aspired to migrate to Europe

or North America, while a similar percentage were unsure whether they would continue toward Europe. Migrants who used loans to begin their journey are likelier to continue to Europe, assuming they can pay off their loans faster there. As migrants originating from urban areas are more likely to have used loans for their journeys than migrants originating from rural areas, migrants who reach Europe are far more likely to have originated their journeys from African cities (UNDP, 2019).

It is important to consider that while irregular migrant flows included in this study are profiled mainly as male, the number of female irregular migrants is increasing, and they have different experiences and reasons for migrating. According to the Gallup World Poll, women appear more likely to migrate when they experience food insecurity (Smith and Floro, 2020). Pickering and Powell (2018) suggest that a combination of poverty and patrilineality drives irregular migration among women in Southeast Asia.<sup>20</sup> UNDP (2019) finds that among African migrants in Europe, women are more likely to face crime and particularly sexual assault. Understanding the differential experience of irregular migration by gender at their destinations is an important topic for further research.

**Table 1. Basic characteristics of migrants**

Characteristic	Percentage
Age (years)	32.3
Age if in Libya for less than a year (years)	29.5
Female (%)	6.9
Rural (%)	33.1
Highest education level completed (%)	
None	25.4
Only pre-school/no primary school	3.2
Some primary school	5.5
Completed primary school	10.8
Completed junior secondary school	16.0
Completed senior secondary school	28.9
More than high school	5.2
Madrassa only	5.0
Future Plans for Migration	
Europe/North America	13.6
Unsure	13.4
Return Home	31.6

Source: IFPRI Survey of Irregular Migrants in Libya 2021

18 Migration Data Portal. Migration Data in Western Africa. May 2021

19 Ibid.

20 To provide examples, more women than men emigrate from both Indonesia and the Philippines..

# Why Migrate Irregularly?

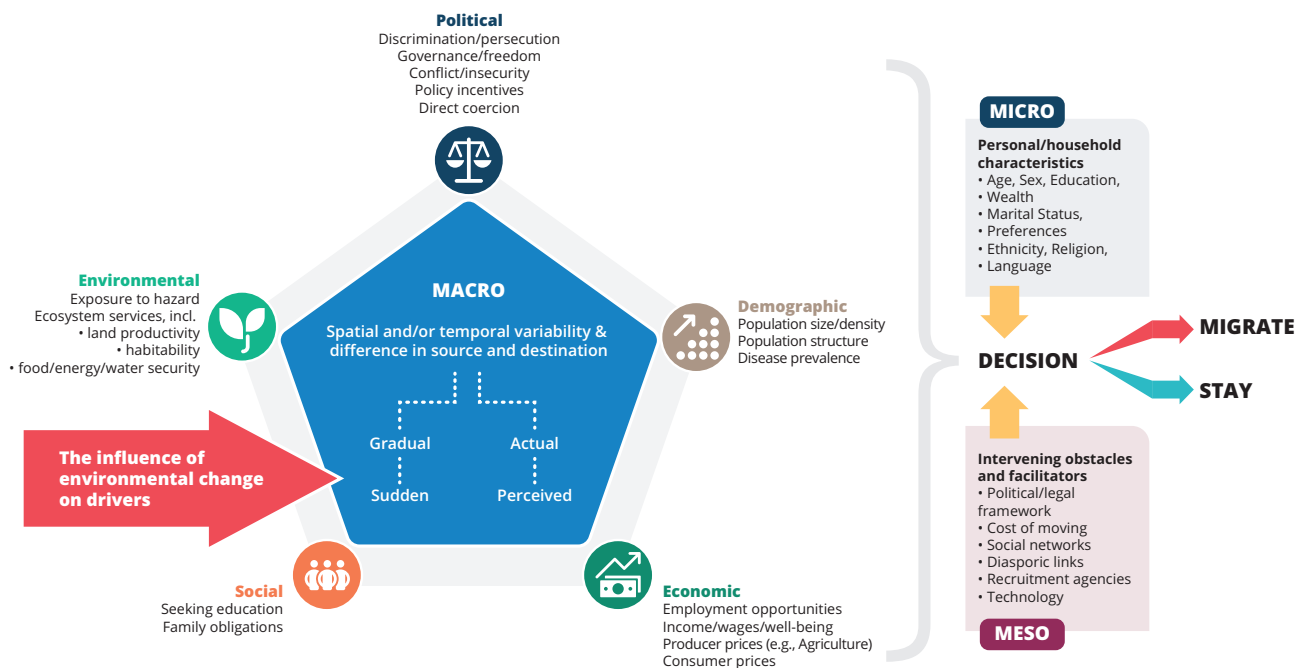
The determinants of irregular migration are often not different from more formal, voluntary migration. A study conducted by the United Nations Development Programme (UNDP) (2019) examining the characteristics, motivations, and lives of 1,970 adult irregular migrants from 39 African countries in Europe found that the main drivers of migration were a combination of economic factors (wage differentials) as well as a sense of aspiration and self-actualisation. Several studies on migration within West Africa and from West Africa to North Africa and Europe cite a combination of poverty, hunger, and lack of employment opportunities as the main drivers for migration (Barros et al., 2002; Benattia et al., 2015; Ba, Bourgoin and Diop, 2018; Robin, 2018; WFP, 2019a).

