INTERNATIONAL MIGRATION FROM CLIMATE-AFFECTED AREAS IN IRAQ:

EXPLORING THE INFLUENCE OF CLIMATE CHANGE ON MOBILITY PATTERNS

IOM UN MIGRATION | GLOBAL DATA INSTITUTE DISPLACEMENT TRACKING MATRIX

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1. INTRODUCTION

Climate migration is a topic of growing interest globally,[1, 2, 3] although the relationship between climate change and mobility is highly complex.[4] In certain cases, climate change can influence existing drivers of movement, such as livelihood opportunities and income, causing higher levels of migration.[5, 6] On the other hand, because migration requires financial resources, the negative impacts of climate change and environmental degradation may also reduce movements by lowering wages, resulting in immobility or 'trapped populations.'[7, 8]

In Iraq, the consequences of climate change and environmental degradation are already visible, in the form of rising temperatures,[9] changing rainfall patterns,[10] heightened droughts,[11] diminishing water quantity and quality[12] and greater occurrence of environmental hazards like sand or dust storms and floods.[13, 14] These issues are compounded by water management policies at the national and international levels, particularly around damming, and regulations of industry and the environment, which impact the supply of water.[15, 16] At the same time, demographic changes, such as increased urbanization and a growing population, are contributing to greater consumption of water.[17]

As a result of drought, water scarcity and poor water quality in central and southern Iraq, families are struggling to sustain climate-sensitive livelihoods like agriculture, livestock rearing and fishing.[18, 19] While some families are able to adapt in place, various forms of migration, including seasonal or temporary movements or relocation of one member of the household, represent a key adaptation measure.[20, 21] However, deteriorating environmental conditions in rural areas have also compelled the permanent movement of entire families seeking to escape financial precarity and debt.[22, 23, 24] As of March 2024, the International Organization for Migration (IOM)'s Displacement Tracking Matrix (DTM) has recorded 23,364 families (140,184 individuals) displaced by environmental factors across 12 governorates.[25] Most families relocated within their governorate of origin (81%) or even their district of origin (47%) and moved from rural to urban areas (55%).[26] A smaller share (19%) displaced to other governorates such as Najaf and Kerbala.[27] Little is known, however, about the influence of climate change and environmental degradation on international migration patterns from Iraq.

This preliminary assessment seeks to fill this information gap by comparing outgoing Iraqi nationals travelling from climate-affected districts of origin to those travelling from non-affected areas. While this approach relies on correlation rather than causal attribution, it nevertheless highlights at-risk areas of origin for further research and programming and points toward a complex interplay of environmental, economic and political factors shaping migration flows out of Iraq. The analysis focuses on potential emigrants, meaning Iraqi nationals who intend to leave the country for three months or longer,[28] although the characteristics of emigrants (that is, Iraqi nationals who have already moved to another country and established a new habitual residence) are considered as well. Following a brief review of the literature on climate migration, key findings are presented. The report describes the methodology and classification of areas as climate-affected, highlighting the governorates with the greatest share of climate-affected subdistricts of origin. Next, a profile of potential emigrants and emigrants is presented, taking into account key demographic characteristics like sex, age, education and employment status. The report then maps the origins of those coming from climate-affected areas compared to those from non-affected areas. Thereafter, reasons for travel are explored, with findings disaggregated by population group (potential emigrants vs. emigrants), governorate of origin and whether respondents came from a climate-affected area. The following section on intended destinations highlights the flows of travellers and examines reasons for travel against selected destinations. Subsequent analysis of respondents' migration history offers insights into the relationship between internal and international movements. Lastly, the travel arrangements of potential emigrants are indicated to shed light on the modalities of these trips, as well as protection risks.

CLIMATE CHANGE AND MIGRATION

Climate change has the potential to shape migration in both direct and indirect ways. Firstly, climate change can impact living conditions by increasing temperatures beyond human comfort and heightening the frequency and intensity of natural hazards, causing outmigration from the affected area.[29] Secondly, climate change may influence existing drivers of migration, such as employment and conflict, by, inter alia, impacting the productivity of climate-sensitive livelihoods and increasing competition over natural resources.[30] With respect to international migration, Marchiori et al. (2012) and Maurel and Tuccio (2015) highlight a further indirect pathway.[31, 32] Climate change can induce movement from rural to urban areas. The influx of arrivals to cities increases the supply of available workers, thereby depressing wages and causing outmigration from urban areas towards international destinations.

In practice, however, the influence of climate change on migration remains highly context specific. The degree of exposure;[33] adaptative capacity[34] and broader social, political, demographic and economic characteristics[35, 36] shape the consequences of climate change for local residents, as well as their ability and desire to relocate.[37] Following a scoping review of 53 studies on climate migration in Africa, Borderon et al. (2019) find 'no conclusive evidence regarding the direction or magnitude' of the effect of climate change on mobility patterns.[38] By reducing income, climate change decreases migration in certain contexts,[39] increases internal but not international migration in others[40, 41, 42] or increases both internal and international migration.[43, 44, 45]

Despite these variations, there is strong evidence to suggest that most climate-induced migration takes place within countries[46, 47, 48, 49] and from rural to urban areas.[50, 51, 52] In particular, Burzyńskia et al. (2019) predict that 80 per cent of climate migrants will relocate either within their region or from rural to urban areas, while 20 per cent will migrate to members states of the Organisation for Economic Co-operation and Development.[53] Moreover, some studies indicate that the relationship between income or development on the one hand and climate-induced migration on the other follows an inverted U-shape.[54, 55, 56, 57, 58] For example, Cattaneo and Peri (2016) found that higher temperatures decreased the probability of urban and international migration in poor countries, while increasing both forms of movements in middle-income economies.[59] Those with high incomes, on the other hand, are better able to adapt to climate change in place and thus their migration rates are minimally impacted.[60] Lastly, some studies suggest that conflict over natural resources may result in greater international movements between Middle East and North African (MENA) countries and European countries.[61, 62] For example, Abel et al. (2019) find that climate change influenced the flows of asylum seekers from the MENA region in 2010-2012 by heightening the severity of drought and impacting the probability of conflict.[63]

2. KEY FINDINGS

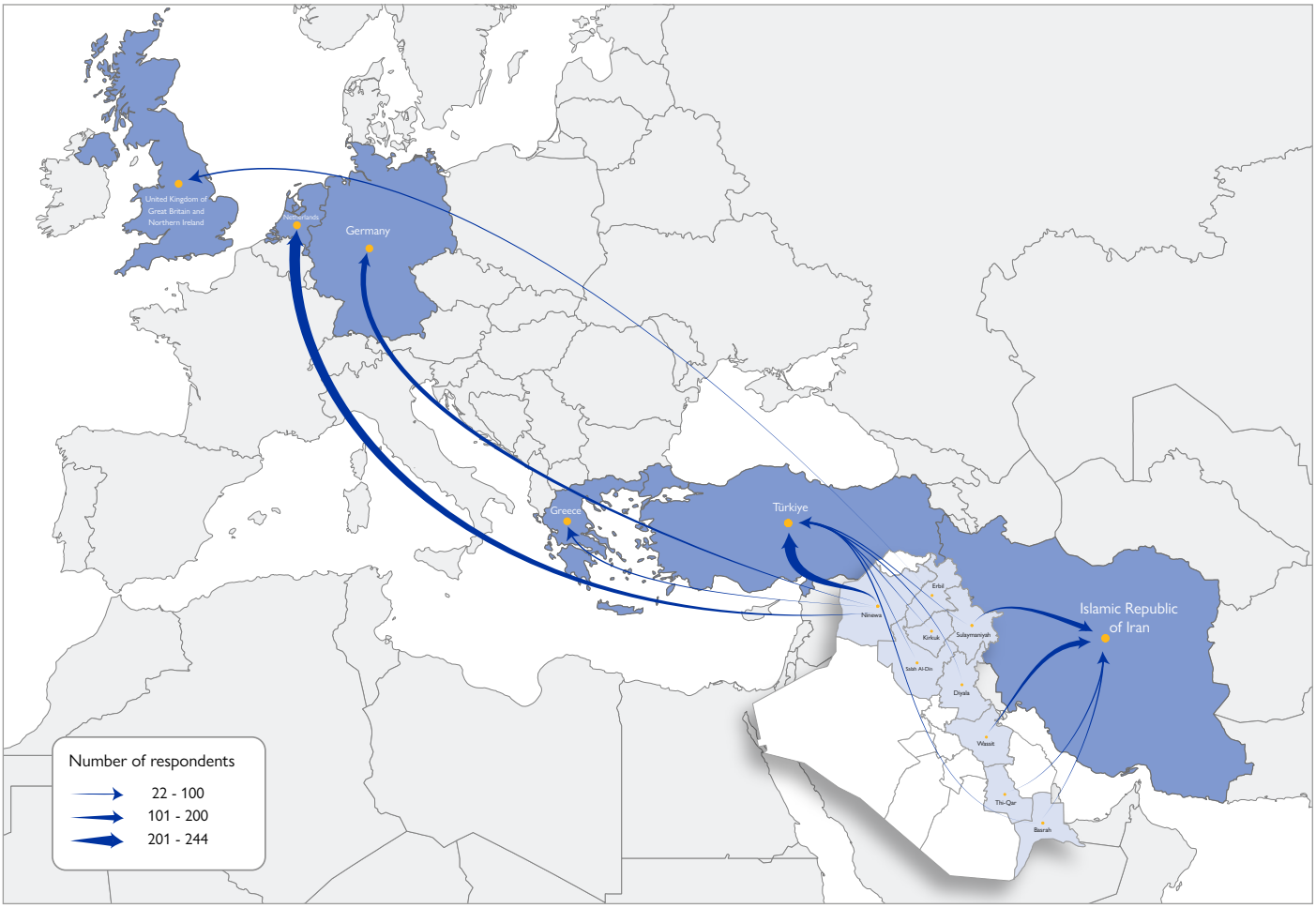
Governorates in central and southern Iraq have the largest share of subdistricts deemed climate-affected. In particular, all subdistricts assessed in Kerbala, Missan, Muthanna, Najaf, Salah al-Din and Thi-Qar were classified as climate-affected. In terms of outflows, however, potential emigrants from climate-affected areas come from both northern and southern Iraq, especially **Ninewa, Sulaymaniyah, Wassit** and **Basra**. Nevertheless, a greater share of climate-affected flows come from southern Iraq compared to non-affected flows. At the same time, the significant volume leaving from **Sinjar District** in Ninewa suggests that environmental and conflict-related challenges are interacting with long-standing political and security issues.

Potential emigrants from climate-affected areas primarily left the country for **humanitarian reasons, education** and **family reunions**. Climate-affected migrants were more likely to cite education as their reason for travel than non-affected migrants. With respect to the humanitarian factors cited, further research should be conducted to understand the weights of and relationships between conflict- and climate-related drivers of movement.

Regarding their intended destination, potential emigrants from climate-affected areas were more likely to select neighbouring countries like **Türkiye** and the **Islamic Republic of Iran** compared to those from non-affected areas.

FLOW ANALYSIS

Map 1: Flows of climate-affected potential emigrants between governorates of origin and intended countries of destination



Potential emigrants from climate-affected areas can generally be grouped into five key flows, taking into account the governorate of origin, intended destination and reason for travel.

