# THE IMPACT OF MIGRATION ON FOOD SECURITY IN TIGRAY, NORTHERN ETHIOPIA: THE ROLE OF MIGRATION PATTERNS AND REMITTANCES

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With 5 figures and 5 tables
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**Summary**: Food insecurity continues to be a major international concern aggravated by the economic crisis, pandemics, violent conflicts and war. In the past decade, scholars have highlighted the role of migration in household food security, yet the interrelationships between migration and food security have shown disconnections in the literature. This study is therefore intended to provide empirical evidence of the food security–migration nexus in the case of Ethiopia's Tigray region. Mixed-methods approaches were used in the study, including semi-structured household and expert interviews and Participatory Rural Appraisal (PRA). The study demonstrates that migration, through the flow of both financial and social remittance, has a positive impact on household food security. Based on the results, remittances contribute to household food security in a variety of ways, including facilitating the acquisition of consumable goods, diversifying sources of income, and funding the purchase of production-related inputs and health insurance, housing, and other household goals. Furthermore, the findings establish that migration is a reaction to a variety of circumstances, primarily prompted by economic factors, such as a desire to enhance one's standard of life, high levels of poverty, high unemployment, low agricultural yields, and food crises. The study concludes that migration has dual implications for household food security: on the one hand, migration as a response strategy to food insecurity, and on the other hand, migration as a form of vulnerability to household food insecurity, demonstrating the reciprocal relationship between food security and migration.

**Zusammenfassung**: Die Frage der globalen Ernährungssicherheit, welche sich in den letzten Jahren durch Wirtschaftskrisen, Pandemien, gewaltsame Konflikte und Kriege verschlechtern hat, bleibt ein zentrales Problem menschlicher Entwicklung. In den vergangenen zehn Jahren hat sich die Wissenschaft vermehrt mit der Rolle von Migration für die Ernährungssicherheit beschäftigt, wobei die existierende empirische Evidenz keine eindeutige Aussage über das Zusammenwirken beider Faktoren zulässt. Die vorliegende Studie leistet einen Beitrag zur Verbesserung des Verständnisses des Ernährungssicherheit-Migration-Nexus. Die Arbeit basiert auf empirischer Forschung, die in der äthiopischen Tigray Region durchgeführt wurde. Im Rahmen eines mixed-method Forschungsdesigns wurden u.a. halbstrukturierte Haushalts- und Experteninterviews sowie Participatory Rural Appraisals (PRA) durchgeführt. Die Ergebnisse zeigen, dass Migration eine Reaktion auf eine Vielzahl von Faktoren ist, wobei wirtschaftliche Faktoren, wie z. B. der Wunsch, den eigenen Lebensstandard zu verbessern, die Betroffenheit von Armut, hohe Arbeitslosigkeit, niedrige landwirtschaftliche Erträge und Nahrungsmittelkrisen, zentrale Treiber darstellen. Es zeigt sich zudem, dass Migration durch finanzielle und soziale Rücküberweisungen die Ernährungssicherheit der Haushalte positiv beeinflussen kann. Rücküberweisungen erleichtern den Zugang zu Gütern des alltäglichen Bedarfs, ermöglichen produktive Investitionen im landwirtschaftlichen und außerlandwirtschaftlichen Bereich, sichern notwendige gesundheitsbezogene Ausgaben und unterstützen damit die Diversifizierung von Einkommensquellen. Die vorliegenden Ergebnisse zeigen das wechselseitige Verhältnis von Migration und Ernährungssicherheit: einerseits ist Migration eine Reaktion auf Ernährungsunsicherheit; andererseits verändert Migration die Verwundbarkeit gegenüber Ernährungsunsicherheit.

**Keywords**: Remittances, food security, migration, Ethiopia, impacts of migration

## 1 Introduction

Food security continues to be a major issue on the global development agenda. Eradication of extreme poverty and hunger was one of the primary Millennium Development Goals (MDGs), and food security continues to be part of the 17 Sustainable Development Goals (SDGs; Goal 2: Zero Hunger, UN 2019). The recent Global Report on Food Crises (GRFC 2021) highlights the remarkably extreme severity of food crises, particularly in Africa, where the food crisis is very serious. Based on the Food Systems Summit Brief report (Fraval et al. 2019) among the global population facing a food crisis, those experiencing the most severe conditions are in Africa. Particularly in the Horn of Africa, food crises are becoming severe due to famine (Azadi et al. 2021, Krishnamurthy et al. 2020) and conflicts

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(Anderson et al. 2021, Oğultürk 2021). Ethiopia is among the countries that have experienced acute food insecurity in recent years (Sisha 2020) due to drought and conflict, which has left over 20.4 million people in need of emergency assistance and 4.5 million internally displaced (WFP.FEWS-NET 2021). Following the global food crisis of 2007-2008, the New Alliance for Food Security and Nutrition (NAFSN) was formed to increase assistance for food security in Africa (Gagné 2017, Knoll et al. 2017). This creates a fresh opportunity for discussions about the relationship between food security and migration in Africa, where the current debate on the Food and Nutrition Security-Migration Nexus is particularly pertinent. International organizations have advocated migration as a potential development component to eliminate poverty and enhance long-term human development (UNDP 2009, WorldBank 2009). Researchers and international development institutions have recently highlighted the positive impact of migration on poverty reduction and sustainable development (IOM 2015, WorldBank 2009). An example is the flow of remittances that have been growing increasingly, with estimated official records putting remittances at some $548 billion globally (Koczan et al. 2021) in 2019.

Over the past decades, the livelihoods of people living in rural areas worldwide have undergone significant changes (De Haan & Zoomers 2003, Rigg 2006, Rigg et al. 2012). One key change relates to the increasing "delocalization of life and living" (Rigg et al. 2012), which is reflected by the increasing levels of mobility of people in rural areas. Migration – both internal and international – has become a key feature of rural livelihoods in many African countries (de Brauw et al. 2013) and facilitates the increasing connectedness between places and people and facilitates the flows of resources and information between distant places, thereby changing the character of these places (Greiner & Sakdapolrak 2013). The remittance inflows in many countries and the remittances that migrants send back home to assist their families (WorldBank 2020) are critical examples, with documented evidence of the positive impact of remittances on the well-being of the households in the places of origin (Choithani 2017, Ivlevs et al. 2019, AJAERO et al. 2018, Ratha et al. 2016).

It is thus, surprising that – as Crush (2013: 62) pointed out – there is a "massive disconnect between these two global development agendas". On the one hand, the issue of migration has long been disregarded in the international food-security agenda; on the other, the migration and development debate has not touched upon the issue of food security. Crush (2013) further highlighted the possible reasons for this disconnect that are found in the discussions around the impact of migration on development, as they merely focus on economic growth and productive investment at the global and national scale. They evolve around the common view that the spending of remittances on basic livelihood needs is not seen as development since it does not lead to investment and sustainable productive activities. He further adds that while this debate seeks to analyze the drivers of migration, it seems to ignore food shortages and insecurity as basic causes of migration. Therefore, this study seeks to close this research gap by contributing to the growing volume of research on the food security-migration nexus (Choithani 2017, Crush & Tawodzera 2016, Karamba et al. 2011, Regmi et al. 2014, Sunam & Adhikari 2016, Zezza et al. 2011). The study concentrates on the household level and looks at the nexus from two different angles: on the one hand, viewing food insecurity as a stressor that forces households to cope and adapt to maintain their well-being, and on the other, viewing food security as a livelihood's vulnerability. The study's focus includes both internal and international as well as return migration.

## 2 Food security-migration nexus

Migration in the context of food insecurity can have multiple meanings. Distress or forced migration can be considered a sign of the failed ability of the household to cope with, and adapt to food stress situations, leaving household members with no other option but to leave their homes, often with adverse consequences (Rademacher-Schulz et al. 2012). Migration can also be part of the coping strategies that households apply in times of food stress (Liwenga 2003). Regardless of the underlying causes of migration, the flow of financial and social remittances can increase the ability of households to deal with stress, and reduce their vulnerability to food insecurity (Akçay & Karasoy 2017). This study addresses migration as a reaction to food insecurity, as well as the role of migration in households' vulnerability to food insecurity. Migration as a reaction to food insecurity must be understood in the context of vulnerable households' livelihoods, where households apply multiple strategies to deal with stress (Rademacher-Schulz et al. 2012). Household strategies can be categorized in different ways. Davies (1993) for example makes the distinction between

coping and adaptation strategies: coping strategies are mechanisms to deal with immediate and short-term insufficiency of food; adaptive strategies refer to more permanent changes in ways of acquiring sufficient food. Coping strategies at an early stage of food insufficiency include, for instance, short-term dietary changes, like altering the overall household consumption, rationing of food or shifting to less-preferred foods, or the increased use of credits for consumption purposes (Maxwell 1996, Watts & Bohle 1993, Young et al. 2001). Migration can be a coping strategy when household members migrate in the short term to earn additional income elsewhere. Strategies that relate to income-generating activities are often more long-term and proactive and can therefore be categorized as adaptation strategies. The livelihoods approach (Chambers & Conway 1992, Solesbury 2003, Liwenga 2003) identifies three types of strategies that households can adopt to deal among other things with food insecurity: agricultural intensification (intensification of their agricultural productivity through e.g. irrigation methods); on- and off-farm diversification (diversification of the range of activities to support livelihoods); and migration and the remittances therefrom. Here, migration refers to more permanent changes in livelihood constellations, where households continuously depend on the income from migrants to maintain their well-being.