The results of this study did not identify food security as a primary driver to migrate; however, the food security, health, and safety of migrants in transit are highly compromised due to the harsh and unfavourable conditions they experience along the journey. The onset of such vulnerabilities is almost immediate and quite acute. This will be further elaborated in the following sections.

*“They decided to migrate on their own, and it is because of the poverty that my brothers-in-law left because the country’s situation is not easy, especially if you are from a family that cannot meet its basic needs. Then you will have to go and try your luck with the help of Allah.” – study respondent in Mali*

The drivers of migration do not operate independently and often interact in tandem with other factors; this is a clear trend that can be discerned from the available literature. Over the last two decades, economic factors such as poverty, inequality, labour market conditions, and the search for higher wages have accounted for over a quarter of all migration drivers.<sup>21</sup> Additionally, migration drivers can change rapidly and gradually over time. Social drivers, such as pursuing further education or seeking to join a family member or loved one who has already migrated irregularly, can be additional motivating factors. Lastly, conflict, political instability, or other human rights violations influence irregular migrants to make concrete leave plans. However, this study and previous literature has found that economic factors, namely the earning potential in destination countries, is the primary impetus for irregular migration.

**Figure 1. The effect of environmental change on human migration.**



Source: Richard Black, W. Neil Adger, Nigel W. Arnell, Stefan Dercon, Andrew Geddes, David Thomas. The effect of environmental change on human migration. *Global Environmental Change*, Volume 21, Supplement 1, Pages S3-S11. 2011.

21 Migration Data Portal. Migration Drivers: Why Do People Migrate?. August 2021

## CLIMATE AND MIGRATION

Irregular migration can include individuals who move due to natural resource degradation and climate shocks, which undermines or compromises their normal livelihood activities (Barros et al., 2002; Ba, Bourgoin, and Diop, 2018, WFP, 2019a). For many migrants, the initial option is to engage in internal or circulatory movements at the country or regional level (Mounkaila, 2002; Charrière & Frésia, 2008).

According to the *2022 Global Report on Internal Displacement*, natural disasters triggered 23.7 million internal displacements in 2022, combined with the existing 5.9 million that remained internally displaced due to disasters at the end of 2021.<sup>22</sup> China (6 million), the Philippines (5.7 million), Ethiopia (5.2 million), India (4.8 million), and the DRC (3.6 million) made up the top five countries with the most IDPs due to disasters.<sup>23</sup>

Most displacement occurs within a country's borders due to disasters and climate change.<sup>24</sup> Irregular migration due to climate disasters is difficult to quantify and is minimal compared to those internally displaced due to natural disasters and climate change. While climate is considered an additional "stress multiplier" contributing to migration decisions, economics remains the strongest motivator.<sup>25</sup>



22 Internal Displacement Monitoring Center. *Global Report on Internal Displacement, 2022. At a Glance, Top twenty-five countries with most internal displacements.*

22 Ibid.

24 Ibid.

25 Mixed Migration Center and the Euro-African Dialogue on Migration & Development. *Briefing Paper, June 2021. Framing the Analysis*

# Wage differentials between origin and destination countries

The existing literature suggests that improved economic prospects are the primary driver underlying migration decisions by individuals and households. Political, social, and environmental factors contribute (stress multipliers) to decisions for irregular migration.<sup>26</sup> The factors leading to decisions to migrate are complex due to an individual's specific situation faced in one's country of origin, sociocultural norms, and overall aspirations for

improving one's life prospects. However, the differences in **economic opportunities, explicitly earning potential in destination countries, are considered the most powerful motivator.**<sup>27</sup> There are large wage differentials between the countries of West Africa, the Maghreb, and Western Europe, making irregular migration the most compelling option for individuals inclined to migrate for better economic opportunities. As demonstrated in Table 2, wage differentials between origin and destination countries play a crucial role in motivating migration. While these figures reflect differences in more than just wages, they help illustrate that living standards differ substantially between the three regions.