The largest flow, representing slightly more than a third (35%) of this group, travelled from **Ninewa Governorate toward European countries**. Respondents in this group selected the Netherlands, Germany and Greece as their intended destinations and were travelling for humanitarian reasons.

Flows between **Ninewa and Türkiye** are also notable, accounting for 17 per cent of the total. However, travel motivations within this corridor were more mixed, reflecting family reunification but also tourism[64] and humanitarian factors.

The second largest flow, reflecting the pathways of a quarter (23%) of respondents, involves migration between **southern Iraq and neighbouring countries**, especially the **Islamic Republic of Iran**. Those travelling from Wassit and Thi-Qar governorates exclusively indicated the Islamic Republic of Iran as their intended destination, while those originating from Basra sought to reach the Islamic Republic of Iran but also Türkiye. The main motivations for travel in this flow revolved around education, special occasions and business/trade in the Islamic Republic of Iran.

Flows from **Sulaymaniyah** (14% of the total) are distinct because potential emigrants only indicated neighbouring countries as their intended destinations, namely the **Islamic Republic of Iran** and **Türkiye**. This grouping can be further bifurcated by destination, as those travelling to the Islamic Republic of Iran sought education, while those intending to reach Türkiye cited humanitarian reasons.

The last flow, compromising 10 per cent of the total volume, concerns potential emigrants from **central Iraq toward Türkiye**. The specific governorates include Kirkuk, Babylon, Diyala and Salah al-Din. The motivations of this group were diverse, spanning from education (36%) and business/trade (27%) to tourism (15%) and humanitarian factors (13%).

MIGRATION HISTORY

Studies suggest that past experiences migrating are positively associated with aspirations to migrate again.[65, 66] Among potential emigrants leaving Iraq, only a small share had previously migrated internally (8%), although this share was higher among those from climate-affected areas (11%). On the other hand, a significant proportion of respondents had been internally displaced prior to migrating (40%), although shares did not vary depending on whether respondents came from a climate-affected area or not. However, potential emigrants from climate-affected areas were more likely to have previously migrated internationally than those from non-affected areas (40% vs. 30%).

Moreover, the presence of family or friends in the destination country points to the diaspora as a pull factor. Potential emigrants from climate-affected areas were more likely to have friends or family in the destination, although this varied significantly based on where respondents intended to go. Of note, many respondents travelling to Germany and the Netherlands and, to a lesser extent, the Islamic Republic of Iran and Türkiye had family or friends there.

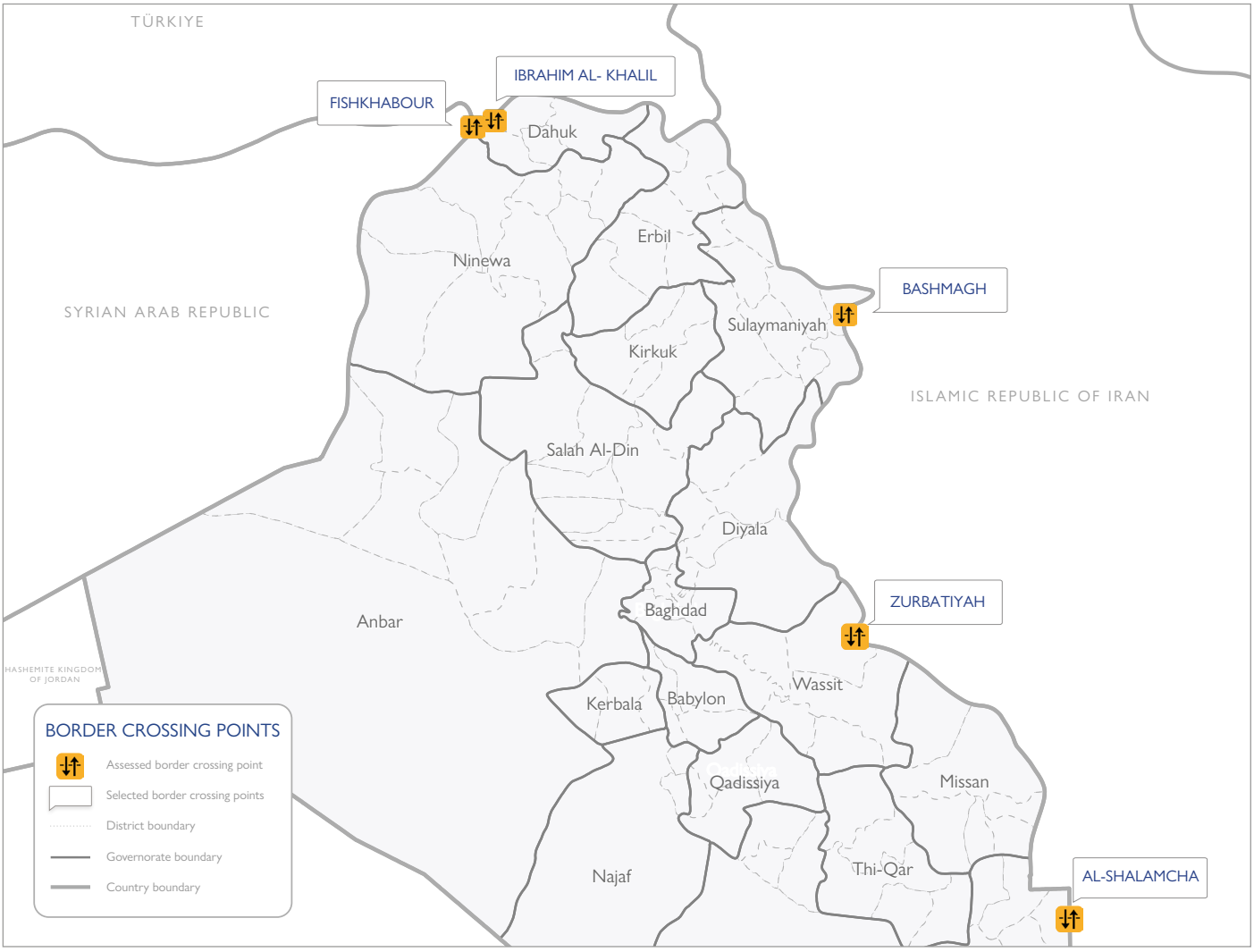
TRAVEL ARRANGEMENTS

Potential emigrants from climate-affected areas were more likely to travel alone than those from non-affected areas. Again, however, this finding varies by intended destination. A greater share of those heading towards Germany and the Netherlands came with household members, potentially reflecting the diaspora in these countries. In contrast, those travelling to the United Kingdom, the Islamic Republic of Iran and Greece often travelled alone. In the case of the Islamic Republic of Iran, this likely reflects the educational and business motivations of those travelling. Moreover, only 2 per cent of potential emigrants crossed with a group of unknown people, which may be an indication of smuggling. No potential emigrants from climate-affected subdistricts travelled in this manner.

A smaller share of potential emigrants from climate-affected areas received assistance preparing or arranging their trip (52% vs. 67%). Where assistance was provided, it often came from family and friends in the country of origin (82%). Those from climate-affected areas were less likely to receive assistance from smugglers or brokers than those from non-affected areas (8% vs. 22%). Furthermore, members of the former group typically financed their travels through savings; smaller shares sold assets or relied on family or friends in Iraq compared to those from non-affected areas.

3. METHODOLOGY

Map 2: Border crossing points monitored by IOM DTM



Data for this analysis come from IOM DTM's existing Cross-Border Monitoring activities in Iraq. Cross-Border Monitoring provides information on the number of individuals and vehicles transiting through five selected land border points with Türkiye, the Syrian Arab Republic and the Islamic Republic of Iran. It is focused on profiling travellers and migrants in terms of their demographic characteristics, reasons for travel and vulnerabilities. The border points involved in this activity are the following:

- Ibrahim Al-Khalil in Dahuk Governorate, bordering Türkiye;
- Fishkhabour in Dahuk Governorate, bordering the Syrian Arab Republic;
- Bashmagh in Sulaymaniyah Governorate, bordering the Islamic Republic of Iran;
- Zurbatiyah (Wassit Terminal) in Wassit Governorate, bordering the Islamic Republic of Iran; and
- Al-Shalamcha in Basrah Governorate, bordering the Islamic Republic of Iran.

Beginning in March 2023, however, data were only collected through the first three border points mentioned above. This means that flows from southern governorates toward the Islamic Republic of Iran may be undercounted in this sample.

The data utilized for this analysis were collected between June 2022 and November 2023, corresponding to roughly 1.5 years of data. Earlier rounds of data collection were not incorporated as the indicator on subdistrict of origin was only added to the questionnaire beginning in June 2022.

Data are collected through IOM's enumerators, composed of over 14 staff members deployed across Iraq (35% of enumerators are female) at the border crossing points, five days per week (weekdays only) from 8:30 am to 5:00 pm.

Travellers for face-to-face interviews are selected randomly through the adoption of a 'systematic step/interval' selection process – i.e. travellers are systematically selected at fixed intervals from the start of the workday. The interval is fixed at 1:5 (one in every five individuals will be selected for an interview). All travellers aged 18 years and older who were crossing borders were eligible for an interview, regardless of their nationality. To estimate the total number of travellers and their characteristics, the sampling weight is applied.

POPULATION GROUPS CONSIDERED

For the purposes of Cross-Border Monitoring, the term 'travellers' refers to all individual crossing an international border with Iraq. The reference population for Cross-Border Monitoring is:

- travellers (Iraqis and non-Iraqis) who enter Iraq after being abroad (incoming flow); and
- travellers (Iraqis and non-Iraqis) who exit Iraq to travel to other countries (outgoing flow).

Within the reference population, some travellers are of specific interest – for example, migrants (defined as travellers entering/leaving Iraq for more than three months). To identify this population, all sampled travellers are asked a screening question about the length of travel to check whether he/she satisfies the criteria.

Travellers are divided into five main groups according to their nationality, country of habitual residence and duration of stay, as defined below:

TRAVELLER CATEGORY	DEFINITION
TEMPORARY TRAVEL	
Temporary travellers	Individuals who are crossing an international border with Iraq for a period of **up to three months**. This includes two subgroups: a) foreign nationals who usually reside abroad and who arrive in Iraq for up to three months or depart from Iraq after being in the country for up to three months and b) Iraqi nationals returning to the country after having spent up to three months abroad or departing from Iraq with the intention to stay abroad for less than three months.
MIGRATION FROM IRAQ	
Potential emigrants	For the purpose of this report, Iraqi nationals who are departing from Iraq for **three months or more**.
Emigrants	Iraqi nationals who have already moved away to another country such that this country has effectively become their new country of habitual residence, regardless of the intended length of stay.
MIGRATION TO IRAQ	
Potential immigrants	Foreign nationals who are entering Iraq with the intention to stay for a period of **three months or more** and foreign nationals who are departing from Iraq after having been in the country for **three months or more**.
Immigrants	Foreign nationals who have moved away from their country of nationality such that Iraq has effectively become their new country of habitual residence, regardless of their intended length of travel.

Within this report, the sample is restricted to **outgoing** Iraqi nationals who crossed the border from June 2022 onwards. Given the analysis hinges on the classifications of subdistricts of origin as climate-affected or not (as described further in the next section of this report), respondents are only included if their subdistricts of origin were evaluated in a separate IOM Climate Vulnerability Assessment. Moreover, considering the report's focus on climate-induced migration from Iraq, potential emigrants and, to a lesser extent, emigrants are the main population groups of interest.