The role of migration as a determinant of vulnerability to food insecurity has been increasingly acknowledged (Hansen 2008, Lacroix 2011, Redehegn et al. 2019, Zezza et al. 2011). Evidence suggests that, in the context of economic and ecological variability, livelihood-diversification strategies such as non-farm and non-local activities, including migration, are crucial to improving food security (Barrett et al. 2001, Ajaero et al. 2018, Robaa & Tolossa 2016). A growing number of studies point to the importance of financial remittances for the purchase of food items and agricultural inputs for households (Choithani 2017, Crush 2013, De Haan & Zoomers 2003, Hussein & Nelson 1998). Isoto & Kraybill (2017), for example, show in the case of Tanzania that remittances are linked to a higher intake of nutrients, which are vital for the physical development of children and important for adults' health. Choithani (2017) draws a similar conclusion from a case study from rural North India, where remittances are linked to a higher level of household food security. Pieces of literature show that the role of remittances for food security is particularly significant during food-price shocks (Abadi et al. 2018, Combes et al. 2014, Crush 2013, Kangmennaang et al. 2018). Nevertheless, there is a controversy in the existing literature regarding the impact of migration on food security, and vice versa. It has been argued that factors such as the loss of labour through migration and its impact on agricultural production, as well as the increasing dependence on remittances, threaten the food security of households (Zezza et al. 2011).

## 3 Methodology

### 3.1 Background of the study area and site selection

The research was conducted in northern Ethiopia's Tigray region (Fig. 1). Tigray is one of the Federal Republic of Ethiopia's nine regional states. People's livelihoods in the region are characterized by small-scale mixed farming. Migration and remittances from both domestic and international migration are other important means of income generation for many Tigrayans (Gebru & Beyene 2012, Mezgebo & Porter 2020). Tigray is a major migrant-sending region in the country (Adugna 2019). The region has long struggled with food insecurity (Fig. 1). One of the long-standing issues contributing to the region's chronic food insecurity is persistent poverty, which is compounded by unemployment, drought, and low crop yields (Abadi et al. 2018). The poverty incidence is nearly 69% (with a considerable number of people in the area relying on safety-net support and food early warning systems. Table 1 shows that over 1 million people in the region need humanitarian aid, including emergency relief assistance, a productive safety net, and food assistance for internally displaced people every year from 2016-2019.

Tigray has been known for recurrent famine and war and was heavily affected by the 1983-85 famine which resulted in the deaths of nearly a million people in Ethiopia (Varnis 1990). The current on-going violent conflict has resulted in a catastrophic humanitarian crisis, massive displacement, disruption of livelihoods and extensive destruction of infrastructure (UNHCR 2022, York 2022). There are many reports that the current conflict aggravates food crisis and leads to starvation (FSINFood and GNAFC 2020, Miller 2022, Weldemichel 2022).

The district chosen for the study is Saesi Tsaedaemba, which is located in Tigray's Eastern zone. The district has been chosen purposefully as it is one of the region's hotspots for migration, with

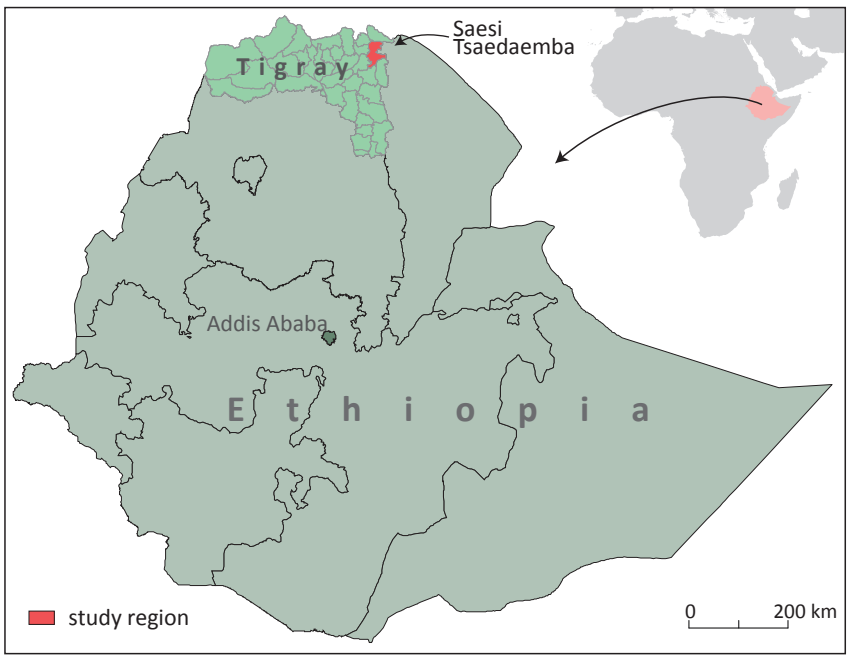


**Fig. 1: Map of Ethiopia, Tigray and the study region**

high unemployment rates and high levels of food insecurity. Reports from the Office of Youth and Sports Affairs show that a significant portion of the population is unemployed (Tab. 2). The number of jobless persons in rural areas was substantially higher than in urban areas for three consecutive years, at 22,640 and 3,520, respectively. Unemployment is a severe problem in both rural areas and cities; however, cities offer relatively better access to job options than rural areas. After consultation with local district experts, three rural villages – namely Mueguma, Takot, and Gueguna –, were selected for detailed investigation.

### 3.2 Data acquisition and analysis

The study pursues a qualitative research design combining a variety of data gathering approaches, including household and expert interviews as well as different Participatory Rural Appraisal (PRA) techniques (Chambers 1994, Kumar 2002). These include a mobility map that was used to determine the destination of migrants, and ascertaining who migrated, the migrants' contribution, and the season of migration. Observations and transect walks were used to identify the locations and resource bases of the community, and problem ranking to identify and prioritize problems related to the topic of interest. The seasonal calendar was also used to determine the timing of food availability, migration, events and activities, rainy seasons, cropping, harvesting, busiest times and environmental calamities. Out of the total 1880 households in three surveyed villages, 36 households were purposively selected based on their migration profiles and socio-economic backgrounds. Six expert interviews were also conducted with officials from various governmental and non-governmental organizations (NGOs), working on matters

**Tab. 1: Number of people who are under relief aid. Ethiopia's Productive Safety Net Program (PSNPs) and Internally Displaced People (IDP's) by year in Tigray**

| Year | Relief | PSNPs | IDPs | Total |
|---|---|---|---|---|
| **2016** | 1,329,755 | 1,010,752 | 14850 | 2,355,357 |
| **2017** | 365,272 | 1,010,753 | 20,677 | 1,396,701 |
| **2018** | 654,016 | 1,010,754 | 74568 | 1,739,336 |
| **2019** | 408453 | 1,010,755 | 111445 | 1,530,650 |

**Source: Early Warning and Response Directorate, Tigray regional state, 2019**

**Tab. 2: Number of unemployed people by year in the study district**

| Year | Rural | | | Town | | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total | Male | Female |
| **2017** | 4,569 | 4,789 | 9,358 | 358 | 442 | 800 | 4,927 | 5,231 |
| **2018** | 4,056 | 4,595 | 8,651 | 580 | 583 | 1,163 | 4,636 | 5,178 |
| **2019** | 6,860 | 1,771 | 8,631 | 777 | 780 | 1,557 | 7,637 | 2,551 |
| **Total** | **15,485** | **11,155** | **26,640** | **1,715** | **1,805** | **3,520** | **17,200** | **12,960** |

**Source: Office of Youth and Sports Affairs, 2019**

of food security and migration from the regional to the local level (Bogner et al. 2009, Meuser & Nagel 2009). They have been chosen purposively believing that they have exclusive insights into expert knowledge into the existing food security and migration situations as well as structural contexts of the study community. The data collection was conducted in the local language from May to October 2018 and August to October 2019 before the outbreak of the war. The data was acquired from household interviews using handwritten notes taken during the sessions and minutes, which were translated an transcribed from Tigrigna into English. The data was cleaned, coded, and restructured to allow for analysis. Descriptive statistics were used for the analysis of quantitative data from the semi-structured interviews.