**Table 2: GDP per capita (PPP terms) in Selected Countries, West Africa, the Maghreb, and Europe, 2019**

Country	GDP per capita
<b>West Africa</b>	
Mali	\$2321
Burkina Faso	\$2175
Niger	\$1224
<b>Maghreb</b>	
Libya	\$15,174
Algeria	\$11,522
Tunisia	\$11,417
<b>Europe</b>	
Italy	\$42,708
Spain	\$40,803
France	\$46,017

Source: World Development Indicators (2022).

The differences in GDP per capita remain constant when controlling for human capital across countries or educational attainment. Thus, regardless of a migrant's education level, skill level, or other factors generally understood to increase income, wage differences remain similar between receiving and origin countries. Using a combination of census data with wage reports, Clemens, Montenegro, and Pritchett (2009) measure the ratio of wages in the United States among unskilled, foreign-born workers to wages at home among similar workers for 42 different low-income countries, controlling for education, age, gender, and rural/urban residence. They find a "place premia" between 1.99 for the Dominican Republic and

15.45 for Yemen; in other words, a Yemeni in the US makes 15.45 times higher wages, in terms of Purchasing Power Parity (PPP), than a Yemeni in Yemen. Using a database including both pre-and post-migration wages, Hendricks and Schoellman (2018) find a similar premium in the United States of 2 to 3 times. UNDP (2019) studies a cross-section of irregular African migrants in multiple European cities; they suggest wages increase threefold among those who made money in Africa and Europe. Hence, individuals seeking improved income opportunities without legal options for migration may find irregular migration a viable option to pursue a better life.

26 Mixed Migration Center and the Euro-African Dialogue on Migration & Development. Briefing Paper. Framing the Analysis. June 2021

27 Ibid.

## THE IMPACT OF REMITTANCES ON FOOD SECURITY

Since 2015, remittances have become the primary source of external financial flows to low and middle-income countries.<sup>27</sup> In each of the past ten years, remittances have tripled the volume of Official Development Assistance (ODA) to low and middle-income countries, and 2022 was no exception: remittance flows surged to US\$626 billion, a 4.9 percent increase from the previous year.<sup>29</sup> Remittances allow households the flexibility to purchase essential goods, invest in education, agriculture, and healthcare, and build resistance to future economic shocks.<sup>30</sup>

Studies also demonstrate a significant, positive relationship between increased flows of remittances and food security. In Sub-Saharan Africa, households that reported receiving higher remittance flows (both volume and frequency) were less likely to be food insecure.<sup>31</sup> Policymakers increasingly view remittances as a hunger-reducing tool, given their compounding effects on food accessibility, availability, utility, and overall stability.<sup>32</sup>

## Role of social networks

*"It was he himself who decided to leave. It was always his choice to go to France because there are many young people from our community who are there."*

Social networks in potential destinations strongly predict migration and play an essential role in facilitating irregular migration (Garip and Asad, 2015). Fifty-seven percent of migrants surveyed in Libya for this research either had a relative living there or knew someone living there before moving. Manchin and Orazbayev (2018) use the Gallup World Poll to show that the presence of close networks abroad explains 37 percent of the variation in intentions to migrate, far more than other factors. Social networks at both the origin and the destination can be important ways to reduce perceived migration risks and associated costs. Social networks at the origin of returned migrants can help potential migrants learn about the journey they plan to take, while social networks at the destination can help reduce the overall costs of migrating by helping them find work or avoid detection by immigration officials (e.g., Munshi, 2003; Comola and Mendola, 2015). Under stricter enforcement regimes, irregular migrants may choose to work in self-employment to avoid detection (Wang, 2019), leaving them vulnerable to food insecurity if they cannot work.



28 Oxford Economics. The Remittance Effect: A Lifeline for Developing Economies Through the Pandemic and into Recovery

29 World Bank. Migration & Development Brief. Trends in Remittance Flows. November 2022

30 Ibid.

31 Mora-Rivera, Jorge and Edwin Van Gameren. "The Impact of Remittances on Food Security: Evidence from Mexico." World Development, vol 140. 2021.