With these restrictions, 922 responses remain. Of these, 743 respondents are emigrants, while 179 are potential emigrants. This corresponds to a weighted sample of 26,230 emigrants and 5,763 potential emigrants.

LIMITATIONS

The resulting data are representative of the individuals crossing at each of the selected border points separately only during the times of data collection. Data should not be generalized and do not represent a full picture of inter and intra-regional migration, but rather of migration flows at the selected border points. Data collected in assessed border points should not lead to assumptions about border crossings in non-assessed border points or areas without monitoring points. Notably, travel through airports is not considered in this exercise.

For an overview of the methodology behind the Flow Monitoring activities, please consult the *Cross-Border Monitoring Methodological Overview*. For a more detailed presentation of the implementation and steps, please consult the *Flow Monitoring Methodological Guide*.

CRITERIA FOR CLIMATE-AFFECTED CLASSIFICATION

In order to determine how climate change might influence outward migration from Iraq, this report classified subdistricts of origin for outgoing Iraqi nationals as either climate-affected or not affected. It then disaggregated findings for key migration variables such as origin, reason and destination by this classification (climate-affected or not) and by the type of traveller (potential emigrant or emigrant). This approach offers insight into how environmental changes may affect migration pathways, regardless of whether outgoing migrants are aware of or cite these issues.

Data for this classification come from a separate Climate Vulnerability Assessment conducted by IOM DTM. A subdistrict of origin was classified as climate-affected if at least one assessed location in the subdistrict met either of the following criterion:

1) Families displaced to the location as a result of environmental factors OR

2) All of the below sub-criteria were satisfied:

   a. The irrigation water supply in the location decreased in the past 12 months

   b. Climate-sensitive livelihoods[67] are among the primary livelihoods in the location AND

   c. The livelihoods of families were negatively impacted as a result of these changes[68]

The subcriteria under Criterion 2 reflect key determinants of climate-induced depopulation,[69] as identified by previous research conducted by IOM DTM.[70] The combination of these subcriteria suggests that changes in environmental conditions are having a clear, economic impact of families in the location. In particular, the decrease in irrigation water supply serves as a proxy indicator for environmental stress. Reduced irrigation water supply, in turn, has the greatest consequences for those engaged in climate-sensitive livelihoods. Lastly, accounting for the microeconomic effects of changing natural resources on livelihoods hones in areas where the sustainability of these climate-sensitive livelihoods is challenged.

Moreover, Criterion 2 focuses on concrete outcomes and vulnerabilities rather than causal attributions to climate change. As a result, a key informant could indicate a location as climate-affected without in-depth understanding of climate change.

While Criterion 2 focuses on rural locations, Criterion 1 also captures urban areas indirectly impacted by climate change through the displacement of affected families to these areas.

In order to account for nearby locations which were not assessed but may satisfy the same criteria, the classification took an inclusive geographic approach. Specifically, if at least one assessed location in the subdistrict was determined to be climate-affected, the broader subdistrict was also considered climate-affected. This cut off also ensured an adequate sample size of potential emigrants from climate-affected areas.

Limitations

In this assessment, the relatively low numbers of potential emigrants observed at the border crossing points during the data collection period, in combination with the high threshold for the classification of a subdistrict as climate-affected, resulted in a small sample of potential emigrants from climate-affected subdistricts (53 individuals). This small sample lowers statistical power and increases the probability of error.[71] Moreover, given the small sample observed, findings based on disaggregation within this group should be interpreted with caution. Maintenance of Cross-Border Monitoring data collection activities and follow-up analysis with several years of data collected can help increase the sample size.

As the classification of subdistricts of origin came from a separate Climate Vulnerability Assessment, not all subdistricts of origin mentioned by respondents in the Cross-Border Monitoring sample were assessed. As a result, 1,274 subdistricts of origin for outgoing Iraqi potential emigrants and emigrants were excluded from the sample. Expansion of the Climate Vulnerability Assessment to incorporate these subdistricts could ensure their inclusion and increase the sample size.

Additionally, given this assessment's reliance on the Climate Vulnerability Assessment, the limitations of that exercise apply here. Of particular note, the Climate Vulnerability Assessment drew on DTM's existing data collection activities related to conflict-induced displacement and incorporated a short questionnaire focusing on the impacts of climate change and environmental degradation on families in the location. As a result, the list of locations assessed was not informed by environmental indicators. Consequently, figures on outmigration from climate-affected areas in Iraq are likely underreported. Accordingly, this assessment should be considered a baseline to inform future data collection activities.

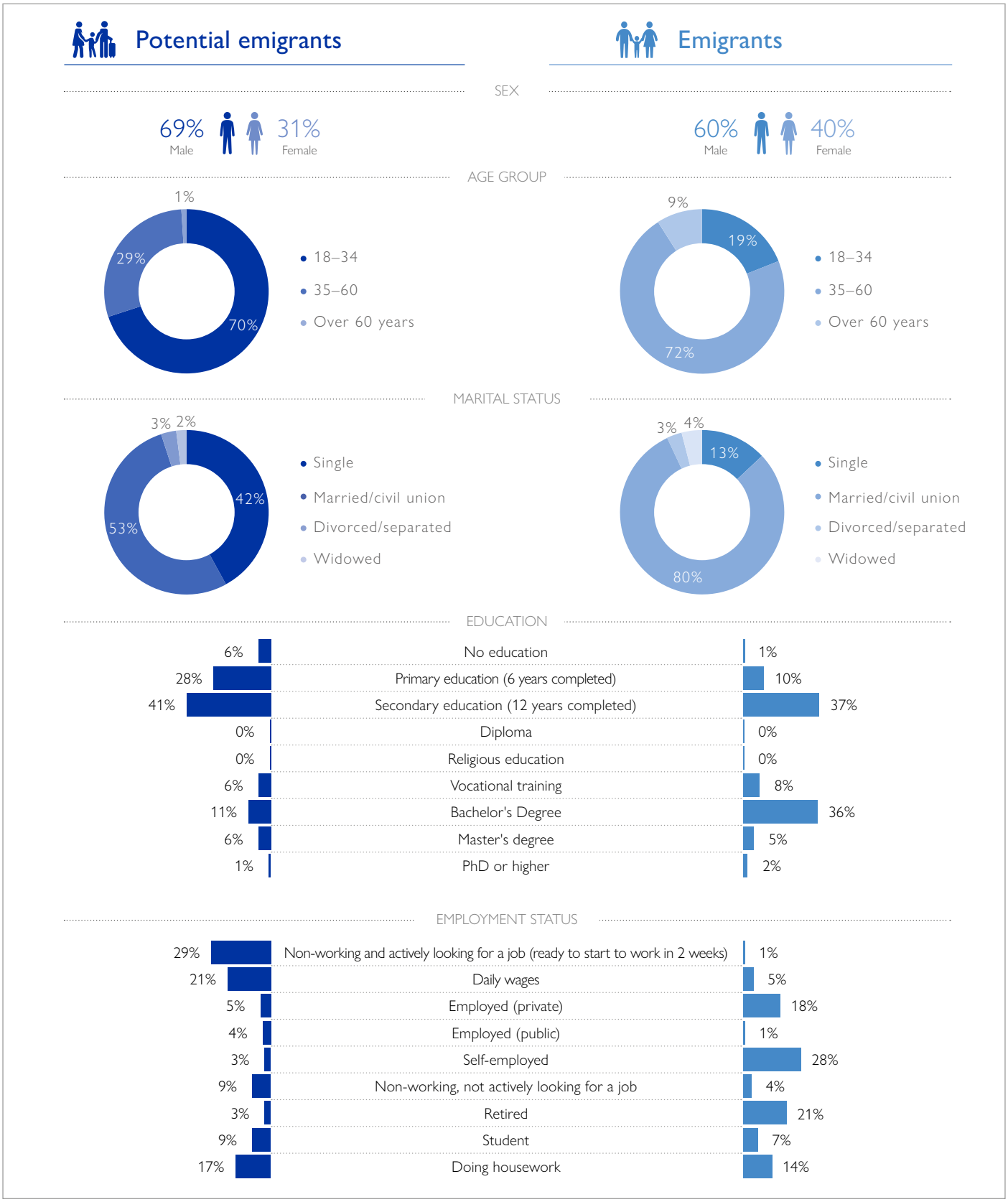
Areas for future research

This assessment explores whether outgoing Iraqi nationals originating from climate-affected subdistricts have different demographic, socioeconomic and migration-related characteristics compared to those from non-affected areas. It also highlights hotspot geographic areas for further evaluation and programming. Future assessments should consider whether respondents themselves attribute their movements, in whole or in part, to changes in the environment. As this relationship is likely indirect, potential interactions between climate change and other drivers of movement, such as livelihoods and conflict, should also be explored. Moreover, subsequent studies should examine the relationship between internal and international migration and the possible influence of climate change on these movements.

4. DEMOGRAPHICS

The following section provides a detailed profile of potential emigrants and emigrants based on key demographic and socioeconomic characteristics. All potential emigrants and emigrants are presented here, regardless of whether they came from climate-affected subdistrict or not. In summary, just over two thirds of potential emigrants are male (69%) and ages 18-34 (70%). Additionally, around two in five (42%) potential emigrants are single. Among emigrants, roughly three quarters are ages 35-60 (72%) and married (80%). Additionally, emigrants generally have higher levels of education and are less likely to be unemployed. With respect to emigrants, it is important to note that most of the sample moved from Iraq during the 2014-2017 crisis or in subsequent years (2018-2022).

Figure 1: Socio-demographic characteristics of potential emigrants vs. emigrants



PROFILE OF POTENTIAL EMIGRANTS

The term 'potential emigrants' refers to Iraqi nationals who were observed departing from Iraq for three months or more.

Nearly two thirds of potential emigrants are men (69%) and between the ages of 18 and 34 (70%). Disaggregating by sex and age, around half of potential emigrants are men ages 18-34 (51%), while a fifth are women ages 18-34 (19%).

