British Red Cross

ODI

Changing climate, changing realities: migration in the Sahel

Summary report

Acknowledgements

This report was written by Karen Hargrave (Independent Consultant) as lead author and Yue Cao and Gabrielle Daoust (ODI) as co-authors, with additional contributions from Joanna Moore (Senior Humanitarian Policy Advisor, British Red Cross). This summary report draws on a full research report from ODI, commissioned by the British Red Cross, by Gabrielle Daoust, Yue Cao, Hussein M. Sulieman, Dansiné Diarra, Boukary Barry and Jim Jarvie.

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Front cover photo © IFRC/British Red Cross
Nigerian Red Cross volunteers supported flood evacuations and provided psychosocial support and first aid.

Contents

Key Messages

1. **Climate and environmental change are exacerbating humanitarian needs and vulnerabilities** in Mali and Sudan, including due to their impacts on livelihood challenges and food insecurity.

2. **Relationships between climate and environmental change and mobility are complex**, multi-faceted, and difficult to isolate from wider socioeconomic factors. Individuals' decisions, ability to move, and their experiences of mobility, are shaped by multiple contextual factors, including gender inequality, (dis)ability, age and conflict dynamics.

3. **Migration is perceived by communities as a form of adaptation and as involving losses or vulnerabilities**

- **Migration is and has long been a common form of coping and adaptation** for many people, alongside other strategies.
- **Mobility can involve losses or lead to increased vulnerabilities**, even when associated with positive outcomes overall. For example, social losses involved in leaving localities of origin and wider challenges experienced by people on the move in the Sahel (for example, difficulties meeting basic needs, or poor working and living conditions).

4. **Climate and environmental change affect different groups of people in different ways**. Negative impacts differ within communities, including along the lines of poverty, gender, age and (dis)ability, as does the accessibility of coping and adaptation strategies, including mobility.

- **Some of the people most affected by climate and environmental change also face the greatest barriers to mobility**. This highlights the challenges for those groups, for example older people, who are unable to move and so are 'trapped' in situations of high vulnerability.

5. **Policy and programmatic responses do not fully reflect emerging evidence or affected communities' needs and experiences**

- **Relevant policies and legal frameworks across the Sahel often do not mention climate-related mobility at all, or frame it as a threat** to be controlled. Regional policies rarely recognise the role that mobility may play in coping with and adapting to climate and environmental changes.
- **Support for people affected by climate and environmental change was considered insufficient by communities** in the research locations and, **where available, it is skewed towards meeting immediate needs *after* shocks**, rather than longer-term support for resilience and adaptation, or anticipatory action beforehand. For example, very few of those surveyed reported benefitting from meteorological information and early warning systems.
- **Available assistance does not always address the ways in which experiences and needs for support in response to environmental and climate change differ between groups**. For example, in Mali the fieldwork highlights the need for adaptation programming to more fully address the varied aspirations of young people, rather than focusing solely on agricultural interventions.

RECOMMENDATIONS

Recommendations for national governments, humanitarian actors, regional organisations and international donors include:

- **Ensuring that policy frameworks, narratives and programmatic action acknowledge and reflect the complex relationship between climate change and mobility**. For example, by promoting the consistent integration of climate-related mobility into policy and legal frameworks, and by strengthening engagement with existing evidence.
- **Addressing vulnerabilities associated with climate change and mobility**. For example, by strengthening route-based humanitarian assistance to people who migrate internally and regionally in response to environmental and climate change, and by ensuring that support takes into account differential impacts among different groups.
- **Supporting adaptation and community resilience strategies within climate-vulnerable communities to enable safe and dignified choices – so that mobility remains a choice, but is not the only option**. For example, by providing material support for long-term coping strategies and locally-led adaptation initiatives. Other activities include expanding knowledge of and access to early warning systems and climate information, and supporting preparedness for climate-related hazards, responses and anticipatory action.

Photo © George Osodi/British Red Cross

Red Cross of Chad project leader, Fatime, joins members of a Mothers' Club which strengthens women's resilience and financial security in N'Djamena, Chad.

Introduction

This report summarises findings from research by ODI, commissioned by the British Red Cross. It explores links between climate change and human mobility in the Sahel,[1] with a specific focus on case studies on Mali and Sudan, highlighting experiences and perceptions from communities. Within the Sahel, migration has long been an important resilience strategy for people's survival and a way to create new economic opportunities during times of both crisis and stability. There are long-established patterns of mobility, largely characterised by internal movement within countries or between countries in the Sahel.[2] The Sahel strip is also the source of, and a transit location, for people moving to wider destinations, including North Africa, Europe and the Gulf.

Understanding the influence of climate change impacts on human mobility in the Sahel is an increasingly vital task. Following already significant transformations in the Sahel's semi-arid to arid climate, projected changes in rainfall and temperature make clear that climate-related challenges are likely to further intensify in future.[3] However, evidence on the relationship between climate change impacts and migration in the Sahel remains nascent, and far sparser than in other climate-impacted regions (such as wider locations in east Africa, small island states and the Bay of Bengal).[4] Research undertaken to date also focuses primarily on the impacts of sudden-onset, short-duration climate shocks, as opposed to slow-onset, longer-duration changes.[5]

The aim of this research is to begin to fill these gaps, to better understand what the implications may be for future mobility patterns, and for associated humanitarian needs and vulnerabilities. In particular, the research took a wide focus, spanning both sudden-onset shocks and slower-onset changes across the two case study countries. The experiences documented in Sudan predominantly reflect the former and those in Mali the latter.