32 Ibid.

# Risks of Migrating Irregularly

In addition to the constant risk of deportation, irregular migrants face additional protection, financial, and security risks. Some migration routes, such as crossing the Mediterranean, carry a measurable risk of death during the crossing (e.g., IOM, 2020).<sup>33</sup> Every year, thousands of migrants die attempting to cross the Mediterranean: in 2022 alone, an estimated 2,367 migrants died along the journey. Many migrants lost at sea are never identified, so their countries of origin are untraceable.<sup>34</sup> Irregular migrants require logistical and administrative support to cross borders and often hire smugglers to facilitate their travel (e.g., Dolfin and Genicot, 2010; Benattia et al., 2015).

*"[My brother] lived through the worst before arriving at his destination, before in Libya, he was kidnapped by his smuggler in Libya, before they boarded a boat for Italy to return to France. Their boat capsized before arriving in Italy, and over a hundred were killed, but my brother survived."*

Irregular migrants often fear detection and deportation and may therefore be reluctant to interact with public officials who might report their presence to immigration enforcement. Migrants frequently cannot freely report crimes against them or seek needed health care, violating fundamental human rights. Migrants who make journeys to avoid detection expose themselves to substantial physical risk and even death: IOM reports that over 50,000 migrants have gone missing since 2014, with about half of those occurring in the Mediterranean.<sup>35</sup> To reach countries without detection, migrants often use smugglers who offer to get migrants across borders in exchange for a financial or material benefit (UNODC, 2000).<sup>36</sup> By paying smugglers, migrants expose themselves to many risks related to detection and physical security. Given the unequal power relationship between migrants and smugglers, migrants can be deceived, coerced, or exploited and need assistance if transactions go awry (McCauliffe and Laczko, 2016).

## FINANCIAL ESTIMATES FOR SMUGGLING

According to the UN Office on Drugs and Crime, migrant smuggling along those routes is estimated to be a market of US\$7 billion annually (UNODC, 2010). A substantial body of research suggests that even within low-income countries, migrants come from the middle of the income distribution (e.g., Grogger and Hanson, 2011). The data collection in Libya suggested that migrants spent, on average, US\$658 to reach Libya, while cost estimates for continuing to Europe from Tripoli ranged from US\$900 to US\$1300. According to data from Frontex, between 2017 and 2020, smugglers earned EUR 330 million from operations along the Western and Central Mediterranean migrant routes.<sup>37</sup> In 2017, criminal networks smuggling migrants to Italy through the Central Mediterranean route earned EUR 135 million, or approximately EUR 1300 per person.<sup>38</sup> In mid-2018, fees increased to EUR 1800 per person.

Additionally, profits surged over the same period for networks operating along the Western Mediterranean route. Before 2017, migrants paid between EUR 500 to EUR 1000 to be smuggled from Algeria to Spain and EUR 1000 to EUR 2000 from Morocco to Spain. By mid-2018, the fees for both routes reached EUR 3000 per person.<sup>39</sup> These price surges are due to the complexities and dangers involved in crossing international borders and significant increases in demand for the services smugglers provide. Migrants from countries more distant from Libya (e.g., Gambia, Senegal) also reported much higher costs than those from closer countries (e.g., Chad).

33 Evidence also shows that potential migrants may underestimate the risks on routes they plan to take. Bah and Batista (2020) examined the determinants of irregular migration from West Africa to Europe using a lab-in-the-field experiment approach in rural Gambia. The experiment sampled males aged 15 to 25 and included sixteen rounds where each round provided a different combination of hypothetical probabilities of dying en route and obtaining legal residency status in Europe upon arrival. According to the results, individuals' willingness to migrate decreases with the probability of dying en route, which potential migrants overestimate.

34 Missing Migrants Project, International Organization for Migration. 2022

35 Missing Migrants Project, International Organization for Migration. 2022

36 While the relative frequency of migrant smuggling is unknown, migrant smuggling is quite common on some irregular migration routes, including those crossing the Mediterranean (McCauliffe and Laczko, 2016).

37 Frontex. Strategic Risk Analysis Report. Migration and Returns. 2022.

38 Ibid.

39 Ibid.

Smuggling exploits the vulnerability and desperation of migrants seeking to improve their quality of life. Given the pay-as-you-go method smugglers employ, abuse and human rights violations may occur at any stage of the journey. Since moving to a destination or back home is costly, migrants can get stuck at their destination. The key informant interviews suggested that some migrants living near Sabha would welcome help to return to their home country (Ambler, de Brauw, and Maruyama, 2022b).