While just over half (53%) of potential emigrants are married, this share is significantly lower than that reported by emigrants (80%). This may be related to their younger age relative to emigrants. Moreover, being single is positively associated with migration aspirations.[72]

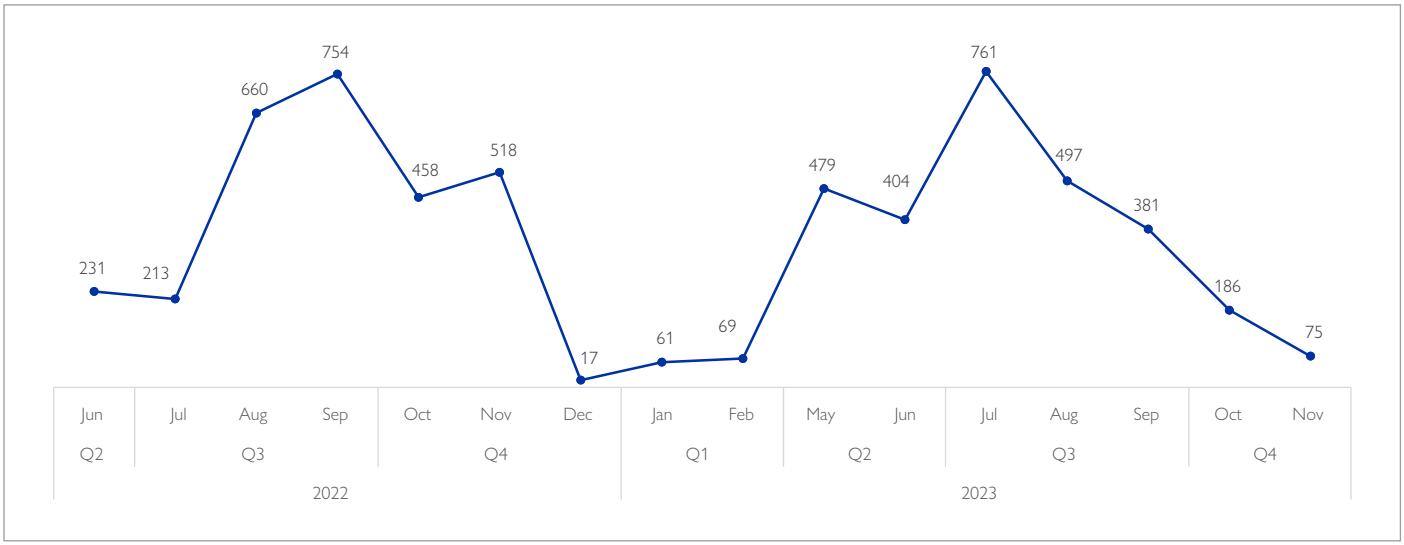
Regarding the highest level of education attained, around one in five potential emigrants (19%) received a tertiary education (Bachelor's, Master's or PhD degree or higher). This is significantly lower than the share among emigrants (43%). Most of the remaining potential emigrants received either a primary education (6 years completed, 28%) or secondary education (12 years completed, 41%). Disaggregating by sex, a higher share of female potential emigrants received no formal education compared to their male counterparts (13% vs. 3%), potentially reflecting differential access to education.

With respect to employment status, around a third (34%) of potential emigrants are economically active, but most commonly in precarious forms of labour such daily wage work (21%). Those engaged in daily work in Iraq typically receive low wages, perform physically demanding tasks and lack chances for advancement.[73] Just under two in five potential emigrants are economically inactive, with 17 per cent engaged in housework. Nearly three in ten potential emigrants (29%) are unemployed (not working and actively looking for a job). Given the age breakdown of potential emigrants, these figures may reflect the high levels of youth unemployment (ages 15-24) in Iraq (32% for men and 62% for women).[74]

Nearly all female potential emigrants (94%) are economically inactive, in line with low levels of female labour force participation observed at the national level.[75] Men, on the other hand, were more likely to be unemployed than women (40% vs. 3%, respectively) or involved in daily wage work (31% vs. 0%).

All potential emigrants departed between June 2022 and November 2023, the reporting period for this assessment. Outflows of potential emigrants tend to spike in the third quarter of each year (July-September) before declining in the fourth quarter (October-December), likely reflecting the influence of seasonal weather patterns on migration. The Coronavirus Disease 2019 (COVID-19) pandemic and related international movement restrictions may have also affected outflows, especially in 2022.[76]

Figure 2: Month and year of departure by the number of potential emigrants (weighted sample = 5,763) during the assessment period (June 2022 – November 2023)



PROFILE OF EMIGRANTS

The term 'emigrants' refers to Iraqi nationals who moved away to another country such that this country has effectively become their new country of habitual residence, regardless of the intended length of stay.

Three in five emigrants (60%) are men, a slightly lower share compared to potential emigrants (69%). Additionally, as noted above, emigrants tend to be older, with nearly three quarters falling between the ages of 35 and 60 (72%). Considering both sex and age, just under half (44%) of emigrants are men ages 35-60, while roughly a quarter (27%) are women ages 35-60.

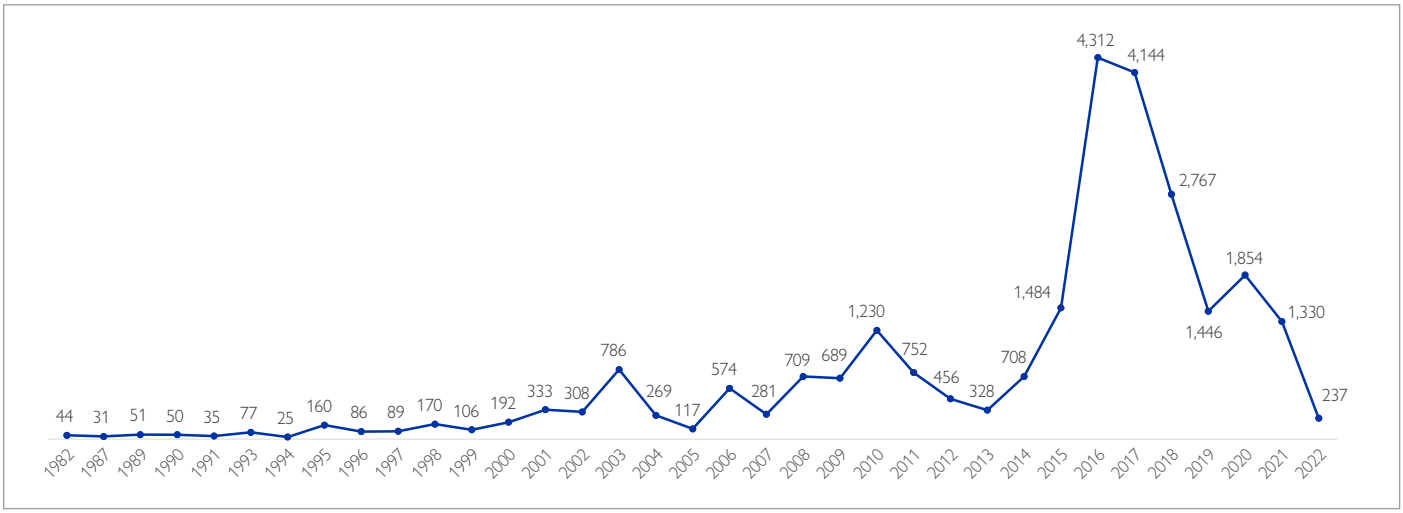
Regarding marital status, four in five emigrants (80%) are married. The remaining fifth are either single (13%), widowed (4%) or divorced or separated (3%).

With respect to education level, as noted above, two in five emigrants (43%) received a tertiary education. A further third (37%) received a secondary education. A minority of emigrants received only a primary education (10%) or no education (1%). Equal shares of men and women received a tertiary education (43% each), although men were more likely to have received vocational training compared to women (11% vs. 4%, respectively).

Concerning employment status, around half (52%) of emigrants are economically active, including 28 per cent who are self-employed and 18 per cent who are employed in the private sector. Most of the remaining share (47%) are economically inactive due to retirement (21%) or engagement in housework (14%). The majority of female emigrants are economically inactive (70%), although roughly a quarter are employed in the private sector (22%). Among men, two thirds are economically active (69%), with nearly half self-employed (44%).

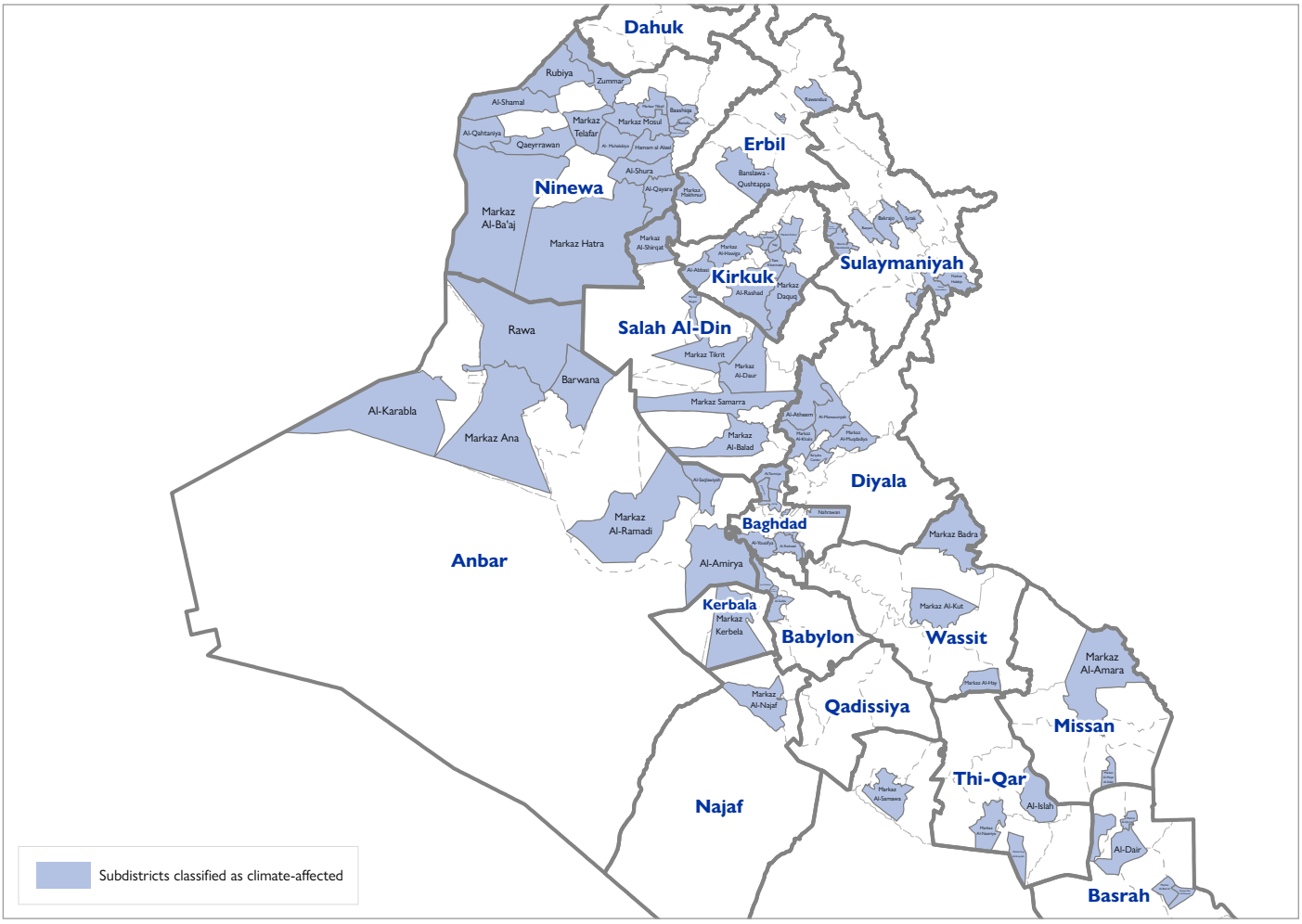
Around two in five emigrants (41%) left during the 2014-2017 conflict with the Islamic State in Iraq and the Levant (ISIL). A further three in ten (29%) emigrated after this conflict between 2018 and 2022. Additionally, a fifth (21%) left during the American-led intervention in Iraq (2003-2011). Within this period, 6 per cent left between 2006 and 2008, a period of significant sectarian conflict.[77] Furthermore, 7 per cent relocated when Saddam Hussein was the head of state in Iraq (1979-2003).[78]

Figure 3: Year of relocation from Iraq by the number of Iraqi emigrants (weighted sample = 26,230) interviewed between June 2022 and November 2023