## 4 Results and discussions

### 4.1 Migration dynamics and employment at the places of destination

The results show variations in the type of migration, the destination of migrants and the reasons for migration. In most cases, a household's migration decision is a coordinated action in which the family is the critical decision-making entity, particularly in African societies, where migration decisions are collective (Stark 1991). The assumption for the family consensus is that the flow of remittance income will help the household overcome food stress, reduce financial risks, and improve the household's overall well-being. Questions regarding the migrant members of the families were asked about their age, sex, destination, the reason for migration, the type of work they did, and what they contribute back home. Based on the results of the mobility-map discussion and key informant interviews, people in the study area migrate throughout the year, but more so during drought seasons that result in crop failure, animal loss, or eroded livelihoods.

The sample households' migration profiles comprise both current and past migration experiences including returnee migration and failed migration. The age of the migrants ranges from 21 to 70, and the older migrants were returnees; for example, one 70-year-old head of household had returned many years earlier. The average age of migrants is 32 years old, with the majority of the population being ≤ 30 years of age (Fig. 2). Based on this data, the majority of migrants are young and productive adults.

At the time of the interviews, all 36 households had diverse migration experiences – ranging from single to multiple migrants, internal to international migration, and return migration to failed migration. A total of 86 migrants was found among the entire 181 members of the surveyed households with an average family size of five, that entails on average each household had two or more migrants. Out of the 86 migrants, 50% of them are international migrants of which 37 were current migrants and 6 were international returnee migrants from Saudi Arabia. Whereas the remaining 50% were internal migrants with 42 of them being current migrants and one returnee migrant from the country's capital city of Addis Ababa. The places of destinations in the analysis consider not only for the current migrants but also the destinations for the returnee as well as for those who experienced failed migration. Among the international destinations, Saudi Arabia is a common international destination with nearly 90.7% of the migrants, while America, Australia, and Dubai are also destination places for a few migrants. Among the internal migrants, 32.6% of them choose to migrate to the region's metropolitan city Mekele, 25.6% to Addis Ababa, and 37.2% migrate within the country to surrounding cities (Tab. 3). The term "nearby cities" here refers to the towns from which people of the study area move to, including Edaga Hamus (18 km), Adigrat (37 km), and Wukro (35 km) distant from the study site.

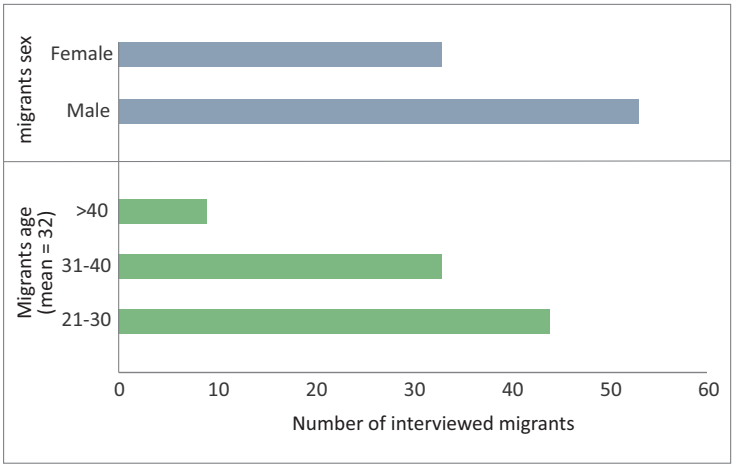


**Fig. 2: Interviewed Migrants' age range and gender characteristics (own data 2018, 2019)**

The results indicate that the population in the study area migrates internationally as well as within Ethiopia. Saudi Arabia – as it is for Ethiopia as a whole (FAO 2018) – is the most popular international destination with established networks, facilitating regular as well as irregular migration. The results imply that destinations for migrants range from domestic to international; the majority of international migrants prefer to migrate to Saudi Arabia because it offers the closest and easiest route, as well as cost-effective (FERNANDEZ 2017). Although Saudi Arabia is the most important international destination, the interviews revealed the occurrence of other destinations such as America and Australia, or Dubai for a few migrants, for reasons related to family and relatives and peer pressure respectively. For internal migration, the region's capital city, Mekele and Ethiopia's capital city, Addis Ababa were common destinations, owing to better work opportunities and higher wages in cities than in rural areas (GUNDEL 2002). Migrants worked in a variety of sectors (Fig. 3), with 25 migrants engaged in small businesses, 17 female migrants working in domestic work, 14 male international migrants unable to identify their jobs, and 7 male migrants working as taxi drivers. Six migrants reported working as civil servants was, of which 5 were internal migrants working in different governmental sectors, while one female international migrant was a medical nurse. A small number of migrants engaged in daily labour, and plant cultivation. Those who worked in small businesses were those who migrated internally or returnees; a number of female migrants were commonly engaged in care and domestic work, and the majority of them are in Saudi Arabia.

The interviewed households reported several reasons for the migration of their migrant family members. Based on the findings from the key in-

**Tab. 3: Type of migration and destination of migrants (own data 2018, 2019)**

| Migration type | Destination of migrants | Number of migrants | Percentage |
|---|---|---|---|
| **International migration** | Saudi Arabia | 39 | 90.7 |
| | America | 2 | 4.7 |
| | Australia | 1 | 2.3 |
| | Dubai | 1 | 2.3 |
| **Internal migration** | Addis Ababa | 11 | 25.6 |
| | Assosa | 2 | 4.7 |
| | Mekele | 14 | 32.6 |
| | Nearby cities | 16 | 37.2 |
| **Total** | | **86** | **100** |

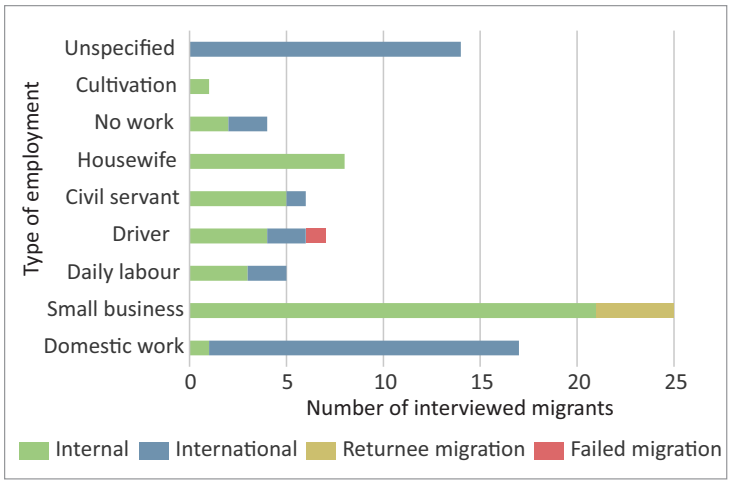


**Fig. 3: Type of work migrants interviewed did at their destinations (own data 2018, 2019)**

formants and mobility-map discussions with community members, the main reasons for migration in the community were poverty, lack of employment opportunities, limited land ownership and low productivity, along with natural calamities that greatly affect livelihoods. The need to improve one's standard of living is the most common reason for migration, as stated by the participants during the interview, followed by searching for work. The primary reason for 27 of the 86 migrants were seeking to improve their lives; migrating in search of work was stated as a reason by 25 (Fig. 4). For female migrants, labour migration and marriage are important reasons, as women usually move to their husbands' places after marriage. Other common reasons for migration were job recruitment or starting up a new business. The interviews indicate that crop failures and animal deaths, food deficits, existing poverty, livelihood collapse, and a high unemployment rate are among the dominant sources of outmigration further away from home, both internally and internationally, for stable employment and better income, in order to improve the living condition.

The results suggest most people in the study area migrate in reaction to a variety of situations. Poverty, low agricultural production, food deficiencies, high unemployment, and a lack of choices to improve one's livelihood are among the fundamental causes. For instance, a study on internal migration in Ethiopia by Bundervoet (2018) stated that the primary motivation for migrants was to find jobs. There is evidence in the literature that rural unemployment is one of the main reasons why young people migrate (Cortina 2014, Dibeh et al. 2019). The foremost reasons for rural outmigration, according to the FAO (FAO 2016), are not only economic factors – such as poverty, food insecurity, a lack of employment, or low farm production – but also a lack of alternative opportunities to improve living standards. Moreover, food shortages are documented to be the primary motivator for migration from low-income countries (FAO 2018). On the other side, evidence also suggests that remittances can be a way out of poverty (UN 2017, Ratha 2013), unemployment (Krishnamurthy et al. 2020) and a mechanism to deal with food insecurity (Smith & Floro 2020), with remittances playing a positive role in alleviating poverty and improving food security (UN 2019) as well as migration outcome.