'**Human mobility**' is used here and throughout this report as an umbrella term to encompass all aspects and drivers of the movement of people.

'**Migration**' refers to the movement of people away from their usual place of residence, within a country or across an international border, temporarily or permanently, and for a variety of reasons (whether forced or voluntary).

'**Displacement**' refers specifically to the movement of persons forced or obliged to flee or to leave their homes or places of habitual residence, especially because of environmental or human-made disasters, armed conflict, situations of generalised violence, or violations of human rights.

Sudden-onset events or shocks are defined here as events that unfold quicky and that are linked to meteorological hazards including tropical cyclones, typhoons, hurricanes, tornadoes, blizzards; hydrological hazards including coastal floods, mudflows; or geophysical hazards including earthquakes, tsunamis and volcanic eruptions.

In comparison, **slow-onset events or changes** include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinisation, land and forest degradation, loss of biodiversity and desertification.

[1] The Sahel strip runs from the Atlantic Ocean in the West to the Red Sea in the East, across Senegal, Mali, Burkina Faso, Niger, Nigeria, Mauritania, Chad, CAR, Cameroon, Sudan, South Sudan, Ethiopia and Eritrea.

[2] See Anderson, K. et al. (2020) Risks and Resilience: Exploring migrants' and host communities' experiences during the Covid-19 pandemic in West Africa. Geneva: IFRC; Bluet, K. and Davy, D. (2020) Access to essential services for people on the move in the ECOWAS Region A report on legal frameworks and barriers to freedom of movement, residence and establishment, and access to healthcare, education, employment, housing and legal assistance. Dakar: IFRC and UNHCR.

[3] See Holmes, S. et al. (2022) Climate risk report for the Sahel region. London: Met Office, ODI, and FCDO; Richardson, K. et al. (2022) Climate risk report for the East Africa region. London: Met Office, ODI, and FCDO.

[4] See Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO.

[5] See UNHCR (n.d.) Key concepts on climate change and disaster displacement. Geneva: UNHCR.

Methodology

The research was grounded in a desk review, spanning literature on climate change and migration (with a focus on the Sahel – and Mali and Sudan in particular) and analysis of relevant regional policies and frameworks from national governments, regional bodies, international organisations and National Red Cross and Red Crescent Societies.

Fieldwork was conducted in Sudan and Mali, using a mixed methods approach. Data was collected through quantitative surveys (reaching 265 people in total) and qualitative focus group discussions (reaching 206 people) in communities of origin, transit and destination for people migrating internally and across borders (see Box 1). This was supplemented by 22 key informant interviews in Mali, Sudan and across the wider Sahel, with Red Cross and Red Crescent, civil society organisation, non-governmental organisation (NGO) and international NGO staff, and with government officials. Many of the key findings presented here validate those from previous academic and expert research on climate-mobility relationships, reinforcing and expanding upon existing knowledge.

BOX 1: Fieldwork in Mali and Sudan

The research partners who led and conducted the field work were the Centre for Remote Sensing and GIS at the University of Gadarif in Sudan and Kéné Conseils in Mali. Data collection in Mali spanned 100 survey respondents, 88 participants in focus group discussions and 11 key informant interviews. Data was collected in 14 sites across two regions in Mali:

- Sending and transit areas in Kayes, in western Mali, a long-established transit site for internal and cross-border migration.
- Destination areas for internal and cross-border migrants in Bamako, the country's capital and a key destination for people on the move.

In Sudan, the data collection spanned 165 survey respondents, 118 focus group discussion participants and three key informant interviews. Data was collected in the following locations:

- Elfao in Gadarif state in south-eastern Sudan, focusing on an IDP camp hosting Sudanese people displaced by a major flood in 2021.
- Elganaa in White Nile state in southern Sudan, targeting Sudanese people in an area hosting South Sudanese refugees.
- Dabat Bosin in White Nile state, targeting South Sudanese people displaced multiple times by flooding, first from South Sudan and then within Sudan.

The questions asked throughout fieldwork in Mali and Sudan were framed in broad terms, focusing on general perceptions of environmental change, as opposed to asking respondents about climate change specifically. Existing research suggests that the language of climate change, including the use of scientific jargon, may not relate to people's day-to-day experiences.[6] It is also difficult to isolate the contribution of slow-onset climate shifts (eg, changes in rainfall and temperatures) from wider environmental changes (eg, soil degradation or erosion, deforestation, ecosystem destruction and habitat loss) on people and communities' livelihoods and food security, and in turn on their individual decisions to move or stay. This suggests that environmental change, climate variability and their consequences are not reducible to climate change alone. Therefore, 'climate change' is used here to *refer to both natural climate variability and anthropogenic climate change* as defined by the UNFCCC[7], whereas 'environmental change' is used more broadly to encompass natural climate variability, anthropogenic climate change and other changes in the biosphere that occur either naturally or are influenced by human action. This approach follows recommendations from a recent evidence review on climate change and migration, which suggests that 'a narrow focus on climate change-related migration should be replaced with, or complemented by, broader consideration of environment-migration linkages', given that 'climate change is far from the only environmental factor in migration' (Selby and Daoust, 2021: 66).