5. CLIMATE-AFFECTED SUBDISTRICTS OF ORIGIN

Map 3: Assessed subdistricts classified as climate-affected

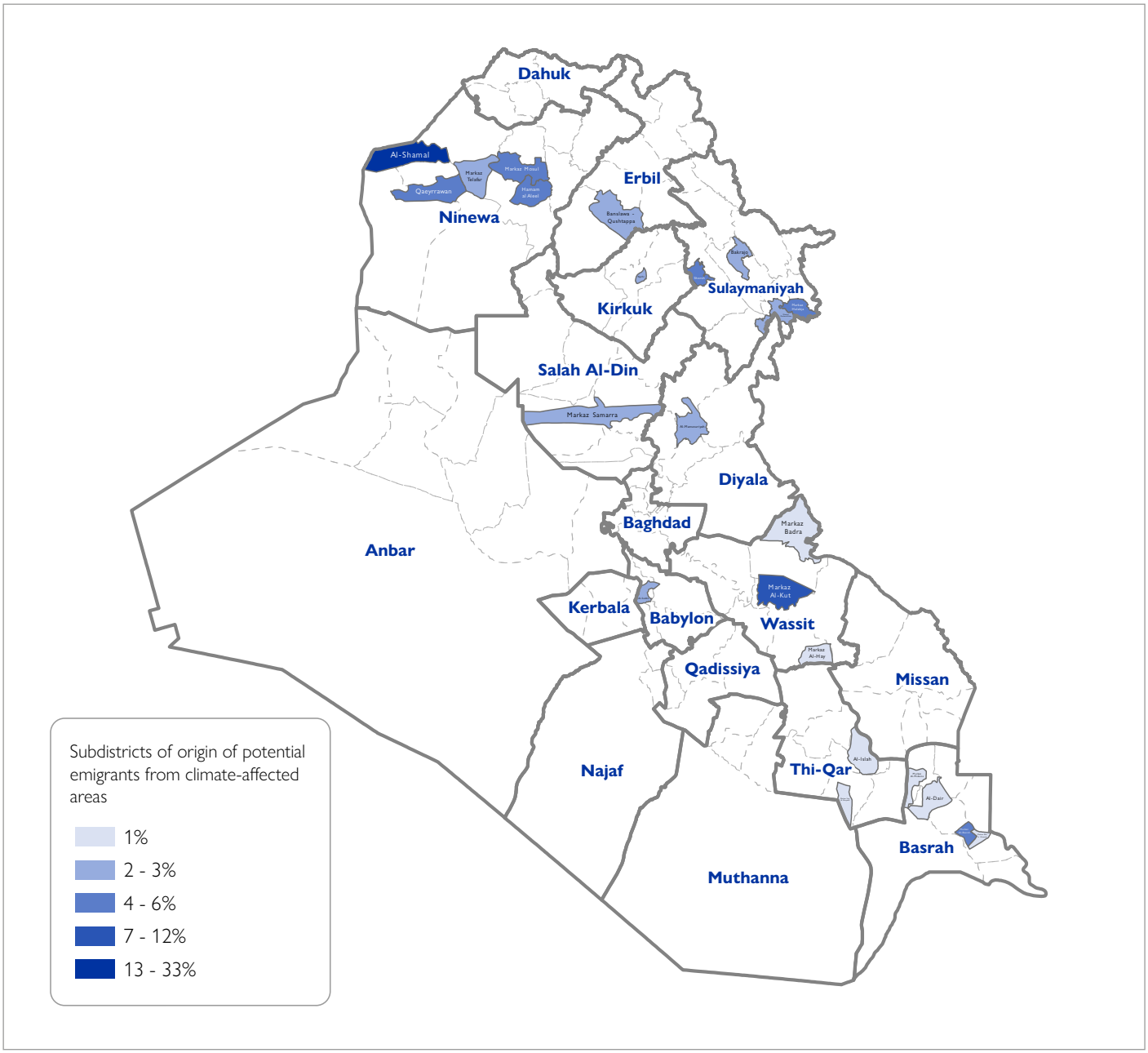


A total of 149 subdistricts of origin were recorded in the sample, of which 38 per cent were classified as climate-affected. All subdistricts of origin assessed in Kerbala, Missan, Muthanna, Najaf, Salah al-Din and Thi-Qar were deemed climate affected. Other governorates of origin with a large share of climate-affected subdistricts include Diyala (80%), Basra (79%), Ninewa (77%) and Wassit (75%).

Among potential emigrants, 30 per cent came from climate-affected subdistricts, representing a weighted sample of 1,337 individuals. The share of emigrants from climate-affected subdistricts was slightly higher at 39 per cent, corresponding to a weighted sample of 10,298 individuals.

6. ORIGINS

Map 4: Subdistricts of origin of potential emigrants from climate-affected areas



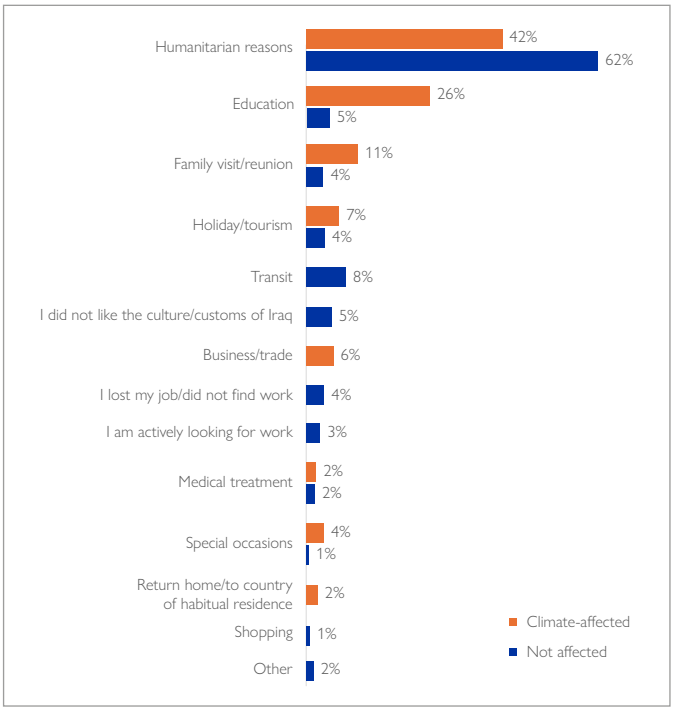
Most potential emigrants are from Dahuk (41%) or Ninewa (35%), as well as Sulaymaniyah (8%). Nearly half of those coming from climate-affected areas originate from **Ninewa** (52%), followed by **Sulaymaniyah** (13%), **Wassit** (13%) and **Basra** (8%). Prominent districts of origin for this group include **Sinjar** (40%) in Ninewa Governorate (40%), **Kut** in Wassit Governorate (12%), **Mosul** (9%) in Ninewa Governorate, **Basra** (6%) in Basra Governorate and **Halabja** (5%) in Sulaymaniyah. By contrast, potential emigrants from non-affected areas come from Dahuk (54%), Ninewa (31%), Baghdad (6%) and Sulaymaniyah (6%). In other words, potential emigrants from climate-affected are more likely to come from Ninewa or southern governorates than those from non-affected areas.

Additionally, the significant share coming from Sinjar suggest that environmental drivers are interacting with political factors and persistent conflict-related challenges.

Among emigrants, around a quarter come from Baghdad (24%), followed by Dahuk (15%) and Ninewa (15%). For emigrants coming from climate-affected areas, the top governorates of origin are Ninewa (39%), Kirkuk (23%) and Baghdad (11%). At the district level, around half come from three districts, namely Mosul (27%) in Ninewa Governorate, Kirkuk (17%) in Kirkuk Governorate and Telefar (7%) in Ninewa Governorate. Emigrants from non-affected areas mainly come from Baghdad (33%), Dahuk (25%) and Erbil (18%).

7. REASONS FOR LEAVING IRAQ

Figure 4: Reasons for leaving Iraq among potential emigrants from climate-affected and non-affected subdistricts of origin

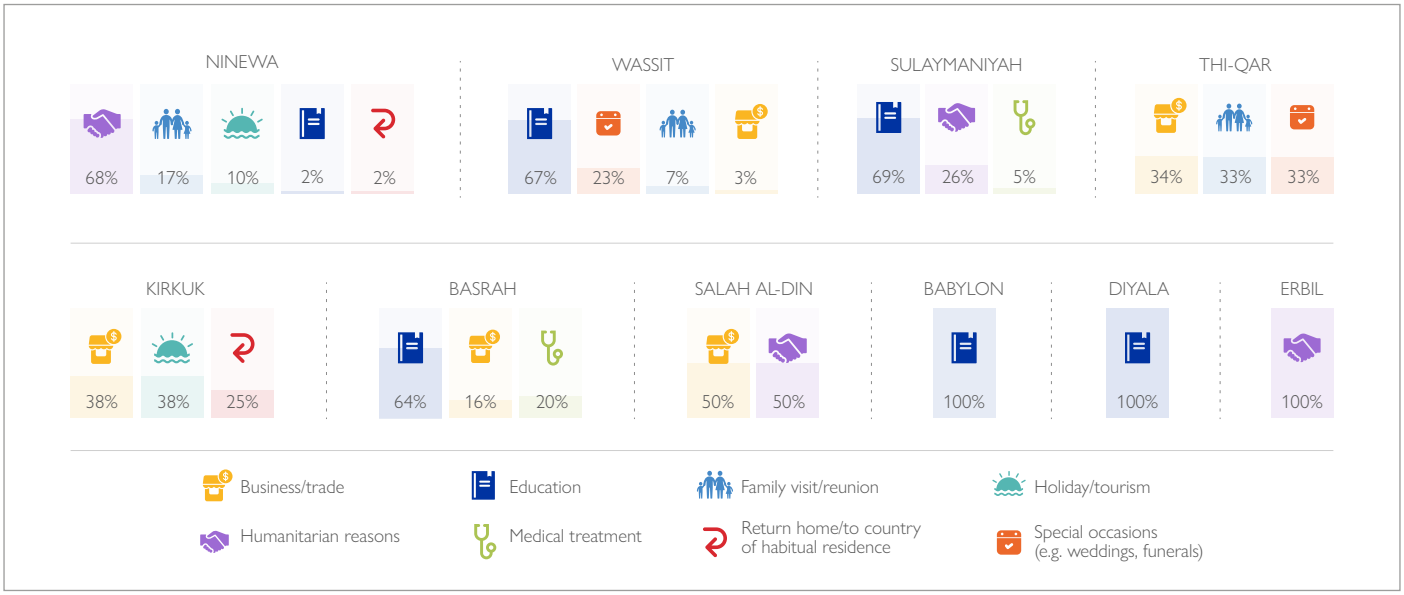


Over half (58%) of potential emigrants left Iraq for humanitarian reasons (e.g. seeking asylum). Education (9%) and transit (7%) were also significant reasons for leaving. Only 5 per cent of potential emigrants cited employment-related factors as a reason to migrate. Among those leaving climate-affected areas, the top reasons for migrating included humanitarian reasons (42%), education (26%) and family visit/reunion (11%). Those coming from non-affected areas were more likely to cite humanitarian reasons (62% vs. 42%), while a greater share of those coming from climate-affected areas left for education (26% vs. 5%). The prominence of education may reflect labour market challenges in climate-affected areas and the need to build a new skillset.