### 4.2 Remittance and households' food security at the place of origin

Most interviewed households with migrating members – except households who have failed migration experience – reported receiving remittances of various types and amounts from family members who live elsewhere. The results show multiple purposes of remittance use, ranging from food purchasing, health, housing, and other needs of the household (Fig. 5). The use of remittances to the household is categorized and described as follows: investing in consumable items, investing in farming inputs and livelihood diversification, investing in housing, investing in human capital, savings, and investing in other household essentials.

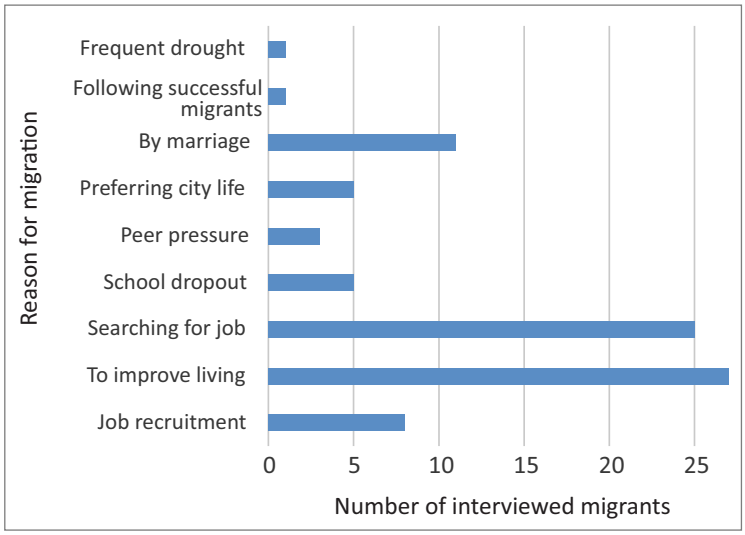


**Fig. 4: Reasons for migration (own data 2018, 2019)**

The importance of investing cash remittances in consumable goods was identified in 26 (72.2%) households. This finding highlights the importance of remittances for acquiring access to food and preventing household members from being hungry through making direct purchases. Spending remittances on agricultural inputs and diversifying sources of income was found to be beneficial in 22 households, with 12 (33.3%) using them to obtain production-related inputs, and 10 (27.8%) using them to diversify sources of income. Another major use of remittances in 26 (72.2%) households is in housing investment, which allows householders to develop better homes by constructing iron-roofed houses that are more resilient to disasters. Remittance investment in human capital, which includes education, medical treatment, and sanitation, is accounted for in 5 (13.9%), 13 (36.1%), and 1 (2.8%) households respectively. Investing in education would help build their capability, and having access to sanitary products, drugs, and health treatments would enable household members to recover from disease and have healthy manpower. In two households, remittance is also a useful source of savings. In a few households, remittance is invested in other critical household items, such as clothing, loan payments, solar lights and water-harvesting technologies.

The results indicate that migration can be interpreted as a significant feature of household livelihoods that contributes to food security in a variety of ways, with economic remittances playing a key role in increasing direct food-purchasing power, investing in agricultural inputs, and diversifying additional sources of income – all of which contribute to households' food security in the short and long term. Housing appears to be the most essential need and most valuable asset, valued by migrants and those who remained behind in the same way as, if not more than, food access (Fig. 5). In the study area, where the majority of the villagers were struggling to find food, having good housing was equally important in the context of low income.

In Tigrigna (the local language in the study area), there is a saying which illustrates the link between better housing and food: "*kebdika hamli milaya zibanka wedi abo yeraya*" – "feel your stomach anyhow, but look great from the outside", and another, "*gezaka kedanika*", which means "home covers all the secrets". This raises the question of what link exists between better housing and food. The results of the mobility-map discussion and the household interview show that homes with migrant members are more likely to have iron-roofed dwellings, whereas homes without migrant members are more likely to have conventional housing, making them easily distinguishable from a distance. Better housing is not only significant in terms of shelter; it also indicates the social position of community members and is considered a status symbol. Spending on house construction and improvement is also a display of wealth status, prosperity, and progress (Choithani 2017). A study from Sri Lanka (Gamburd 2000) emphasizes that spending remittances on housing are the most obvious indicator of family accomplishment and migration success. The reasons households have prioritized spending their remittances on quality housing

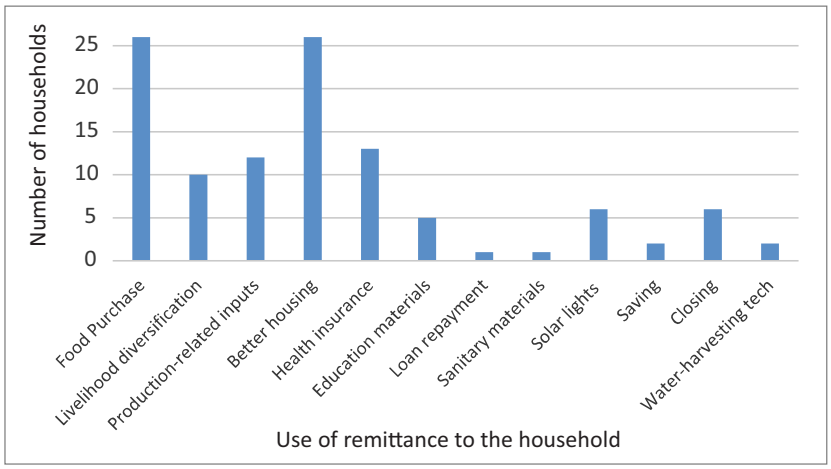


**Fig. 5: Uses of remittance to the household left behind (own data 2018, 2019)**

are that traditional homes are of poor quality, and crowded households are vulnerable to communicable diseases and sanitation-related illnesses, particularly when all family members sleep in single rooms, or when there are not separate rooms for the family, stocks, and kitchen. Furthermore, because firewood is a popular cooking fuel that produces copious smoke in the absence of sufficient ventilation, it is difficult to cook meals safely without compromising the food's safety. Moreover, traditional dwellings, which are made of wood, mud, and dirt, are less likely to withstand strong winds and rain, which will often cover the entire house with dust. Better housing has been linked to increased quality of life and likely reduces poverty (Solesbury 2003) as poverty makes it harder to access healthy food and safe housing. Particularly in urban areas, remittances are found to be a critical source of income, allowing households to save and/or reduce financial stress, boost purchasing power through additional income, and alleviate food shortages. During the fieldwork, for example, a case of four families who used remittances to build urban housing was identified, generating substantial income that was used to cover the expenses of consumption, for saving, and for other household objectives. On the other hand, in the case of vulnerable households who spend remittances on housing, it may be possible to help them gain access to a better quality and quantity of food, easing the strain on their food budget.

What is obvious from these results is that the majority of households spent remittances primarily on two basic necessities: food and housing; purchasing food is a practice that typically contributes to the household's consumption in a variety of ways, notably in response to emergencies and holiday expenses. Evidence showed that remittances were mostly used to purchase consumable goods (de Brauw et al. 2013, Glytsos 2002). For example, de Brauw et al. (2013) have documented the use of remittances as insurance against shocks to individual income, like health insurance funded through remittances. Constructing better housing is another basic need on which households spend their remittances, because better housing is more disaster-resistant, allowing them to protect themselves from external hazards, maintain their socio-economic status, and earn additional income from renting out urban housing – all of which contribute directly or indirectly to food safety and security.