Often, the costs to cover the journey leave many migrants highly vulnerable. In West Africa, where the journey is typically completed in phases, migrants cannot accurately estimate the total cost of the journey.<sup>40</sup> Irregular migrants may thus be forced to work at various transit points in derogatory conditions to save money to continue the journey. Migrants are frequently unpaid for their work or far below the rate paid to domestic labourers for the same job. Conditions in Libya were reported to be especially difficult, with participants describing a “degrading and discriminatory atmosphere” that included ongoing violence. In-transit migrants lived in areas considered “ghettos” for Sub-Saharan migrants, also called “Grigaras,” in which migrants described arbitrary detentions, torture, and other human rights violations.<sup>41</sup>

Migration cost considerations must consider transportation, housing along the journey and at the destination, food, and search costs for housing and employment. As noted above, irregular migrants often pay smugglers to get them through difficult geographical crossings, such as the US-Mexico border, the Sahara Desert, the Darien Gap, or across the Mediterranean.

*“[My son] while leaving for Spain, was swindled by a smuggler in Nouadhibou (Mauritania) who took five hundred and fifty thousand CFA francs from him. That’s why he came home to raise more money to the tune of one hundred and twenty-five thousand CFA francs and go back to Mauritania to reach Spain.”*

Migratory costs are not always financial. Irregular migrants often face additional barriers and are highly vulnerable in transit. For instance, accessing adequate food through public assistance is challenging as programmes are often reserved for citizens or legal residents of a country.<sup>42</sup> On the border with Mexico, between 2017 and 2021, the US Customs and Border Patrol reported that between 216,000 and 294,000 migrants from El Salvador, Guatemala, and Honduras were deemed inadmissible and turned away (US Customs and Border Patrol, 2022).<sup>43</sup> Even if allowed to enter a destination country, wages for irregular migrants are often lower than for nationals and regular migrants (e.g., Ortega and Hsin, 2018). They also face higher risks of wages being withheld since exploitative employers realise irregular migrants have little or no recourse in legal systems (Hagen-Zancker, 2015). Irregular migrants may be forced to work excessively long hours (e.g., Donini and Sharma, 2013).

41 International Organization for Migration. 2022 World Migration Report, Chapter One. December 2021

42 Deschak, Caroline Irene, et al. Journal of Migration & Health. Food Insecurity & Coping Strategies in International Migrants in Transit through Mexico. Vol. 5 2022.

43 U.S. Customs & Border Protection. Statistics, Fiscal Year. 2023.

# Food Security and Irregular Migration – Analysing the ‘Routes-Based’ Approach

As described in the methodology section, the research adopts a ‘routes-based’ approach for analysis.<sup>44</sup> This section reviews linkages between food security and irregular migration from the perspective of migrants at each stage of the journey. Understanding how food security and other factors interface amongst this vulnerable population is critical for national governments and, where appropriate, humanitarian and development actors to design and implement effective policies and programmes that address food security. The results section is divided into subsections considering food security among migrants or potential migrants at each point along the route, using the case studies to delve into further detail.

## At the Origin

Available literature shows that countries with high levels of migration are also food insecure.<sup>45</sup> Consequentially, while food security is not often cited as a primary reason to migrate, it contributes to the decision-making process to migrate. A previous WFP study in Central America found that individuals experiencing food insecurity were more likely (23 percent) to make concrete preparations to migrate.<sup>46</sup> The relationship between food security and migration can be direct, such as during acute events where food security is severely impacted and when migration is the only option for people to escape hunger.<sup>47</sup> It can also be indirect: families can use migration as a coping strategy for long-term income uncertainties and food insecurity risks (FAO, IFAD, IOM, and WFP, 2018) where households send family members due to limited economic opportunities. In such cases, young men are expected to undertake seasonal, internal migration and

absorb the risks involved to find alternative income for their respective households.

In this sense, migration is a coping strategy for dealing with uncertainties about income and food insecurity. Evidence and previous literature suggest that households anxious about food security, in general, are more likely to decide that an adult should migrate in search of employment.<sup>48</sup>

*“In our village, after the period of agriculture which runs from June to October, there is no more work in the village, so (young men are) obliged to go to look for money themselves.”*

Conflict can also represent an intermediary role in international migration, as illustrated in the WFP report “At the Root of Exodus” (WFP, 2017). Although the modal respondent suggested that economic reasons were primary to their desire to migrate, existing conflicts and worsening food security situations were also shown to be a decisive push factor. According to a survey conducted in 2021 by WFP and partners in specific locations in Honduras, Guatemala, and El Salvador, food insecurity and conflict were cited as primary reasons to migrate (Ruiz Soto et al., 2021).

44 The ‘routes-based approach’ was adapted in consultation with WFP’s Regional Bureau in Cairo in order to clearly understand how WFP’s work can address irregular migration through this lens.