Photo © IFRC/British Red Cross

The Sudanese Red Crescent Society responded to flooding with first aid and psychosocial support, distributed food and emergency items and assisted families to move to higher ground.

[6] Corner, A. et al. (2018) Principles for Effective Communication and Public Engagement on Climate Change: A Handbook for IPCC Authors. Oxford: Climate Outreach.

[7] See Matthews, JB Robin, Vincent Möller, Renée van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, and A. Reisinger, eds. 'Annex VII: Glossary'. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press, 2021.

Findings

1. Environmental changes are exacerbating humanitarian needs and vulnerabilities

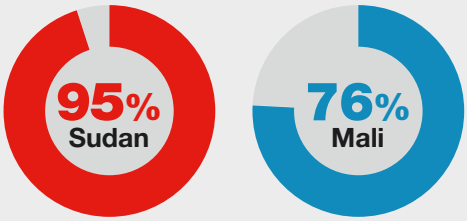
In both Mali and Sudan, virtually all respondents observed environmental changes in their localities, and these changes were predominantly expressed in negative terms. In particular, respondents pointed to changes in rainfall variability, distribution, and concentration in their communities, as well as associated hazards such as floods and droughts. In Mali, respondents reported a drier climate with decreased and delayed rainfall, longer and increased droughts, and an increase in temperature and temperature extremes; although perceptions of a drier climate in Mali may to some extent reflect lasting impressions of the 1970s and 1980s Sahelian droughts.[8] In contrast, in Sudan, respondents reported a wetter climate, with increased rainfall, changes in rainfall timing, more frequent or severe storms and flooding.

> **"At the time of [our] parents, it was raining enough and the animals had grass to graze for a long time, which allowed them to stay in shape for wintering [keeping livestock healthy in preparation for changing access to feed in the winter months]... Today the opposite is happening."**
>
> Focus group discussion with older men, Bamako (Mali)

SURVEY FINDINGS

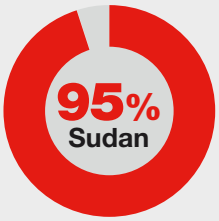
What are the consequences of changes in the environment?

Decreased agricultural production



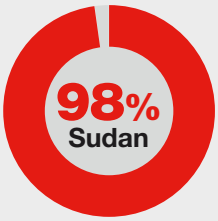
Almost all people surveyed in Sudan, and just over three quarters of people surveyed in Mali, reported that environmental changes had led to decreased agricultural production.

Decreased herd size



Almost all respondents pointed to a reduction in herd sizes.

Severe food insecurity and health impacts

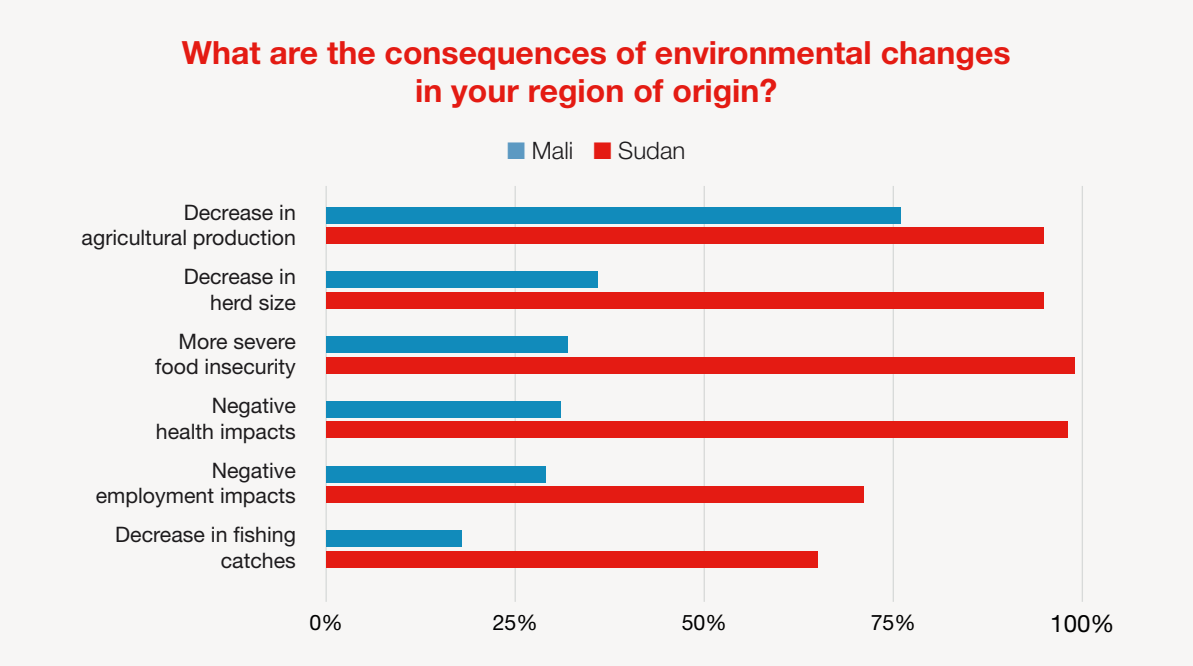


Almost everyone surveyed felt that environmental changes had led to more severe food insecurity and negative health impacts.