### 4.3 Outmigration-induced labour loss and agriculture at the origin

Among the consequences of migration from an agrarian community might be a labour shortage. Specifically, migrants in the study communities, are largely responsible for routine tasks related to farming and the rural economy. To better understand how labour outmigration affects food security; households were asked if their local farming productivity has been altered by outmigration-led labour-supply reductions. The majority of the sample households 28 (77.8%) with different migration profiles stated that migrant member-related labour loss had no impact on their agricultural productivity (Tab. 4). Landlessness, drought, lack of job opportunities, and increases in population were among the key problems connected with food insecurity, which directly or indirectly leads people to migrate, based on the results of mobility-map discussion and problem pri-

**Tab. 4: Migration, loss of labour, and agricultural production (own data 2018, 2019)**

| | Influence of outmigration on local production | | | | |
|---|---|---|---|---|---|
| | No influence | | Temporarily influence | | Negative influence |
| **Type of migration** | **Frequency** | % | **Frequency** | % | **Frequency** |
| Internal migration | 4 | 14.3 | - | | 1 |
| International migration | 8 | 28.6 | 1 | 33.3 | 1 |
| Internal and international migration | 11 | 39.3 | - | | - |
| Returnee international migration (internal) | 5 | 17.9 | 1 | 33.3 | - |
| Failed migration (3 internal, 1 international) | - | | 1 | 33.3 | 3 |
| **Total** | **28** | 100 | **3** | 100 | **5** |

oritizing. The results of the interviews also show that most homes do not appear to be experiencing labour shortages, which seems to be different from the narrative from Nepal that blames young outmigration as a major factor in agricultural land abandonment (Thomas-Hope 2017).

Table 4 clearly shows that 3 (8.3%) households experienced a temporary and 5(13.9%) severe labour scarcity in the process of performing their farming responsibilities. Three households with male migrant members who were responsible for farming prior to migration encountered a temporary labour shortage until they found work, and prepared to replace the lost labour. As a result of male family members' outmigration, all female-headed families, with the exception of one female-headed home from Gueguna village that shares others' land, are experiencing severe labour shortages, and are forced to share crops. This highlights how difficult it is for the family left behind to cope with the effects of male outmigration in the absence of a replacement male labour force to carry out farming activities, which has a direct influence on household food security. Similarly, the head of social affairs for the region stated in an expert interview that "male emigration from female-headed households means losing half the farm's product as the woman heads generally rent their plot in the absence of male family member." He added that "the majority of young migrants do not wish to return to rural areas and engage in farming following their return, and this could reduce local production". This illustrates how emigration, especially of important family members who frequently were engaged in farming activities prior to migration, has the potential to reduce the agricultural labour force, posing a threat to local food production which over time undermines food security. The impact of outmigration on local productivity was found to be determined by the migrant's sex, age, and farming-related responsibilities before migration.

The main contribution of the present study to the body of knowledge is the finding that, although outmigration induces labour loss, the results from our study show that neither negatively influences agricultural production in the study area. The reason for this is obvious: The majority of household members are smallholder farmers with large families, an average of 5 people per single household, and thus unlikely to face labour shortages. Besides, land scarcity leads to landlessness for many people, so they lack job opportunities. Previous studies have reported that migration not only reduced farm labour, but also subsequently lowered agricultural production (Craven & Gartaula 2015, Maharjan et al. 2013, Sikder et al. 2017). For instance, Craven & Gartaula (2015) noted that outmigration-induced labour loss and its influence on agricultural production and endangers household food security in the long run. Based on an empirical study by Sikder et al. (2017) from Bangladesh, farmland in female-headed households is either left uncultivated or used for share-cropping if there is no male member. The findings from Nepal indicated that the loss of labour from labour-intensive agricultural areas has an impact on local output (Craven & Gartaula 2015) and has an impact on the food security of those who are left behind. For

example, a study by Thomas-Hope (2017) found that migration has a variety of effects on food production and accessibility, leading to the conclusion that active household-member migration reduces the agricultural labour force, which has negative consequences. According to empirical evidence (AJAERO et al. 2018), the majority of surveyed households encountered failures in agricultural production as a result of a member's migration, due to labour shortages. Similarly, Sunam & Adhikari (2016) discovered that labour migration is causing a loss of family labour in west Nepal.

### 4.4 Migration, social remittance and food security

The main finding from this study is that migration has impacts on both migrants and households at the origin beyond location and financial flow. What is obvious from the results is that social remittances influence not only household food security and livelihoods, but also households' overall well-being through the flow of new ideas, accumulated experiences, skills, awareness, and resource transfers resulting from socialization and income changes. These clearly have a positive impact on household food and nutrition security and their well-being. Apart from obtaining access to important sorts of financial remittance as a valuable return from migration, in this study, social remittance includes information, ideas, experiences, resources, behaviours, and identity transfers, as well as social networks. It is another type of return that can be transferred back and forth, from migrants to their sending families (Thieme 2006). During the interviews, it was observed that social remittances sent to the family from migrant workers in other countries come in a variety of forms, and play an important part in the household's economic situation, directly and indirectly contributing to their food security. Among the main social remittances examined in the study were sharing ideas about how to start a small business and what to sell, backed up with initial financial capital, information on production, sanitation, food preparation, and technology transfer – such as mobile phones, solar lights, computers, radio and investing in community services like small-scale irrigation or access to electricity, access to means of transportation and urban buildings. Some particularly relevant examples of quotations from household interviews and discussions are presented below. The son of one family, who had emigrated to America 18 years previously, made multiple financial and social remittances to his family back home. The household head claimed that previously, "our son would send cash to fill financial gaps, but after a few years, he came up with the idea of rebuilding quality housing in rural areas and purchasing urban housing for both living and generating permanent income by renting out the properties – money that our household is currently using for consumption and other expenses".

It was further stated that "his investment in community electric power has helped 8 clusters of households to have access to electricity, facilitating the use of baking machines and cooking stoves, which have a positive impact on food quality and safety, as well as improved health due to reduced smoke from fuel energy". Access to power allows some households to watch television, charge mobile phones, and communicate more easily and quickly. In one household, where all the children had migrated, it was stated that "they suggested to their parents to buy oxen and lease other farms to improve productivity, start a small-scale dairy farm with start-up capital, which they used for direct consumption of milk and butter, and to generate substantial income, used for accessing quality food and non-food items, clothing, and other household objectives". The interviewee claims that "the family built good housing, got solar lights for better lighting, received a radio and a mobile phone to communicate with their migrant children on a regular basis – all of which made their lives comfortable, and was the result of the migrants' increased awareness, ideas, and income". The household reinforced the importance of their business idea for the home's food security as a result of both social and economic remittances. The relationship can also be reversed from receiving to sending: Parents typically send foodstuffs that are difficult to prepare or to access in cities, such as "shiro, butter, or Tihni", for consumption by migrants. In one family, migration played an exceptional role: a widowed woman who heads a household confirmed that she was "able to boost the family's farm produce by sharing a production idea with her migratory sons". In the absence of a male member, female-headed households in the community commonly hire farms for sharecropping. However, this woman instead purchased oxen and recruited labour, doubling her farm output and improving the household's food security as the result of the productive idea and the financial remittances received from her migrant members.

In another case, a family with three migrants, both domestic and international, stated that the migrant members discussed among themselves and

shared information with their families, resulting in the family engaging in poultry production, with initial capital from a daughter who had migrated to Saudi Arabia, and a son in Addis Ababa running the business, which was used for both selling and direct consumption. This played a positive role in the household food supply. The regular visits and support from a migrant in a nearby city, who uses eggs, chicken, and other items in exchange, were also helpful. One international returnee migrant, the head of the household, stated that he had migrated to several places since he was a teenager, eventually settled in Saudi Arabia, where he had achieved his migration goals of saving money, gaining experience, and starting a new business, after returning to his native place, despite repeated deportations. He further stated that he began small-scale irrigation, as soon as he returned, by collaborating with 15 farmers, by providing water and electricity access, allowing them to produce twice a year. Aside from that, he built a modern structured building in a nearby city, where today it houses a variety of services including two banks, cafeterias, restaurants, barbershops, grocery stores, jewellery stores, boutiques, and other small businesses. He stated that all the houses there are rented out at reasonable prices, to encourage company owners to enhance their financial capability and living standard, so that they enjoy working in their community and not looking to move elsewhere. The head of another household (an international returnee migrant) who had previously worked in vegetable farming in a semi-urban area of Saudi Arabia and is now a successful businessman, claimed that migration is the source of the household economy, where the saved income, working exposure, awareness, and the business in mind upon return, helped him to engage in diversified livelihoods, like dairy production, cultivating alfa-alfa grass for cows, investing in urban housing, renting, and so on.