45 Deschak, Caroline Irene, et al. *Journal of Migration & Health*. Food Insecurity & Coping Strategies in International Migrants in Transit through Mexico. Vol. 5 2022.

46 World Food Programme and the Migration Policy Institute. *Charting a New Regional Course of Action: The Complex Motivations and Costs of Central American Migration*. November 2021

47 FAO, IFAD, IOM, and WFP, 2018. *The Linkages Between Migration, Agriculture, Food Security, and Rural Development*. 2018.

48 Ibid.

# Irregular Migrants in Transit

*“In fact, you cannot migrate irregularly without encountering difficulties such as lack of food, aggression, lack of money, or even losing your life along the way. Being a man is not easy, and if you decide to take the road, then you hand everything over to Allah.”*

Migrants seeking higher wages may not come from food insecure households; however, the adverse shocks and hardships they endure in transit often lead them to become acutely vulnerable to food insecurity. In the survey of migrants conducted in Libya, 17 percent suggested their primary difficulty during their travel was a lack of food at some point during the journey. The West

African countries on the migration routes to Libya all suffer moderate to severe levels of food insecurity.<sup>49</sup> High food prices, low levels of food supplies, and distance to markets contribute to migrant food security *en route*. Migrants also experience unexpected changes in plans and often utilise their budgets for travel expenses sooner than expected, leaving them unable to buy food and other essential needs whilst travelling.

*“Travelers usually bring along enough money to survive the transit. Many will eat rationed dried and ground food or dates once they reach the Libyan desert.” Others indicated that “people still eat less variety of grains and vegetables than they usually eat at home [since they cannot afford them].”*

**Table 3: Comparing Migration Flows through Arlit and Séguédine, Niger, 2016-2019**

Year	Arlit (to/from Algeria)		Séguédine (to/from Libya)	
	Inflows	Outflows	Inflows	Outflows
2016	29.613	35.614	81.617	298.277
2017	26.134	34.399	72.172	35.031
2018	24.801	26.201	28.290	50.136
2019	28.172	51.133	21.252	50.425

Source: Gabriel and Rijks (2019).

In sum, irregular migrants who have decided to leave their homes require support to meet their food and nutrition needs when in transit, even if they were relatively food secure before migration. In the case study, both primary and secondary source reports find that migrants in transit face significant problems, including food insecurity. This finding is corroborated in other places; Central American migrants have begun to form caravans moving through the most dangerous parts of their journeys to increase physical safety in the aggregate (Ruiz Soto et al., 2021). As routes in West Africa and elsewhere are relatively well known, clear migration transit points could serve as operational points of entry to provide food or cash assistance.



49 CADRE HARMONISÉ 2022-2023 analyses: <https://www.ipcinfo.org/ch/>

# Destination or Protracted Transit Locations

Food security is a challenge for many migrants interviewed in Libya, and migrants in Sabha were more likely to report food insecurity than migrants in Tripoli, though, in both places, many migrants stated that they worried about or ran out of food during the journey. **Thirty-seven percent of respondents overall suggested they worried about having enough food to eat; 27 percent of respondents stated there were times when they had no food to eat.** Some migrants suggested they had seasonal problems affording food linked to the type of employment they could attain. Migrants who were well-established were more likely to report having had difficulty with food insecurity before migration than while in transit to Libya. In the case of violence or conflict, 14 percent of the respondents identify it as a problem affecting them in Libya, compared to 10 percent at origin, while 26 percent and 20 percent report personal safety as being a major issue in Libya and in transit, respectively, compared to 4 percent at the origin. These results are consistent with findings from the Migration Pulse III report (WFP, 2021), where insecurity and violence came as the main problems faced by migrants in Libya.

When asked about support from government agencies or NGOs to cope with these issues, only 6 percent of the survey respondents said they received it at the origin, 1 percent in transit, and 5 percent in Libya.

In Libya, irregular migrants are far more food insecure than either internally displaced people or the population. Participants in the focus group indicated that finding food while in transit depends on how much money the migrant had, and it could become a problem if they were robbed. Over half of all migrants reported being marginally food insecure, and 20 percent reported being food insecure in 2020, as compared to 9 percent of the overall population in Libya experiencing food insecurity (IOM and WFP, 2021; WFP, 2021). Additionally, data collected in Libya and described in Table 1 suggest a substantial need to aid migrants as they return to their home countries: over 30 percent of surveyed migrants would choose to return home. The qualitative work in Sabha, Libya, showed that many irregular migrants in Libya that would prefer to return home lack the resources to do so. When attempting the journey back to their respective countries of origin, such migrants would be again vulnerable to various risks, including high levels of food insecurity.