Emigrants, on the other hand, primarily cited war, conflict or persecution (42%); employment (31%) and family reunification/marriage (13%) as their reason for leaving Iraq. Interestingly, emigrants coming from climate-affected areas were more likely to leave as a result of war, conflict and persecution than those coming from non-affected areas (56% vs. 33%). The relationship between climate change, conflict and migration is highly complex and the effects of each phenomenon may interact in diverse ways. In particular, climate change is described as a 'threat multiplier,' because it undermines human security and aggravates drivers of conflict.[79] Further research is needed to understand how various drivers of movement in Iraq might cooccur or interrelate.[80]

REASON BY GOVERNORATE OF ORIGIN

Figure 5: Reasons for leaving Iraq by governorate of origin among potential emigrants from climate-affected subdistricts

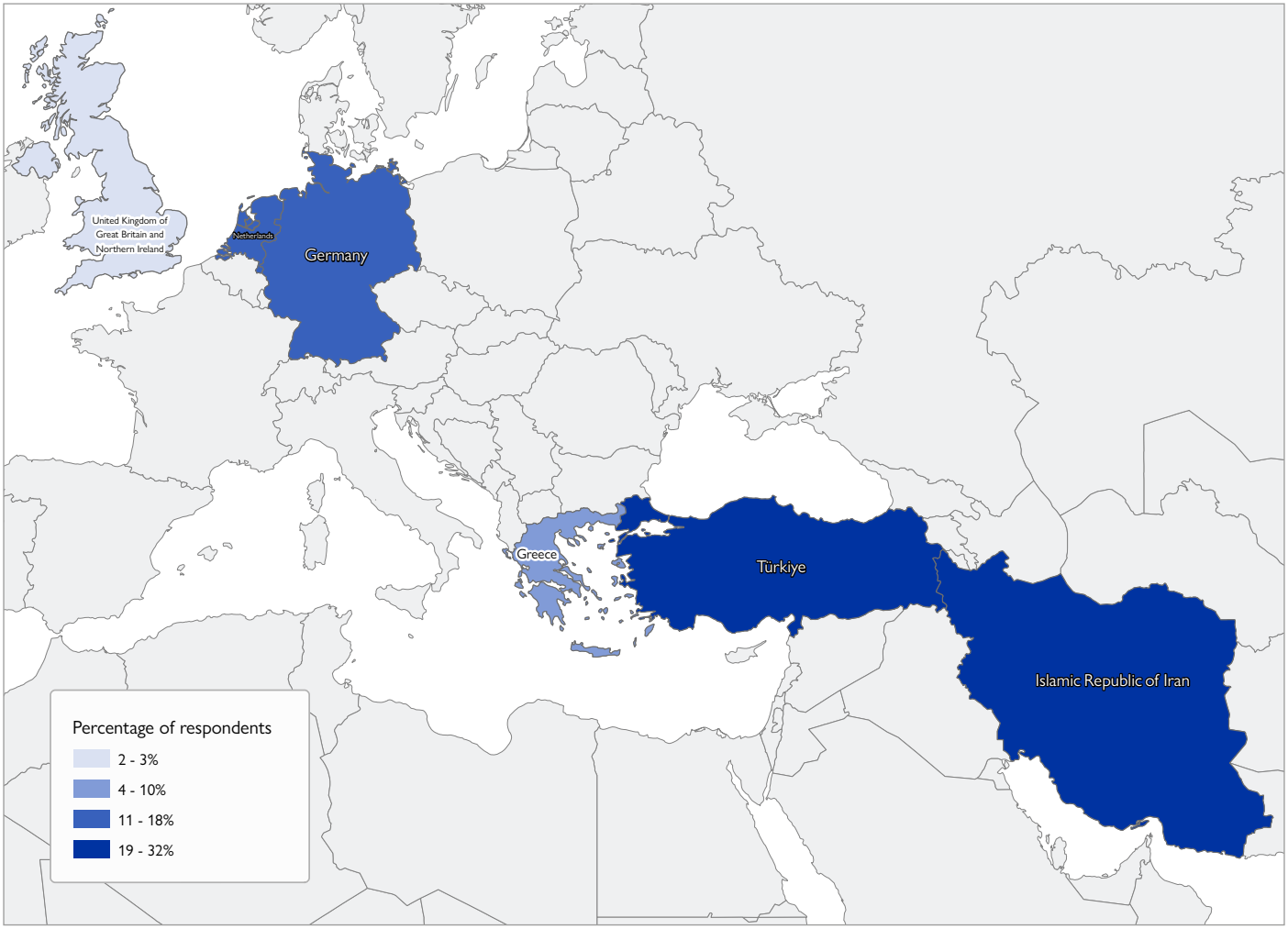


Disaggregating among climate-affected potential emigrants by governorate of origin, those coming from Erbil (100%), Ninewa (68%) and Salah al-Din (50%) mostly cited humanitarian reasons for leaving. Further research is needed to understand the specific humanitarian factors driving these movements, as well as the relationship between humanitarian and environmental factors. Moreover, those from Babylon (100%), Diyala (100%), Sulaymaniyah (69%), Wassit (67%) and Basra (64%) largely left for education.

Among emigrants from climate-affected areas, those from Ninewa (76%), Baghdad (59%) and Kirkuk (47%) mainly left due to war, conflict or persecution, as well as employment (19%, 25% and 25%, respectively). On the other hand, those who left central and southern Iraq (Basra, Kerbala, Missan, Muthanna, Najaf, Thi-Qar and Wassit) were more likely to indicate employment (33%) or study (29%) as their reason for leaving than war, conflict or persecution (27%).

8. INTENDED DESTINATION

Map 5: Intended destination of potential emigrants from climate-affected subdistricts of origin



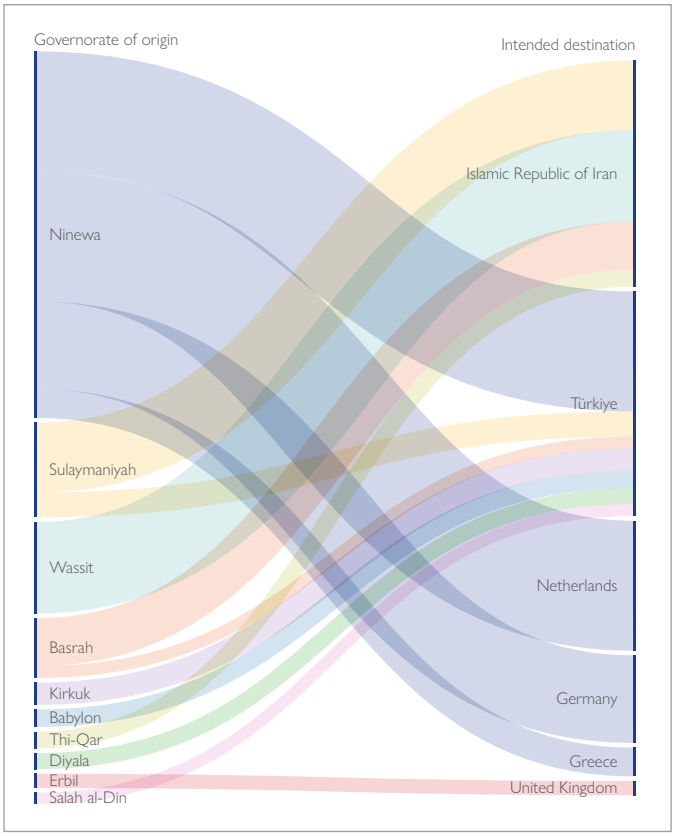
Most potential emigrants intended to travel to either neighbouring countries or European countries, in particular Türkiye (37%), Germany (25%), the Netherlands (12%), the Islamic Republic of Iran (12%) and Greece (11%). Among those coming from climate-affected areas, top destinations included Türkiye (32%), the Islamic Republic of Iran (32%), the Netherlands (18%) and Germany (12%). Notably, potential emigrants from climate-affected areas were more likely to select neighbouring countries such as Türkiye and the Islamic Republic of Iran than those from non-affected areas (63% vs. 37%). Considering Türkiye forms part of the Eastern Mediterranean Route among migrants intending to reach Europe,[81] some respondents may view Türkiye as a transit country rather than a final destination.[82]

Among emigrants, roughly two thirds intended to travel to Türkiye (67%), followed by Germany (11%) and the United Kingdom (7%). This generally matches the countries of habitual residence indicated by emigrants. As with potential emigrants, emigrants from climate-affected areas were more likely to select a neighbouring country (in this case Türkiye) as their intended destination than those from non-affected areas.

DESTINATION BY GOVERNORATE OF ORIGIN

Disaggregating by governorate of origin, the largest flows of potential emigrants from climate-affected areas involve those travelling from Ninewa toward the Netherlands (18%) and Türkiye (17%), followed by those from Wassit towards the Islamic Republic of Iran (13%). Considering different regions of origin, a greater share of those from southern governorates such as Basra, Thi-Qar and Wassit selected the Islamic Republic of Iran as their intended destination. On the other hand, those from Ninewa were more likely to select European countries such as the Netherlands (35%), Germany (24%) and Greece (8%) than other sending governorates. In KRI, those from Erbil indicated the United Kingdom (100%), while those from Sulaymaniyah largely chose the Islamic Republic of Iran (74%). Respondents from the remaining governorates of origin (Babylon, Diyala, Kirkuk and Salah al-Din) all selected Türkiye as their intended destination.

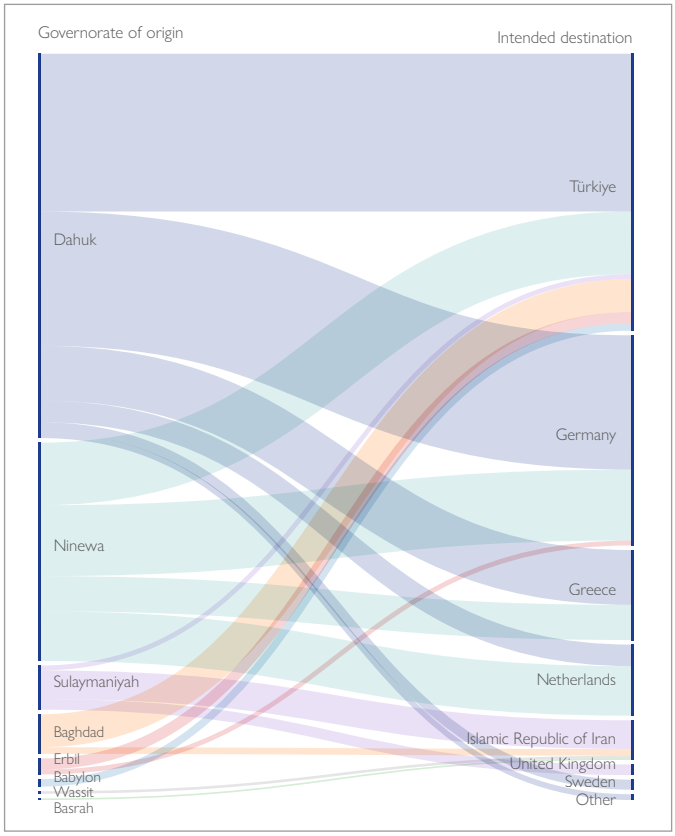
Figure 6: Governorate of origin vs. intended destination of potential emigrants from climate-affected areas



Among potential emigrants from non-affected subdistricts, the largest flows concern those originating from Dahuk toward Türkiye (22% of total) and Germany (19%), followed by those from Ninewa toward Germany (10%) and Türkiye (9%). Focusing on flows from KRI, those coming from Dahuk appear more likely to select European countries as their intended destination (57%), especially Germany (35%), Greece (14%) and the Netherlands (6%), compared to those from Erbil (31%) or Sulaymaniyah (24%). By contrast, those travelling from Erbil and Sulaymaniyah appear to prefer neighbouring countries like Türkiye and the Islamic Republic of Iran over European destinations. In particular, those from Erbil intended to reach either Türkiye (69%) or Germany (31%), while those from Sulaymaniyah intended to travel to the Islamic Republic of Iran (65%), the United Kingdom (24%) or Türkiye (11%). Those travelling from Ninewa favoured European destinations like Germany (32%), the Netherlands (23%) and Greece (16%). On the other hand, those travelling from the South (Basra and Wassit) exclusively chose the Islamic Republic of Iran as their destination (100%).