These examples illustrate the benefit of migration – not only in terms of monetary gain, but also in terms of increased awareness, experience, and business ideas that enable migrants to engage in a variety of income-generating activities, improving their socio-economic situation and increasing food security upon return. The social bond between the immigrant and the family left behind is also a crucial factor when considering the effects of migration. Based on informant interviews, migration decreases social attachment in general and care to drain in particular for elders, elderly people who send all of their children away are forced to live alone at home and lack emotional support. The findings indicate the extended impact of migration beyond remittance and migrant-sending households, as was also observed by Hoermann et al. (2010), it is clear from the results of the interviews that the social remittances flow is circular – with households sending local goods and exchanging information in a continuous communication system. The flow of cash remittances is likely higher among international migrants, where the awareness of change and the accumulation of experiences can be clearly observed in returnee international migrants. On the other hand, frequent visits and remittances in kind, such as with food remittance and non-local products, are more likely to be observed with internal migrants when the remittance exchange was circular, due to their relative proximity and lower transportation costs. It has been noted in the literature that migration outcomes, such as social remittance, have a significant impact on the well-being of households left behind (Cohen 2011, Conradson & McKay 2007, Riosmena & Massey 2012, Sunam & Adhikari 2016). Migration has transformative power, according to Castles (2016) transforming migrants' livelihoods in their home countries by permitting the movement of resources, experience, capital, and ideas. Furthermore, as Cohen (2011) points out, resource and knowledge transfers are frequently cyclical, showing the reciprocal reliance of migrants and their families left behind. The results from the present study further established that migrants have strong socioeconomic and cultural ties to their home in their places of origin (Conradson & McKay 2007, Riosmena & Massey 2012).

### 4.5 Households' subjective understanding of migration outcomes

Households with migration experiences and current migrants were asked about their subjective assessments of the effects of migration on their food security, livelihoods, and overall well-being, as well as the reasons for their responses. As illustrated in Table 5, households have distinguished four categories of migration outcomes: crucial, supportive, neutral, and deteriorated livelihood. The positive impact of migration was reported in 15(42%) households, followed by 14(39%) that included international returnee migrants, dominated by a wide range of migration experiences that significantly impacted on household food security and well-being. For example, in two successful international returning migrants' households, migration was specifically iden-

tified as the backbone of the home economy. A few households 3(8%), on the other hand, indicated that migration had neither positive nor negative effects, while 4 (11%) households reported that migration had exposed them to acute vulnerability (Tab. 5).

The results imply that the households where the crucial outcome of migration was emphasized were those that had improved their adaptive ability through the mobility of family members, had greater food access, built assets, and met primary household objectives. These households were able to diversify their sources of income and create financial, social, human, and physical assets, allowing them to be more resilient to shocks. The main reasons migration has a significant impact on the household food security and well-being at the origin were not only related to access to consumable goods, stationery materials, health insurance, and clothing and overcoming emergency costs but were also because of improved long-term well-being due to e.g. building better housing, receiving startup capital, diversifying their livelihoods for additional income generation and asset-building, facilitated through social remittances. In particular, 2 households with successful international return migration were proudly recognized for the positive impact of their migration on their diversified capital development – where the head of the household had family responsibilities, pursued a clear strategy to leave home, was determined to work and saved their income appropriately, and had a business idea in mind when they returned home.

It was observed from the results regarding the supporting influence of migration that it is considered as survival strategy, where the amounts of remittances are either small or too irregular to improve household food security or to bring concreate change to their well-being. Respondents further stated that, while migration has no significant impact on household food security or livelihoods, remittances provide a buffer against critical financial risk and food shortages in the event of serious illness, crop failure or animal loss due to drought, environmental hazards, and other factors. In 4 households with a low asset base, migrant members fail to achieve positive results at their destinations, while the family pays high migration transaction costs by selling existing assets, putting a strain on the household's ability to repay the loan and further eroding its livelihood. In a few households, there has been a neutral impact, where migrants have either contributed less to the household prior to migration or have substituted similar values for what the family has lost due to their migration.

Though it is not possible to assess the net impacts of migration and remittance on household food security at the origin (Regmi & Paudel 2016) from these findings, it can be observed that, while migration did not have a significant impact on the food security of the households left behind, the overall outcome of migration remained positive. Empirical evidence from Tigray, Ethiopia (Abadi et al. 2018) also found that remittance allowed households to consume higher-quality and larger quantities of food, as well as a decrease in the frequency and severity of harmful coping strategies like reducing the quantity or quality of food consumed. De Brauw (2019) demonstrated a significant improvement in calorie intake due to outmigration. In contrast, a review of Ethiopian socioeconomic surveys showed that migration has a negative impact on the food security of migrant-sending households (Rigg et al. 2012). Nonetheless, various findings have indicated that, overall, migration plays a positive role in household food security and well-being. For instance, case studies from India (Choithani 2017) and Malawi (Kangmennaang et al. 2018) have demonstrated how migration was helpful for household food security, with migration having positive effects on households' asset accumulation and well-being in Malawi.

**Tab. 5. The outcome of migration on household food security and well-being at the origin (own data 2018, 2019)**

| | **Impact of migration** | | |
|---|---|---|---|
| **Migration experience** | Crucial | Supportive | Neutral |
| International & internal migration | 3 | 9 | - |
| International migration | 4 | 4 | 2 |
| Internal migration | 2 | 1 | 1 |
| International migration returnee | 5 | 1 | - |
| **Total** | **14** | **15** | **3** |

Migration – whether domestic or international – has a variety of implications for household nutrition and food security, as stated by Ivlevs et al. (2019) who prepared an outline of the theoretical links between migration and food security.

It is apparent, therefore, that where the overall effect of migration varies, this depends on a variety of determining factors, such as the reasons for migration, migration selectivity, destination and type of work, as well as what migrants contribute back home and what has changed. Migrants who were the breadwinners of their respective households, or who left home in search of a job or a better income, were more likely to succeed than those who migrated due to marriage, peer pressure, dropping out of school, or migrating in preference for city life, as the latter factors may result in a lack of a defined strategy (Bélanger & Linh 2011). Besides, migrants who worked in well-paid jobs and sent back multiple remittances managed better than those who worked as civil servants, domestic workers, or women who stayed at home and did not earn any income. As summarized by Sakdapolrak (2014)), a variety of factors determine the effect of migration on the places of origin – such as migration's selectivity (who migrates?), the motivation to migrate (why do people migrate?), spatial and temporal pattern of migration (where do people migrate to, and for how long?), financial and social remittances (what do migrants send back?) and return migration (who returns, and what has changed?).

## 5 Conclusion

This study examines the interrelationship between migration and food security in Ethiopia's Tigray region. The study presents the impacts of migration on households' food security through financial and social remittance as well as migration-induced labour loss. It further describes the migration pattern, distinguishing the migratory population group, migration driving factors, and what they remit back and how it is linked to household food security at the origin. The results illustrate that, though migration does not improve household food security significantly, it positively contributes in multiple ways through cash and social remittances. Furthermore, remittances provide a buffer against critical financial risk and food shortages, and improve local farm output by facilitating investment in agricultural inputs, diversified livelihood, healthcare and better housing – all of which contribute to households' food security in both the short and long term. The study found various underlying causes, with poverty and food crisis found to be the root cause of migration and the desire to improve life as well as searching for job that directly influences food security are among the important driving factors. Therefore, the nexus between migration and food security can be conceptualized from the perspective of migration-driving factors and the impact of migration on food security.

The study further found that the flow of social remittances is circular, with exchanging information in continuous communications and households sending local goods. Moreover, the flow of cash remittances is likely higher among international migrants, whereas, frequent visits and remittances in kind, such as food remittances and non-local products, are probably to be observed. The interplay between migration and food security has been found to be reciprocal relationship, as migration had two-sided implications for household food security: migration in response to food insecurity and migration as a vulnerability to household food insecurity. The results presented in this study ultimately illustrated that remittances are not only useful for satisfying the basic needs of households, like food and housing; they are also used to invest in economic aspects such as small-scale businesses which, in turn, improves the well-being of the household. Hence, there is a need for policymakers to reinforce remittances and migrant engagement in the development effort and integrate the potential effect of remittances into capital investment.