[8] The Sahelian droughts in the 1970s–80s have had profound and lasting effects on understandings of climatic and environmental changes in the region, including the belief of declining rainfall over the past decades even though rainfall has recovered since the 1990s. See Liehr, S. et al. (2016) 'Migration as societal response to climate change and land degradation in Mali and Senegal'. In J. A. Yaro and J. Hesselberg (eds.), *Adaptation to Climate Change and Variability in Rural West Africa* (147-169). Cham: Springer; Holmes, S. et al. (2022) Climate risk report for the Sahel region. London: Met Office, ODI, and FCDO.

These changes were reported as having significant effects on lives and livelihoods. In both countries, an overwhelming majority of respondents reported decreased agricultural production as a result of environmental changes (see Figure 1), with clear implications for household incomes, employment and food security. Reduced agricultural production was reported by as many as over nine in ten survey respondents in Sudan and just over three quarters in Mali. In Sudan, significant proportions of respondents also pointed to decreased herd sizes (noted by almost all) and decreased fishing catches (noted by two thirds); both were far less commonly reported in Mali.

Figure 1



In both Mali and Sudan, negative impacts for agricultural production and livelihoods appeared to have exacerbated humanitarian needs and vulnerabilities. In Sudan, where there was a particularly high level of reliance on subsistence activities, almost all respondents reported increased food insecurity and negative effects on their health as a result of environmental changes (see Figure 1). In Mali, the corresponding proportions – each just less than a third – were much smaller, though not insignificant. In both countries, focus group respondents elaborated on broader health-related impacts. This included increases in heat-related illnesses and malaria, the emergence of new diseases, the effects of poor water quality on health, and difficulties accessing healthcare due to reduced household income.

> **“Respondents [in Sudan] acknowledged that environmental changes have negative effects on their main livelihood activities – farming, herding, and fishing. This is reducing food quantity and quality, thus causing food insecurity.**
>
> **Focus group informants acknowledge they are reducing daily meals from three to two. Employment options are restricted. Together, these factors have a negative impact on health, especially among children and older people. This is increasing the incentive to move to find better options.”**
>
> Excerpt from Sudan field report

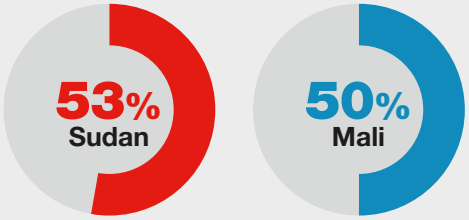
2. Relationships between climate change and mobility are complex, multi-faceted, and difficult to isolate from wider socioeconomic factors

Narratives in the aid sector and policy dialogues often present a simple framing of migration being directly caused by climate change.[9] However, existing research suggests that the connections between migration and climate change are far less linear and more complex. The literature reveals a consensus that individuals' decisions and ability to move, and their experiences of mobility, are shaped by multiple contextual factors and processes, including gender inequality, age, education, fragility[10] and conflict dynamics.[11] Within the Sahel, patterns of mobility are shaped by deeply rooted histories – including long-established seasonal movement of people, broader internal and intra-regional patterns, and intersecting demographic, socioeconomic, environmental and security contexts. Reflecting these patterns, respondents in both Mali and Sudan perceived migration as being mainly temporary or seasonal, rather than permanent, although this varied across locations within countries. This mobility, including in response to environmental changes, falls along a broad continuum, ranging from forced displacement to freely-chosen migration.

SURVEY FINDINGS

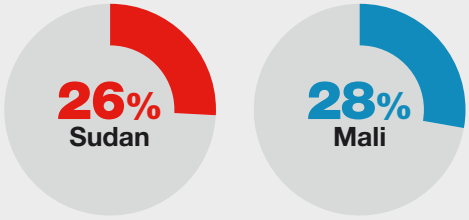
What is the duration of migration?

Temporary



At least half of survey respondents reported that migration is mainly temporary.

Seasonal



Over a quarter of respondents in Mali and one-fifth in Sudan observed that migration is mainly seasonal.

[9] Sturridge, C. and Holloway, K. (2022) 'Climate change, conflict and displacement: five key misconceptions'. HPG briefing note. London: ODI

[10] Fragility is defined as 'the combination of exposure to risk and insufficient coping capacity of the state, systems and/or communities to manage, absorb or mitigate those risks'. See OECD (2020) States of Fragility 2020. Paris: OECD Publishing.

[11] See for example Borderon, M. et al. (2019) 'Migration influenced by environmental change in Africa: a systematic review of empirical evidence'. *Demographic Research*, 41: 491–544; Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO; Zickgraf, C. (2021). 'Climate change, slow onset events and human mobility: reviewing the evidence'. *Current Opinion in Environmental Sustainability*, 50: 21-30.