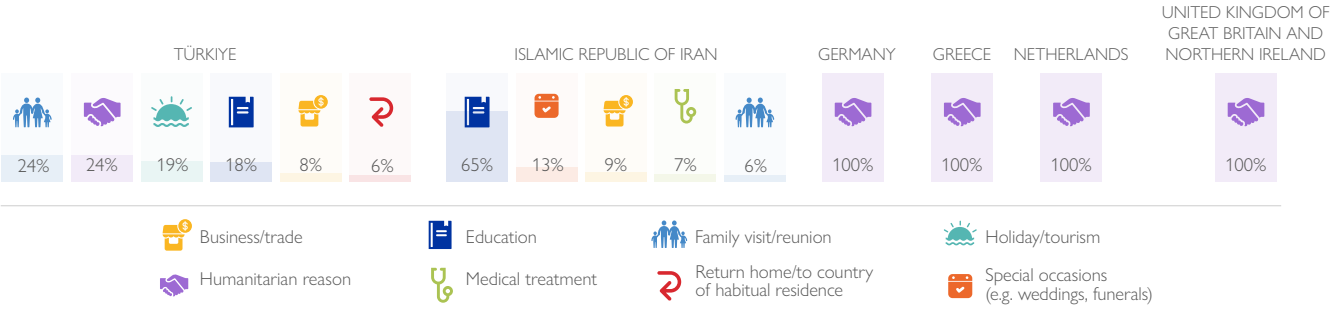
With respect to emigrants from climate-affected areas, most went to Türkiye (91%) regardless of their governorate of origin, with a few notable exceptions. The majority of those from Erbil and Sulaymaniyah governorates resettled in European countries, especially Germany, the United Kingdom, Finland, the Netherlands, Sweden and Poland. A small minority of climate-affected emigrants from Kirkuk, Baghdad, Salah al-Din and Kerbala also travelled to Sweden, Finland and Romania. Finally, just under two in five migrants from Najaf relocated to the United States of America.

Figure 7: Governorate of origin vs. intended destination of potential emigrants from non-affected areas



REASON AND DESTINATION

Figure 8: Reasons for travel by intended destination among potential emigrants from climate-affected areas



Among potential emigrants coming from climate-affected areas, reasons for leaving Iraq varied by the intended destination. Those going to European countries such as Germany, Greece, the Netherlands and the United Kingdom exclusively cited humanitarian reasons for leaving. In contrast, those travelling to Türkiye mentioned a wider range of factors, including humanitarian reasons but also family visits/reunions, holiday/tourism and education. Moreover, those going to the Islamic Republic of Iran primarily travelled for education, as well as special occasions and trade.

With respect to emigrants coming from climate-affected areas, those going to European countries mainly sought employment (46%) or family reunification (32%) and, to a lesser extent, refuge from war, conflict and persecution (16%). By contrast, climate-affected emigrants who relocated to Türkiye primarily left due to war, conflict or persecution (60%).

MIGRATION HISTORY

Only a minority of potential emigrants had previously migrated within Iraq for three months or more (8%). However, the share among those coming from climate-affected areas is slightly higher than those from non-affected areas (11% vs. 7%).

Among climate-affected potential emigrants who had internally migrated, most went from Sinjar in Ninewa Governorate to elsewhere in Sinjar or Zakho in Dahuk Governorate. Those who had migrated within Ninewa indicated the Netherlands as their intended destination, while those who went to Dahuk sought to travel to Germany. A small minority (3%) internally migrated from Al-Hai in Wassit Governorate to Al-Midaina in Basra Governorate. This group selected the Islamic Republic of Iran as their final destination.

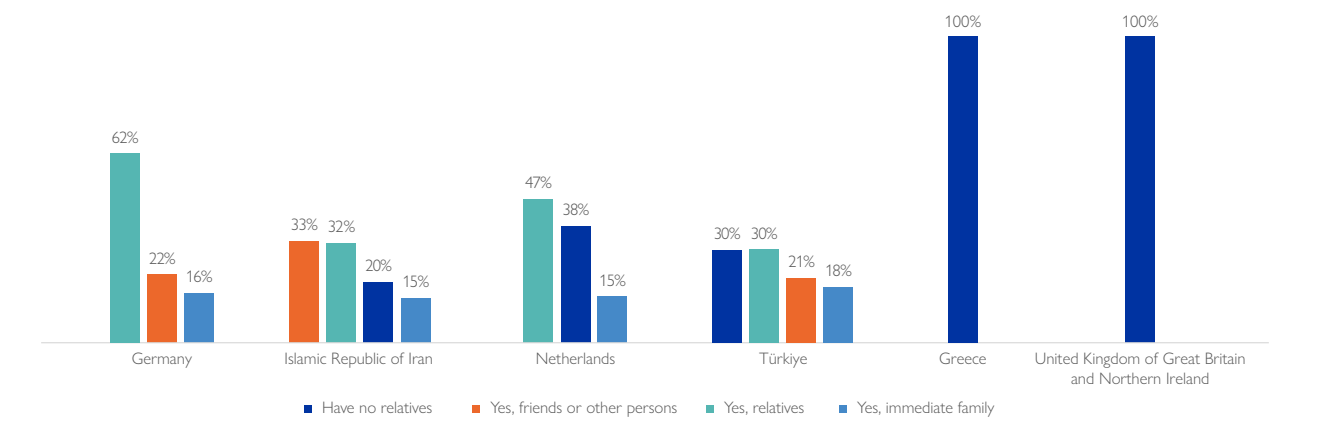
Additionally, two in five potential emigrants were previously displaced within Iraq at some point in their lives. A higher share of potential emigrants were internally displaced prior to migrating internationally compared to emigrants (40% vs. 7%). However, there is no difference between those coming from climate-affected areas compared to those coming from non-affected areas. This rate of internal displacement (40%) is notably higher than the estimated 15 per cent of the Iraqi population who were displaced during the 2014-2017 conflict.[83]

Finally, a third of all potential emigrants (32%) had previously migrated internationally. The share among those coming from climate-affected areas is slightly higher than those from non-affected areas (40% vs. 30%). This trend of repeated migration attempts or persistent migration aspirations despite (or because of) prior journeys has been confirmed by other IOM Iraq studies.[84, 85, 86] In particular, a study of 420 Iraqi returnees from abroad found that just under half intended to migrate again, despite the challenges they faced outside the country.[87]

RELATIVES IN THE DESTINATION

Among potential emigrants, just under half (44%) had close family or relatives to help them in their intended destination. A further quarter (28%) had friends or other close persons in the destination country. Those coming from climate-affected areas were more likely to have relatives or close family in the destination (53%) than those from non-affected areas (42%).

Figure 9: Relatives or friends in the intended destination for potential emigrants from climate-affected areas



Focusing on potential emigrants from climate-affected areas, many of those who intended to migrate to Germany (78%), the Netherlands (62%) and, to a lesser extent, Türkiye (48%) and the Islamic Republic of Iran (47%) had either relatives or close family in the destination. By contrast, all those travelling to Greece or the United Kingdom did not have any relatives or friends in the destination (100% for both).

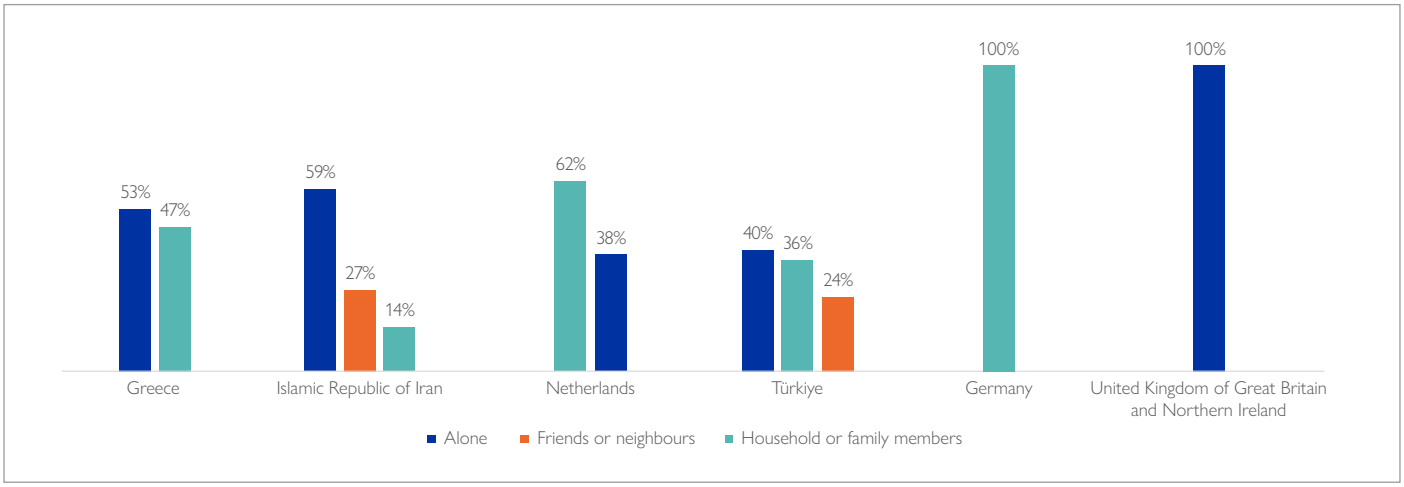
9. TRAVEL ARRANGEMENTS

The following section focuses on the travel arrangements of potential emigrants, disaggregating by whether they originate from climate-affected subdistricts of origin or otherwise. It considers their travel companions, whether they received help migrating and how they financed their journey. This analysis sheds light on mediating factors,[88] such as financial status prior to departure and networks at home and abroad, which can facilitate international migration. Additionally, this section also compares the economic and social capital of potential emigrants originating from climate-affected areas against those from non-affected areas. Furthermore, risk factors for exploitation and abuse are highlighted.[89] For example, those who received help migrating from a smuggler or broker may face heightened protection risks linked to irregular migration.[90, 91] Moreover, those who borrowed money to finance for their journey may face pressure to pay off their debt quickly and as a result, may be compelled to accept or stay in jobs with exploitative working conditions.[92]

TRAVEL COMPANIONS

Around three in five potential emigrants (58%) travelled with household or family members. Equal shares came with friends or neighbours (20%) or alone (20%). Finally, 2 per cent of potential emigrants travelled with a group of unknown people, which may be an indication of smuggling or trafficking.