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## References

Abadi N, Techane A, Tesfay G, Maxwell D, Vaitla B (2018) The impact of remittances on household food security: A micro perspective from Tigray, Ethiopia. WIDER Working Paper 2018/40. Helsinki. https://doi.org/10.35188/UNU-WIDER/2018/482-7

Adugna G (2019) Migration patterns and emigrants' transnational activities: Comparative findings from two migrant origin areas in Ethiopia. *Comparative Migration Studies* 7: 1–28. https://doi.org/10.1186/s40878-018-0107-1

Akçay S, Karasoy A (2017) Remittances and calorie consumption nexus in Algeria. *International migration* 55: 103–117. https://doi.org/10.1111/imig.12348

Anderson W, Taylor C, McDermid S, Ilboudo-Nébié E, Seager R, Schlenker W, Cottier F, de Sherbinin A, Mendeloff D, Markey K (2021) Violent conflict exacerbated drought-related food insecurity between 2009 and 2019 in sub-Saharan Africa. *Nature Food* 2: 603–615. https://doi.org/10.1038/s43016-021-00327-4

Azadi H, Burkart S, Movahhed Moghaddam S, Mahmoudi H, Janečková K, Sklenička P, Ho P, Teklemariam D, Nadiri H (2021) Famine in the Horn of Africa: Understanding institutional arrangements in land tenure systems. *Food Reviews International*: 1–17. https://doi.org/10.1080/87559129.2021.1888974

Barrett CB, Reardon T, Webb P (2001) Nonfarm income diversification and household livelihood strategies in rural Africa: Concepts, dynamics, and policy implications. *Food Policy* 26: 315–331. https://doi.org/10.1016/S0306-9192(01)00014-8

Bélanger D, Linh TG (2011) The impact of transnational migration on gender and marriage in sending communities of Vietnam. *Current Sociology* 59: 59–77. https://doi.org/10.1177/0011392110385970

Bogner A, Littig B, Menz W (2009) Introduction: Expert interviews—An introduction to a new methodological debate. Bogner A, Littig B, Menz W (eds) *Interviewing experts*: 1–13. London. https://doi.org/10.1057/9780230244276_1

Bundervoet T (2018) Internal migration in Ethiopia. Evidence from a quantitative and qualitative research study. Washington. https://openknowledge.worldbank.org/handle/10986/32097 (Access, 30/01/2023).

Castles S (2016) Understanding global migration: A social transformation perspective. Amelina A, Horvath K, Meeus B (eds) *An anthology of migration and social transformation*: 19–41. https://doi.org/10.1007/978-3-319-23666-7_2

Chambers R (1994) The origins and practice of participatory rural appraisal. *World development* 22: 953–969. https://doi.org/10.1016/0305-750X(94)90141-4

Chambers R, Conway G (1992) Sustainable rural livelihoods: Practical concepts for the 21st century. IDS Discussion Paper 296. London. https://www.ids.ac.uk/publications/sustainable-rural-livelihoods-practical-concepts-for-the-21st-century/

Choithani C (2017) Understanding the linkages between migration and household food security in India. *Geographical Research* 55: 192–205. https://doi.org/10.1111/1745-5871.12223

Cohen JH (2011) Migration, remittances, and household strategies. *Annual Review of Anthropology* 40: 103–114. https://doi.org/10.1146/annurev-anthro-081309-145851

Combes J-L, Ebeke CH, Etoundi SMN, Yogo TU (2014) Are remittances and foreign aid a hedge against food price shocks in developing countries? *World development* 54: 81–98. https://doi.org/10.1016/j.worlddev.2013.07.011

Conradson D, McKay D (2007) Translocal subjectivities: Mobility, connection, emotion. *Mobilities* 2: 167–174. https://doi.org/10.1080/17450100701381524

CORTINA J (2014) Migration and youth: Challenges and opportunities. https://policycommons.net/artifacts/2071983/migration-and-youth/2827281.

Craven LK, Gartaula, HN (2015) Conceptualising the migration–food security nexus: Lessons from Nepal and Vanuatu. *Australian Geographer* 46: 455–471. https://doi.org/10.1080/00049182.2015.1058797

Crush J (2013) Linking food security, migration and development. *International migration* 51: 61–75. https://doi.org/10.1111/imig.12097

Crush J, Tawodzera G (2016) The food insecurities of Zimbabwean migrants in urban South Africa. Cape Town, Waterloo, Ont. https://doi.org/10.2307/j.ctvh8r40b

Davies S (1993) Are coping strategies a cop out? *IDS Bulletin* 24: 60–72. https://doi.org/10.1111/j.1759-5436.1993.mp24004007.x

de Brauw A (2019) Migration out of rural areas and implications for rural livelihoods. *Annual Review of Resource Economics* 11: 461–481. https://doi.org/10.1146/annurev-resource-100518-093906

de Brauw A, Mueller V, Woldehanna T (2013) Motives to remit: Evidence from tracked internal migrants in Ethiopia. *World development* 50: 13–23. https://doi.org/10.1016/j.worlddev.2013.04.008

De Haan L, Zoomers A (2003) Development geography at the crossroads of livelihood and globalisation. *Tijdschrift voor economische en sociale geografie* 94: 350–362. https://doi.org/10.1111/1467-9663.00262

Dibeh G, Fakih A, Marrouch W (2019) Labor market and institutional drivers of youth irregular migration in the Middle East and North Africa region. *Journal of Industrial Relations* 61: 225–251. https://doi.org/10.1177/0022185618788085

FAO (2016) Addressing rural youth migration at its root causes: A conceptual framework. Rome.

FAO (2018) The linkages between migration, agriculture, food security and rural development. Rome

Fernandez B (2017) Irregular migration from Ethiopia to the Gulf States. Fargues P, Shah NM (eds) *Skilful Survivals: Irregular Migration to the Gulf:* 243–268. Geneva.

Fraval S, Hammond J, Bogard JR, Ng'endo M, van Etten J, Herrero M, Oosting SJ, de Boer IJ, Lannerstad M, Teufel N (2019) Food access deficiencies in sub-Saharan Africa: Prevalence and implications for agricultural interventions. *Frontiers in Sustainable Food Systems* 3: 104. https://doi.org/10.3389/fsufs.2019.00104

Gagné M (2017) Is private investment in agriculture the solution? An evaluation of the New Alliance for Food Security and Nutrition in Senegal. Ottawa.

Gamburd MR (2000) The kitchen spoon's handle: Transnationalism and Sri Lanka's migrant housemaids. Ithaca.

Gebru GW, Beyene F (2012) Causes and consequences of out-migration on rural households' livelihood in Gulomekeda district, Tigray, Ethiopia. *Agricultural Research and Reviews* 1: 26–33.

Glytsos NP (2002) The role of migrant remittances in development: Evidence from Mediterranean countries. *International migration* 40: 5–26. https://doi.org/10.1111/1468-2435.00183

FSINFood and GNAFC (2020) Global Report on Food Crises, FAO: Rome, Italy. https://www.fsinplatform.org/sites/default/files/resources/files/GRFC%20ONLINE%20FINAL%202020.pdf

Greiner C, Sakdapolrak P (2013) Rural–urban migration, agrarian change, and the environment in Kenya: a critical review of the literature. *Population and Environment* 34: 524–553. https://doi.org/10.1007/s11111-012-0178-0

GRFC (2021) Global Report on Food Crises 2021: Joint Analysis for Better Decisions. Rome. World Food Programme.

Gundel J (2002) The migration–development nexus: Somalia case study. *International migration* 40: 255–281. https://doi.org/10.1111/1468-2435.00219

Hansen P (2008) Circumcising migration: Gendering return migration among Somalilanders. *Journal of Ethnic and Migration Studies* 34: 1109–1125. https://doi.org/10.1080/13691830802230422

Hoermann B, Soumyadeep B, Kollmair M (2010) Labour migration for development in the Western Hindu Kush-Himalayas: Understanding a livelihood strategy in the context of socioeconomic and environmental change. Kathmandu. https://doi.org/10.53055/ICIMOD.533

Hussein K, Nelson J (1998) Sustainable livelihoods and livelihood diversification. Brighton. https://www.ids.ac.uk/publications/sustainable-livelihoods-and-livelihood-diversification/

IOM (International organization for Migration) (2015) Inclusion of migration in UN Sustainable Development Goals. A Milestone. https://www.iom.int/news/inclusion-migration-un-sustainable-development-goals-milestone

Isoto RE, Kraybill DS (2017) Remittances and household nutrition: evidence from rural Kilimanjaro in Tanzania. *Food Security* 9: 239–253. https://doi.org/10.1007/s12571-017-0656-4

Ivlevs A, Nikolova M, Graham C (2019) Emigration, remittances, and the subjective well-being of those staying behind. *Journal of Population Economics* 32: 113–151. https://doi.org/10.1007/s00148-018-0718-8

Ajaero CK, Nzeadibe CT, Obisie-Nmehielle N, Ike CC (2018) The linkages between international migration, remittances and household welfare in Nigeria. *Migration and Development* 7: 40–54. https://doi.org/10.1080/21632324.2017.1322171

Kangmennaang J, Bezner-Kerr R, Luginaah I (2018) Impact of migration and remittances on household welfare among rural households in Northern and Central Malawi. *Migration and Development* 7: 55–71. https://doi.org/10.1080/21632324.2017.1325551

Karamba WR, Quiñones EJ, Winters P (2011) Migration and food consumption patterns in Ghana. *Food Policy* 36: 41–53. https://doi.org/10.1016/j.foodpol.2010.11.003

Knoll A, Rampa F, Torres C, Bizzotto Molina P, Cascone N (2017) The nexus between food and nutrition security, and migration: Clarifying the debate and charting a way forward. Maastricht. https://ecdpm.org/work/the-nexus-between-food-and-nutrition-security-and-migration-clarifying-the-debate-and-charting-a-way-forward

Koczan Z, Peri G, Pinat M, Rozhkov DL (2021) The impact of international migration on inclusive growth: A review. *IMF Working Papers*: 2021/088. https://doi.org/10.5089/9781513571966.001

Krishnamurthy PK, Choularton RJ, Kareiva P (2020) Dealing with uncertainty in famine predictions: How complex events affect food security early warning skill in the Greater Horn of Africa. *Global Food Security* 26: 100374. https://doi.org/10.1016/j.gfs.2020.100374

Kumar S (2002) Methods for community participation: a complete guide for practitioners. Bradford.