In some cases – particularly in the context of sudden-onset events – the links between environmental changes and mobility appeared clearer cut. For example, in Sudan, where over nine in ten survey respondents felt that mobility had increased as a result of environmental changes, the vast majority of those with a personal or household experience of mobility pointed to severe floods as the reason they had decided to move (see Figure 2). In some cases, entire areas were destroyed and rendered uninhabitable. In Dabat Bosin in Sudan, the research captured the experiences of South Sudanese people who had been displaced by floods on multiple occasions (Box 2). Other drivers of mobility, including food and economic insecurity, appeared clearly interrelated, representing vulnerabilities that, as discussed above, had been exacerbated by devastating flooding.

> **"We are totally disappointed and depressed from the two successive flood events that happened to us within six months. After we escaped from floods in our country [South Sudan] and started to find our way with the limited resources we had, we were hit again by a second flood in our refugee camp here in Sudan."**
>
> Young woman in focus group discussion, Dabat Bosin (Sudan)

BOX 2: Displaced by flooding in Sudan

Many people from South Sudan now living in Dabat Bosin, who arrived in Sudan in January 2021 due to a devastating flood community in Upper Nile state, spoke of repeated experiences of displacement.

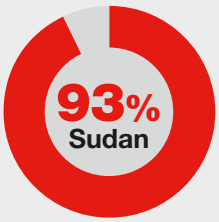
Having arrived in Sudan, these individuals were relocated to different refugee camps managed by the Sudanese Commission for Refugees and supported by the UN Refugee Agency (UNHCR) and other national and international NGOs. While living in these camps, South Sudanese communities experienced a further two flood disasters within six months. First in Elganaa refugee camp in July 2021, then in Dabat Bosin, where they had been relocated after flooding in Elganaa. Respondents reported that they had been trying to rebuild their lives after arriving in Sudan. However, they found themselves in an even worse situation after yet again being exposed to severe flooding and displaced.

In contrast, in Mali, where respondents described there have been slower-onset environmental changes, the relationships between mobility, environmental change and wider socioeconomic dynamics were more difficult to disentangle. Here, the effects of environmental changes intersect with broader motivating factors and pre-existing aspirations towards mobility. In particular, economic factors were identified as the primary motivation for migration in Mali. All of those who had themselves (or where a member of their household had) left or considered leaving their community of origin, cited economic factors when asked about their motivations (see Figure 2). In comparison, environmental factors – especially rainfall changes and lack of access to natural resources (which may be linked to environmental change, among other factors) – were directly cited by up to a third of people asked, and typically identified as secondary. However, the implications of environmental changes for individuals' overall economic situation, as discussed above, mean that it is difficult to fully disentangle these factors. In some cases, environmental changes may have contributed to migration decision-making in less direct ways. For example, when economic challenges felt pressing to respondents, and central to their thinking, they may not have directly identified the environmental changes that were an underlying cause of those difficulties.

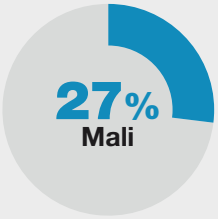
SURVEY FINDINGS

What are the consequences of changes in the environment?

Increased movement

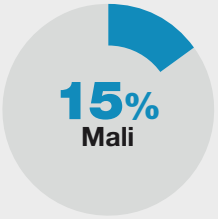


Over 9 in 10 respondents felt that mobility had increased as a result of environmental changes.



Over a quarter of respondents we spoke to felt that environmental changes had led to increased mobility.

Decreased movement

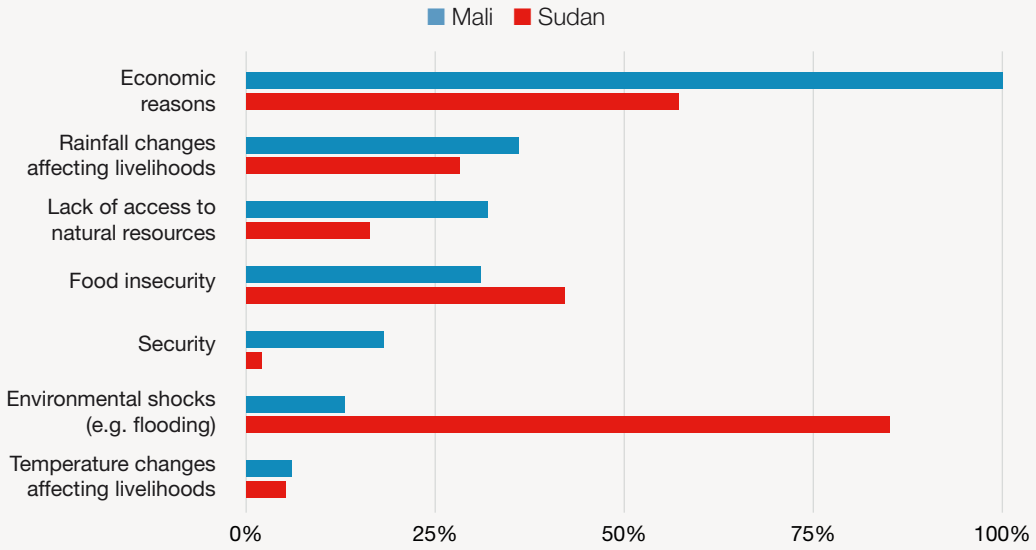


Over a tenth of respondents felt these changes had led to decreased mobility.