A significant share of respondents reported experiencing food insecurity in Libya, as shown in Table 4.

This finding is corroborated by existing literature from destination countries. Among migrant farm workers in California, for example, 47 percent were found to be food insecure (Minkoff-Zern, 2014). Similarly, UNDP (2019) finds that among African migrants in Europe, 42 percent have gone without enough food to eat. A possible explanation lies in the lack of regular employment: irregular migrants often find inconsistent jobs as day labourers and thus suffer periods of food insecurity when work is scarce.

**Table 4. Signs of food insecurity reported by migrants in the survey sample**

Worried not enough food	37.4%
Unable to eat preferred foods	39.6%
Had to eat just a few kinds of food day after day	38.3%
Had to eat food he/she didn't want to eat	37.2%
Ate a smaller meal than needed	34.2%
Ate fewer meals in a day	32.5%
Was there ever no food at all?	27.2%
Went to sleep at night hungry	26.1%
Went a whole day without eating anything	20.6%

Source: IFPRI Survey of Irregular Migrants in Libya 2021

# Discussion

The present study conducted in collaboration with the International Food Policy Research Institute (IFPRI) aimed to investigate irregular migration in West Africa, with a particular focus on understanding the profile of migrants and their motivations for undertaking such journeys. In addition, this discussion section incorporates insights from an analysis conducted by the [Massachusetts Institute of Technology](#) (MIT) on the protection risks associated with the migration journey.

It is clear from this research and related literature, that irregular migrants in transit are extremely vulnerable and while aiding this population is highly challenging, it is the responsibility of the humanitarian community to reach those in need. This mandate falls squarely within the 2019 Global Compact for Safe, Orderly, and Regular Migration (GCM). While the GCM calls for governments to make strides toward more regular routes to migration, until they exist, there is a humanitarian imperative to provide needs-based assistance to irregular migrants rather than attempting to limit their mobility.

This study provides valuable insights into the characteristics and motivations of irregular migrants in West Africa, including insights into irregular migration and food security, complementing existing research WFP has undertaken in Central America. This work is intended to lay the foundation for further analysis related to programmes and policies which support commitments made in the GCM.

While several factors were identified as key motivations for migrants embarking on irregular journeys in West Africa economic, considerations emerged as the predominant driver, with migrants often seeking improved livelihood opportunities, higher wages, and better standards of living in destination countries. High levels of poverty, unemployment, and limited job prospects in their countries of origin were frequently cited as push factors leading individuals to take the risk of irregular migration. In general, the study found that irregular migrants tend to be relatively well-educated males from urban areas, who have access to resources to pay smugglers, costing upwards of US\$2000 between much of West Africa and Libya.

The analysis conducted by MIT on the protection risks associated with the irregular migration journey complements our findings. MIT's study highlights the significant dangers and vulnerabilities faced by migrants throughout their journey. These risks include physical harm, exploitation, abuse, and trafficking. The findings from MIT emphasise the urgent need for comprehensive protection mechanisms and interventions to address the vulnerabilities faced by irregular migrants.

In conclusion, this study conducted in collaboration with IFPRI sheds light on the profile of irregular migrants in West Africa and their motivations for undertaking such journeys. Economic considerations emerged as the primary driving force, with migrants seeking improved livelihood opportunities. The findings emphasize the need for comprehensive protection mechanisms to address the risks and vulnerabilities faced by migrants throughout their journey. The insights provided by MIT's analysis further underscore the urgency of addressing the protection risks associated with irregular migration. Policymakers, international organizations, and civil society must collaborate to develop holistic strategies that prioritize the well-being and safety of irregular migrants, while also addressing the underlying economic and social factors driving migration in West Africa.

48 United Nations Development Programme. "Scaling Fences: Voices of Irregular African Migrants to Europe." 2019.

49 UN World Food Programme. WFP's Role in Youth Employment. February 2022.

50 World Food Programme and the Migration Policy Institute. Charting a New Regional Course of Action: The Complex Motivations and Costs of Central American Migration. November 2021

# Recommendations

- 1** Since the main push factor for migrants to leave their countries of origin is economic wage differentials, the international community should work alongside national governments in developing appropriate policies that facilitate economic and employment opportunities in the country of origin.
- 2** Given the extremely high levels of risk during transit, including those related to protection and food insecurity, international partners should seek entry points for the provision of needs-based assistance to migrants where possible and feasible. Cash transfers to meet essential needs are recommended where possible and feasible.
- 3** In locations where migrants settle or use as protracted transit sites, the international community should address food insecurity and other humanitarian requirements, also considering the needs of the host population to avoid potential tensions.