Figure 10: Travel companion by intended destination among potential emigrants from climate-affected areas

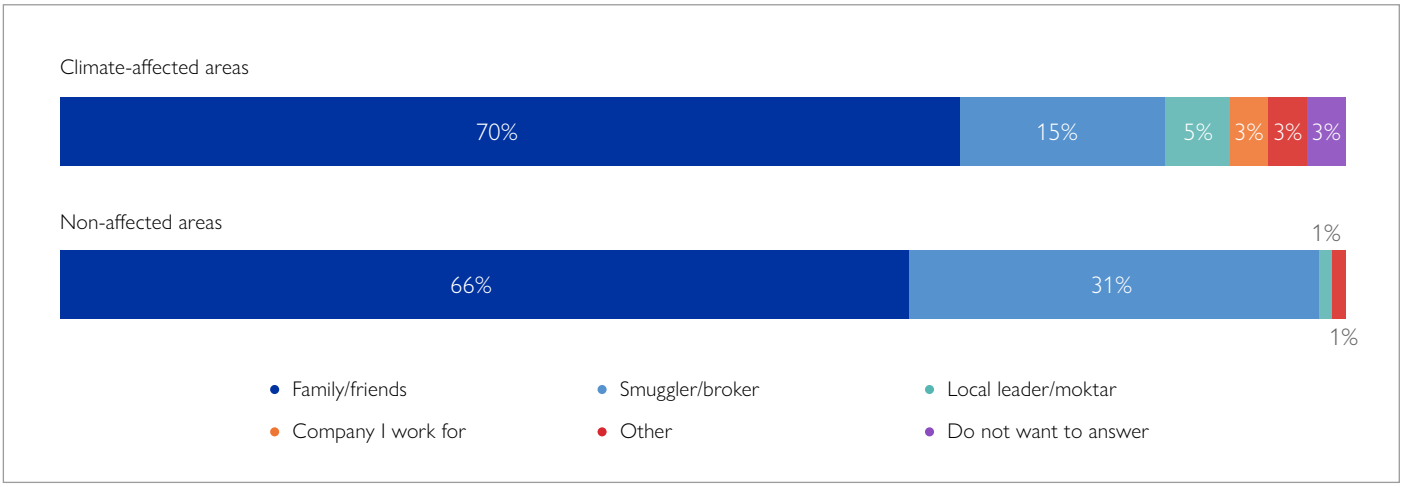


Potential emigrants coming from climate-affected areas were significantly more likely to **travel alone** than those coming from non-affected areas (42% vs. 13%). By contrast, a greater share of those coming from non-affected areas travelled with household or family members (64% vs. 42%) or with friends or neighbours (21% vs. 16%). However, this trend varies considerably based on the intended destination. In particular, many of those travelling to Germany (100%) or the Netherlands (62%) from climate-affected areas came with household or family members. By contrast, more than half of those travelling to the United Kingdom (100%), the Islamic Republic of Iran (59%) or Greece (53%) migrated alone.

Focusing on potential emigrants travelling with a group of unknown people, the largest share (46%) came from Sumel District in Dahuk Governorate toward Türkiye. Additionally, equal shares came from Karkh District in Baghdad Governorate toward Türkiye (27%) and from Al-Shikhan in Ninewa Governorate toward Germany (27%). No potential emigrants coming from climate-affected areas travelled with a group of unknown people.

ASSISTANCE PREPARING THE JOURNEY

Figure 11: Sources of assistance to prepare or arrange migration among potential emigrants from climate-affected and non-affected areas



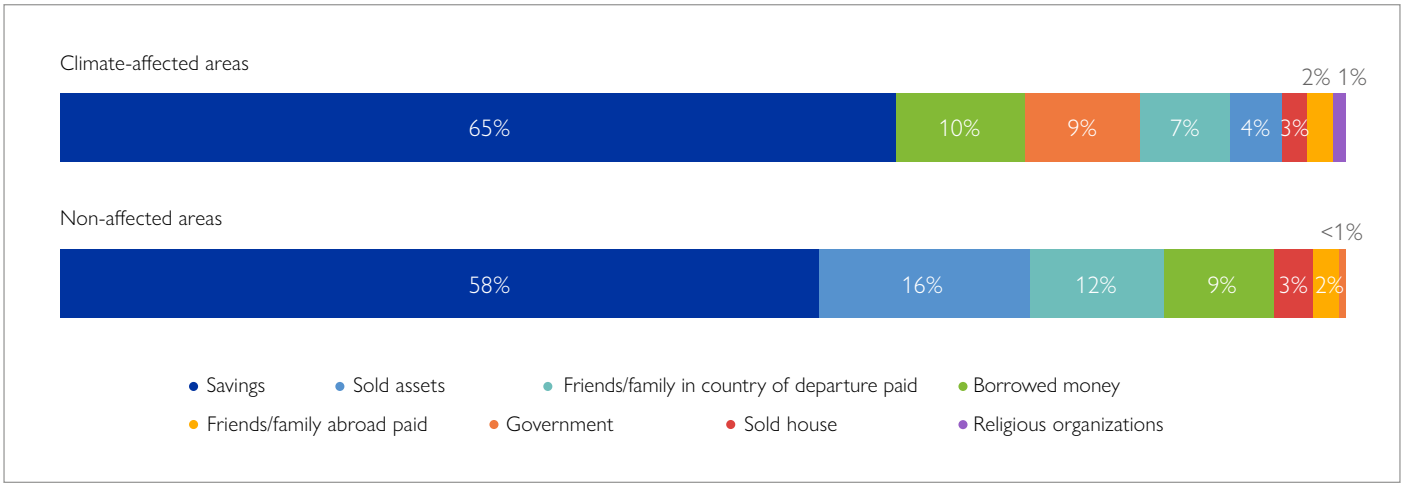
Nearly two in three potential emigrants (63%) had help preparing or arranging their migration. This share is slightly lower among those coming from climate affected areas (52% vs. 67%).

Among potential emigrants who received help, family or friends were the main source (67%). However, nearly three in ten were assisted by a smuggler or broker (29%). This latter share is likely an underestimate due to the sensitivity of this question. Those coming from climate-affected areas were slightly more likely to receive help from **family or friends** compared to those from non-affected areas (70% vs. 66%). On the other hand, a greater share of those coming from non-affected areas were assisted by smugglers or brokers (31% vs 15%).

Focusing on those who received help from a smuggler or broker, most originated from northern Iraq, namely Dahuk (62%), Ninewa (36%) and Erbil (2%). The main destinations for this group included Germany (42%), Türkiye (42%) and Greece (17%). Again, Türkiye and, to a lesser extent, Greece may serve as transit countries for further migration, as reflected in the deportations of Iraqi nationals apprehended at the Türkiye-Greece and Türkiye-Bulgaria border crossing points.[93] From Greece, potential emigrants may seek to reach Germany or other European countries as their final destination.[94] Among those coming from climate-affected areas, all originated from Ninewa and intended to reach either Türkiye (60%) or Germany (40%).

FINANCING THE TRIP

Figure 12: Financial sources among potential emigrants from climate-affected areas vs. non-affected areas



Potential emigrants mainly paid for the journey using savings (59%). Additionally, some sold assets (13%), relied on friends or family in the country of origin (11%) or borrowed money (9%). Those coming from climate-affected areas were more likely to finance the trip through savings (65%) and less likely to sell assets (4%) or rely on friends/family in Iraq (7%) than those coming from non-affected areas.

Among those who borrowed money to finance their trip, family or friends in Iraq were the main lenders, regardless of whether potential emigrants came from climate-affected areas or not (100% and 92%, respectively).

Disaggregating by intended destination, many of those who sold assets or sold their houses intended to reach either Germany (48%), Türkiye (33%) or Greece (10%). Respondents who adopted this approach are expected to be less willing or able to return to Iraq due to a lack of residence or material ties to the country. Additionally, those who borrowed money were more likely to travel to European destinations like the Netherlands (37%), Germany (33%) or the United Kingdom (8%) than neighbouring countries (22%). However, those who relied on savings or friends/family in Iraq cited a wider range of destinations, such as Türkiye (39%), Germany (26%), Greece (12%), the Islamic Republic of Iran (12%) and the Netherlands (9%).

10. CONCLUSION AND AREAS FOR FURTHER RESEARCH

This study explores the influence of climate change and environmental degradation on international migration patterns from Iraq. In particular, the assessment identifies climate-affected subdistricts of origin for potential emigrants and analyses key migration trends among this group, such as demographic characteristics, reasons for leaving, intended destination and travel arrangements. In doing so, the report highlights priority geographic areas for further assessment and climate-related programming. The potential interaction between climate change and other drivers of migration is also considered. Moreover, the analysis sheds light on the profile and intention of those in movement. Furthermore, mediating factors, such as financial means and social networks, are examined to understand how aspiring migrants are able to undertake these journeys. Lastly, risk factors for exploitation and abuse are highlighted to inform relevant programming such as protection services, awareness raising campaigns and broader policy reform.

Climate change and environmental degradation are unfolding against a backdrop of long-standing political, economic and security concerns in Iraq, as reflected in the diverse reasons cited for leaving the country. Governorates in central and southern Iraq have the highest share of climate-affected subdistricts of origin, pointing to a need for climate adaptation programming. However, in terms of outflows, potential emigrants from climate-affected subdistricts of origin departed from both northern and southern governorates, particularly Ninewa, Sulaymaniyah, Wassit and Basra. Regarding intended destinations, potential emigrants from climate-affected areas appear more likely to travel to neighbouring countries such as Türkiye or the Islamic Republic of Iran. The diaspora may influence the choice of destination for this cohort, as illustrated by the presence of family or friends in the receiving country. Moreover, past experiences of internal displacement and international migration are also common within this group. Lastly, potential emigrants from climate-affected areas typically finance the trip through savings and were less likely to receive assistance from others to migrate.

AREAS FOR FURTHER RESEARCH

Given the small number of individuals observed leaving the country from climate-affected areas, this analysis should be replicated in the future to obtain a larger sample size. Additionally, subsequent research should include environmental factors when assessing the reasons for migration. As environmental migration is typically driven by multiple factors, respondents should have the option to select multiple reasons for travel and rank these factors based on their relative importance.[95] This survey can be complemented by in-depth, geographically-focused and qualitative studies unpacking the relationship between climate change and conflict in the country. Moreover, triangulation of community-level data on climate change impacts with remote sensing data will enhance the identification of climate-affected subdistricts of origin through both scientific and people-centred approaches. Future studies should also explore the potential links between the internal climate-induced displacement observed in Iraq[96] and international migration from the country to capture indirect effects of climate change on outward flows. Finally, route analysis along key migration corridors from and through Iraq can be conducted to better understand these often complex, multi-stage journeys.

11. ENDNOTES

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68 This subcriterion includes the following indicators: 1) whether livelihoods have been negatively impacted by changes in the environment in the past 120 days; 2) whether in the past 120 days or agricultural season, families experienced loss of crop production, livestock deaths or reduced fishing yields due to environmental factors and 3) whether in the past 120 days or agricultural season, at least some families abandoned agriculture, livestock rearing or fishing as a source of livelihoods because of environmental factors. If a key informant responded affirmatively to any of these indicators, subcriterion 2c was met.

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