Finally, the fieldwork in Mali affirmed findings from existing research, which has highlighted how climate-related events and environmental changes may be associated with both increased and decreased mobility.[12] This includes people who are 'trapped' in place and unable to move, often as a result of having limited resources to support migration. In Mali, just over a quarter of survey respondents overall felt that environmental changes had resulted in increased mobility, while a smaller, though not insignificant proportion (15%), felt that mobility in their community had decreased as a result of environmental changes. The latter may reflect that reduced household income as a result of environmental changes can potentially constrain options for migration among some groups, while leading to increased mobility among others.

Figure 2

Why did you or a member of your household leave or consider leaving your locality of origin?

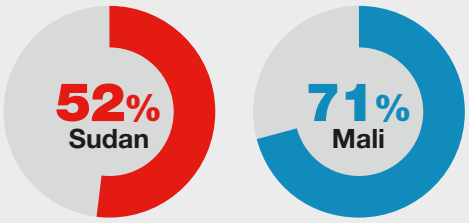


[12] See Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO.

SURVEY FINDINGS

Where do most migrants go?

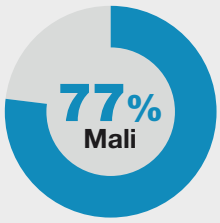
Another area in the same country



Most migration is perceived by people surveyed as being towards another location within the country or to a neighbouring country.

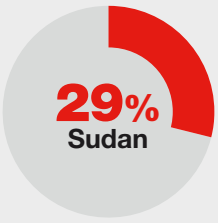
Do you hope to return to live in your place of origin?

Yes and plan to return



Over three-quarters of survey respondents reported that they plan to return to their locality of origin.

Yes but not able to return or No



Between a quarter and a third of survey respondents reported being unable to return or having no plans to return.

Photo © Samuel Turpin/ICRC Part of Humans & Climate Change documentary project

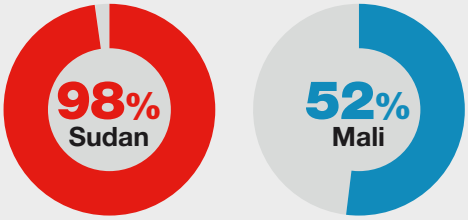
This farmer in Sofara, south of Mopti in Mali, says that the weather has become unpredictable. Seasons are changing, periods of extreme heat are longer, and infrequent rains are so heavy, when they do come, that they destroy everything.

3. Migration is perceived by communities as a form of adaptation and as involving losses or vulnerabilities

SURVEY FINDINGS

What strategies do you use to cope with changes in the environment?

Migration of family members



Almost all respondents in Sudan and over half of those in Mali identified migration of family members as an adaptation strategy.

Existing policy discourse around climate change and mobility reflects the contrasting approaches and mandates of different actors engaged in this area.[13] On the one hand, some actors, often within the international development sector, have celebrated mobility as a positive form of adaptation in the face of climate change. This is often within wider discourse around the contributions of migration to sustainable development. Meanwhile, others have pointed to climate-related mobility as a negative consequence of climate change and related disasters, to be avoided where possible. For example, from the perspective of humanitarian actors due to the suffering people experience when compelled to leave their homes. Alternatively, from the perspective of some governments, including in the Sahel (as discussed below), due to perceived connections between mobility and negative impacts for host societies, and broader ambitions to restrict migration flows.

In some cases, differing approaches intersect with different perceptions of whether mobility linked to climate change impacts is predominantly seen in forced or voluntary terms. The fieldwork in both Sudan and Mali highlights that, from the perspective of affected communities, forced displacement is associated with particular challenges, including loss of social status, resources and property, whether the displacement is due to environmental shocks or conflict. In Sudan, where respondents had largely been forcibly displaced by sudden-onset floods, the overwhelming majority of those who had themselves migrated reported negative outcomes after moving to a new location. In contrast, in Mali, where individuals largely made more proactive choices in terms of whether, when and where to move, most felt that their life conditions had improved as a result. For example, due to new employment or business opportunities, or improved ability to meet their basic needs or send money to support their families back home.

> **"Flood events are more serious and damaging than the security events that have taken place in our area from time to time for decades, because the floods happened all of a sudden without any warning. We suddenly found ourselves submerged under water within a few hours."**
>
> Elderly man in focus group discussion, Dabat Bosin (Sudan)

However, the fieldwork also highlights that these distinctions are not always clear cut, particularly for people sitting somewhere in the middle of the continuum between forced and voluntary mobility. There is clear evidence that mobility can be experienced and perceived in both positive and negative terms, even by the same communities and individuals. In particular, previous research has highlighted the need to view migration simultaneously as part of a wider set of adaptive responses and as involving social losses and wider challenges.[14]

[13] Sturridge, C. and Holloway, K. (2022) 'Climate change, conflict and displacement: five key misconceptions'. HPG briefing note. London: ODI

[14] See Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO.