Lacroix T (2011) Migration, rural development, poverty and food security: A comparative perspective. Oxford. https://shs.hal.science/halshs-00921812

Liwenga ET (2003) Food insecurity and coping strategies in semiarid areas: the case of Mvumi in Central Tanzania. Stockholm.

Maharjan A, Bauer S, Knerr B (2013) Migration for labour and its impact on farm production in Nepal. Kathmandu. https://www.shram.org/uploadFiles/20170615120442.pdf

Maxwell DG (1996) Measuring food insecurity: the frequency and severity of "coping strategies". *Food Policy* 21: 291–303. https://doi.org/10.1016/0306-9192(96)00005-X

Meuser M, Nagel U (2009) The expert interview and changes in knowledge production. Bogner A, Littig B, Menz W (eds) *Interviewing experts*: 17–42. London. https://doi.org/10.1057/9780230244276_2

Mezgebo TG, Porter C (2020) From rural to urban, but not through migration: Household livelihood responses to urban reclassification in northern Ethiopia. *Journal of African Economies* 29: 173–191. https://doi.org/10.1093/jae/ejz020

Miller SD (2022) The unraveling of Ethiopia: Famine and limited access. *Georgetown Journal of International Affairs* 23: 17–22. https://doi.org/10.1353/gia.2022.0004

Oğultürk MC (2021) The Impact of food insecurity on migration and conflict in the Horn of Africa. Çomak H, Şeker BS, Ultan MÖ, Civelek Y, Bozkuş CA (eds) *Refugee Crisis in International Policy-Volume IV:* 101–113. London.

Rademacher-Schulz C, Afifi T, Warner K, Rosenfeld T, Milan A (2012) Rainfall variability, food security and human mobility. Bonn.

Ratha D (2013) The impact of remittances on economic growth and poverty reduction. *Policy Brief* 8: 1–13.

Ratha D, Eigen-Zucchi C, Plaza S (2016) Migration and remittances factbook 2016. Washington

Redehegn MA, Sun D, Eshete AM, Gichuki CN (2019) Development impacts of migration and remittances on migrant-sending communities: Evidence from Ethiopia. *PLoS One* 14: e0210034. https://doi.org/10.1371/journal.pone.0210034

Regmi M, Paudel KP (2016) Impact of remittance on food security in Bangladesh. Schmitz A, Kennedy PL, Schmitz TG (eds.) *Food security in a food abundant world:* 145–158. Bingley. https://doi.org/10.1108/S1574-871520150000016006

Regmi M, Paudel KP, Williams D (2014) Migration and remittance and their impacts on food security in Nepal. Conference paper. Dallas. https://ageconsearch.umn.edu/record/162503/files/RegmiEtAl2014.pdf

Rigg J (2006) Land, farming, livelihoods, and poverty: rethinking the links in the rural South. *World development* 34: 180–202. https://doi.org/10.1016/j.worlddev.2005.07.015

Rigg J, Salamanca A, Parnwell M (2012) Joining the dots of agrarian change in Asia: A 25 year view from Thailand. *World development* 40: 1469–1481. https://doi.org/10.1016/j.worlddev.2012.03.001

Riosmena F, Massey DS (2012) Pathways to El Norte: Origins, destinations, and characteristics of Mexican migrants to the United States. *International migration review* 46: 3–36. https://doi.org/10.1111/j.1747-7379.2012.00879.x

Robaa B, Tolossa D (2016) Rural livelihood diversification and its effects on household food security: A case study at Damota Gale Woreda, Wolayta, Southern Ethiopia. *Eastern Africa Social Science Research Review* 32: 93–118. https://doi.org/10.1353/eas.2016.0001

Sakdapolrak P (2014) Livelihoods as social practices–re-energising livelihoods research with Bourdieu's theory of practice. *Geographica Helvetica* 69: 19–28. https://doi.org/10.5194/gh-69-19-2014

Sikder MJU, Higgins V, Ballis PH (2017) Remittance income and social resilience among migrant households in rural Bangladesh. New York. https://doi.org/10.1057/978-1-137-57771-9

Sisha TA (2020) Household level food insecurity assessment: Evidence from panel data, Ethiopia. *Scientific African* 7: e00262. https://doi.org/10.1016/j.sciaf.2019.e00262

Smith MD, Floro MS (2020) Food insecurity, gender, and international migration in low-and middle-income countries. *Food Policy* 91: 101837. https://doi.org/10.1016/j.foodpol.2020.101837

Solesbury W (2003) Sustainable livelihoods: A case study of the evolution of DFID policy. London. https://cdn.odi.org/media/documents/172.pdf

Stark O (1991) Migration in LDCs: risk, remittances, and the family. *Finance & Development* 28: 39–41. https://doi.org/10.5089/9781451951790.022

Sunam R, Adhikari J (2016) How does transnational labour migration shape food security and food sovereignty? Evidence from Nepal. *Anthropological Forum* 26: 248–261. https://doi.org/10.1080/00664677.2016.1197819

Thieme S (2006) Social networks and migration: Far west Nepalese labour migrants in Delhi. Münster.

Thomas-Hope E (2017) Migration, small farming and food security in the Caribbean: Jamaica and St. Vincent and the Grenadines. *International Migration* 55: 35–47. https://doi.org/10.1111/imig.12298

UN (2017) International migration report 2017. New York. https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2017_Highlights.pdf

UN (2019) United Nations Sustainable Development Goals. 17 Goals to transform our world. https://www.un.org/sustainabledevelopment/

UNDP (United Nations Development Programme) (2009) Overcoming barriers: Human mobility and development: Human Development Report 2009. New York. https://hdr.undp.org/content/human-development-report-2009

UNHCR (UNHCR, the UN Refugee Agency ) (2022) Ethiopia emergency: Help now. https://donate.unhcr.org/africa/en-af/ethiopia-emergency (Access 31 March 2022).

Varnis S (1990) Reluctant aid or aiding the reluctant?: US food aid policy and Ethiopian famine relief. New Jersey.

Watts MJ, Bohle HG (1993) The space of vulnerability: the causal structure of hunger and famine. *Progress in Human Geography* 17: 43–67. https://doi.org/10.1177/030913259301700103

Weldearegay SK, Tefera MM, Feleke ST (2021) Impact of urban expansion to peri-urban smallholder farmers' poverty in Tigray, North Ethiopia. *Heliyon* 7: e07303. https://doi.org/10.1016/j.heliyon.2021.e07303

Weldemichel TG (2022) Inventing hell: How the Ethiopian and Eritrean regimes produced famine in Ti-

gray. *Human Geography* 15: 290–294. https://doi.org/10.1177/19427786211061431

WFP.FEWS-NET (2021) Extreme outcomes persist in Tigray amid limited assistance,while areas of Afar deteriorate to Emergency. https://fews.net/east-africa/ethiopia/food-security-outlook-update/august-2021

WorldBank (2009) World development report 2009: Reshaping economic geography. Washington, DC. http://hdl.handle.net/10986/5991

WorldBank (2020) Migration and remittances. Washington, DC. https://www.worldbank.org/en/topic/labormarkets/brief/migration-and-remittances.

York G (2022) Tigray war has seen up to half a million dead from violence and starvation, say researchers. The *Globe and Mail:* March 15, 2022. https://www.theglobeandmail.com/world/article-tigray-war-has-seen-up-to-half-a-million-dead-from-violence-and/

Young H, Jaspers S, Brown R, Frize J, Khogali H (2001) Food-security assessments in emergencies: a livelihoods approach. London.

Zezza A, Carletto C, Davis B, Winters P (2011) Assessing the impact of migration on food and nutrition security. *Food Policy* 36: 1–6. https://doi.org/10.1016/j.foodpol.2010.11.005

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