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# Annexes

## Annex 1

**Table A.1. Variables Associated with Any and International Migration Status at Household Level, Mali**

Variable	1	2	3	4	5	6	7	8	9
	Any migrant in household			Domestic migrant in household			International migrant in household		
Rural	-0.0898** (0.0422)	-0.0981** (0.0427)	-0.0984** (0.0427)	-0.0949** (0.0418)	-0.103** (0.0421)	-0.104** (0.0420)	-5.25e-05 (0.0199)	-0.00156 (0.0199)	-0.00158 (0.0199)
Age, HH Head	0.00164** (0.000662)	0.00155** (0.000662)	0.00155** (0.000663)	0.00175*** (0.000649)	0.00165** (0.000649)	0.00165** (0.000651)	0.000128 (0.000426)	0.000117 (0.000428)	0.000118 (0.000428)
Education, HH Head	0.00591*** (0.00208)	0.00606*** (0.00211)	0.00600*** (0.00211)	0.00762*** (0.00197)	0.00820*** (0.00199)	0.00811*** (0.00199)	7.58e-05 (0.00160)	-0.000311 (0.00160)	-0.000318 (0.00160)
Head Employed in Ag.?	-0.0771*** (0.0268)	-0.0837*** (0.0269)	-0.0832*** (0.0269)	-0.0738*** (0.0264)	-0.0798*** (0.0264)	-0.0790*** (0.0264)	-0.0288* (0.0153)	-0.0306** (0.0154)	-0.0306** (0.0154)
No. Males, 18-29	0.0250*** (0.00724)	0.0245*** (0.00719)	0.0181 (0.0113)	0.0293*** (0.00751)	0.0289*** (0.00746)	0.0180 (0.0114)	0.00386 (0.00574)	0.00372 (0.00570)	0.00375 (0.00854)
No. Males, 30-59	0.0129 (0.0108)	0.0118 (0.0107)	0.0119 (0.0107)	0.0204* (0.0108)	0.0200* (0.0107)	0.0201* (0.0107)	-0.0107 (0.00831)	-0.0115 (0.00830)	-0.0115 (0.00829)
No. males, under 18	0.00150 (0.00405)	0.00151 (0.00404)	0.00148 (0.00403)	0.00287 (0.00400)	0.00290 (0.00400)	0.00285 (0.00399)	-0.00101 (0.00297)	-0.00102 (0.00294)	-0.00104 (0.00294)
No. females, under 18	0.00206 (0.00429)	0.00182 (0.00428)	0.00189 (0.00428)	0.00201 (0.00433)	0.00173 (0.00430)	0.00184 (0.00428)	-0.000191 (0.00343)	-0.000207 (0.00343)	-0.000177 (0.00343)
No. females, 18-29	0.00961 (0.00825)	0.00953 (0.00814)	0.00952 (0.00811)	-0.00305 (0.00829)	-0.00277 (0.00820)	-0.00277 (0.00815)	0.0221*** (0.00607)	0.0218*** (0.00602)	0.0217*** (0.00602)
No. Females, 30-59	0.00964 (0.00999)	0.00969 (0.00992)	0.00997 (0.00994)	-0.00183 (0.0103)	-0.00137 (0.0102)	-0.000887 (0.0102)	0.0212*** (0.00729)	0.0208*** (0.00727)	0.0208*** (0.00728)
Food Security Index	-	-0.00666 (0.00528)	-0.00485 (0.00578)	-	0.00310 (0.00504)	0.00581 (0.00558)	-	-0.0105*** (0.00341)	-0.00954** (0.00372)
# of shocks	-	0.0234*** (0.00682)	0.0194** (0.00760)	-	0.0213*** (0.00685)	0.0147** (0.00714)	-	0.00648 (0.00412)	0.00587 (0.00493)
Food security* Males, 18-29	-	-	-0.00225 (0.00329)	-	-	-0.00336 (0.00327)	-	-	-0.00124 (0.00239)
# of shocks*Males, 18-29	-	-	0.00494 (0.00452)	-	-	0.00812* (0.00452)	-	-	0.000719 (0.00353)
Number of obs	3,813	3,813	3,813	3,813	3,813	3,813	3,813	3,813	3,813

Notes: Source is EAC-I (2017), long form households. Standard errors clustered at the primary sampling unit level in parentheses. \*-indicates significance at the 10 percent level; \*\*- indicates significance at the 5 percent level; \*\*\*- indicates significance at the 1 percent level.

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