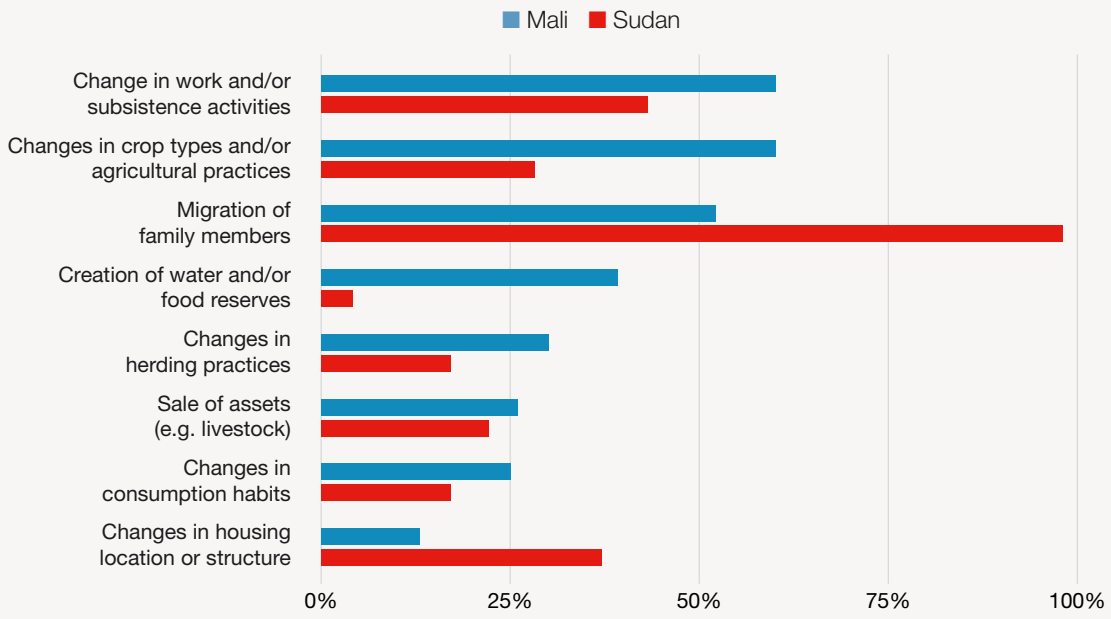
In both Sudan and Mali, migration was identified as a common coping and adaptation response, together with a range of other strategies (see Figure 3).[15] In Sudan, mobility was by far the most prominent strategy identified, likely due to the experience of large-scale flood events that rendered entire areas uninhabitable, leaving households with little choice but to relocate. In Mali, mobility was cited by over half of survey respondents as a coping or adaptation strategy. However, other adaptation strategies were more widely reported; in particular: changes to work and subsistence activities, or to crop types and agricultural practices. This reflects perceptions in Mali, where migration was often described as a 'last resort', only occurring when alternative options had been exhausted.

> **"If we manage to have a strategy that can help us stay, so much the better. If necessary, if we have the possibility, through migration, to manage and send [money] to our parents, we'll do that. We have no other strategy but migration."**
>
> Focus group discussion with adult women, Bamako (Mali)

Photo © Samuel Turpin/ICRC Part of Humans & Climate Change documentary project
Mamadou's herd grazes on the bed of the Yamé River in Mali. It is the full rainy season in August, but the Yamé river, a tributary of the Niger, is still dry.

[15] Here, the term 'coping strategies' refers to short-term responses to environmental changes and challenges, while 'adaptation strategies' refers to longer-term adjustments that may enable people to remain in place in the context of change, while also supporting choices around mobility.

Figure 3



A high proportion of respondents in Mali reported that family ties or a desire to stay in place posed barriers to mobility. People pointed to perceived social losses even where they might otherwise associate migration with improved outcomes (either at the individual or household level). Focus group discussions in Mali, and to an extent in Sudan as well, also pointed to broader challenges, reflecting wider difficulties experienced by people on the move across the Sahel.[16] For example, difficulties in finding work, housing, and food, poor work and living conditions, financial difficulties, health concerns in urban settings, and pressures experienced due to the responsibility of supporting families in their home communities. Respondents in Mali pointed to 'tipping points', when coping in place no longer seemed possible and where they opted to migrate despite being aware of the risks and challenges. These typically involved acute shocks such as flooding, crop failure and poor production, or severe food insecurity brought about by these events. In some cases, these were identified as one-off events, while in others the tipping point was reached due to the cumulative effect of repeated shocks.

> **"We did not settle here for pleasure. That we leave our locality for another is a difficulty in itself."**
>
> Focus group discussion with older men, Bamako (Mali)

> **"Some among group discussions have not heard from their migrated family members and friends. When they left, they intended to send money back to their families. However, not all of them have succeeded and may feel shame. Those who migrated to work in remote artisanal gold mines may not have access to communications. Moreover, the artisanal gold mining in Sudan is associated with high risks, and people hear from time to time about the collapse of mines and fatalities."**
>
> Excerpt from Sudan field report

[16] See for example British Red Cross (2022) From commitments to reality: British Red Cross humanitarian priorities for the International Migration Review Forum. London: British Red Cross.

Photo © Yuki Sugiura/British Red Cross
The Niger Red Cross supports people in the most vulnerable communities in Niger, on the frontline of climate change.

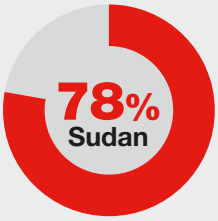
4. Experiences of climate and environmental change, and related mobility, are not universal

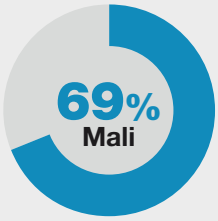
SURVEY FINDINGS

Vulnerable groups

Which groups have been most severely affected by changes in the environment?

Farmers





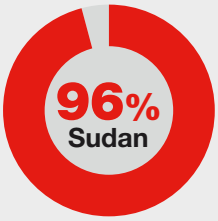
Almost 8 in 10 people surveyed in Sudan and over two-thirds in Mali considered farmers the most affected by environmental changes.

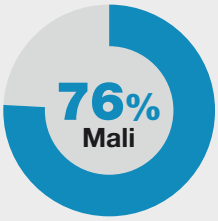
Elderly people

7 in 10 people surveyed counted elderly people as being among those most affected by environmental changes.

Generally, who are the people least likely to migrate?

Elderly people





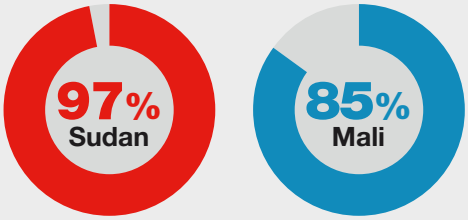
Almost everyone surveyed in Sudan and over three-quarters in Mali considered elderly people as being among those least likely to migrate.

Importantly, the fieldwork in both countries highlights how, in line with previous research in the Sahel, experiences of climate and environmental change are by no means universal.[17] Instead, negative impacts, and the accessibility of coping and adaptation strategies, including mobility, differ significantly between groups. In both Sudan and Mali, two broad categories of people emerged as being particularly vulnerable. Firstly, farmers, herders and fishers due to the particularly heavy impacts of climate and environmental change on their livelihoods. Secondly, people who – due to physical limitations (for example, linked to age or physical disability) or as a result of wider socio-economic factors (for example, gender inequalities or poverty) – were understood as being vulnerable to both climate and non-climate-related stresses and shocks.

[17] See for example Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO; Liehr, S. et al.(2016) 'Migration as societal response to climate change and land degradation in Mali and Senegal'. In J. A. Yaro and J. Hesselberg (eds.), *Adaptation to Climate Change and Variability in Rural West Africa* (147-169). Cham: Springer.

What are the main barriers to adopting coping and adaptation strategies?

Financial barriers



Almost all respondents in Sudan and over three-quarters of survey respondents in Mali noted a lack of financial resources as a barrier to adaptation.

The research also highlights the unequal accessibility of coping and adaptation strategies, which are affected by inequalities along the lines of wealth, gender, age, ethnicity and other factors. For example, the viability of coping and adaptation strategies for different groups is shaped by factors such as unequal access to financial and other resources, technical assistance and training, market opportunities and decision-making power. In this respect, mobility is no exception.

Across Mali and Sudan, poorer households were identified as being particularly vulnerable to negative impacts of environmental changes due to an absence of reserve resources. A lack of financial resources was the most commonly reported barrier to adaptation in both countries – being indicated by 85% in Mali and 97% in Sudan – pointing to challenges that are likely to be experienced across communities, but most acutely by the poorest households. Financial barriers were also identified as a key obstacle to mobility, particularly in Sudan, where they were cited by over three quarters of those surveyed. In Mali, around a third pointed to financial barriers to mobility, though family reasons and a desire to stay in place were considered more significant.

> **"The impacts [of environmental changes] are different for the rich and the poor, because the rich get richer on the backs of the poor."**
>
> Focus group discussion with older men, Kayes (Mali)

Particularly in Sudan, women were perceived to have increased vulnerability to the effects of climatic and environmental change, and to face the greatest challenges in terms of coping and adaptation, due to their household responsibilities and gendered barriers, including access to financial resources (see Box 3). Gender norms also play a role, including in terms of the accessibility of mobility as an adaptive response. In Mali, where mobility was predominantly considered a male pursuit, nearly three quarters of respondents reported that women were among the least likely to migrate, in part due to family restrictions and marriage. In Sudan, while women were increasingly seen as being likely to migrate due to the impact of environmental changes, social restrictions on women were still considered a considerable barrier.

BOX 3: Gender, adaptation and mobility

Gender is one of several key contextual factors that shape people's experiences of climate and environmental change. In Mali, the fieldwork supports findings from existing research, highlighting how women are often among groups facing significant barriers to successful coping and adaptation strategies.[18] Respondents explained that this was, in part, due to gendered inequalities in access to financial support (for example credit or loans) from banks and other sources. However, many survey respondents also described women's mobilisation of shared resources to cope with the effects of environmental changes, for example through 'tontines' (shared saving circles among peers). In this way, highlighting the need to consider both gendered vulnerability *and* agency in the face of environmental and climatic change.

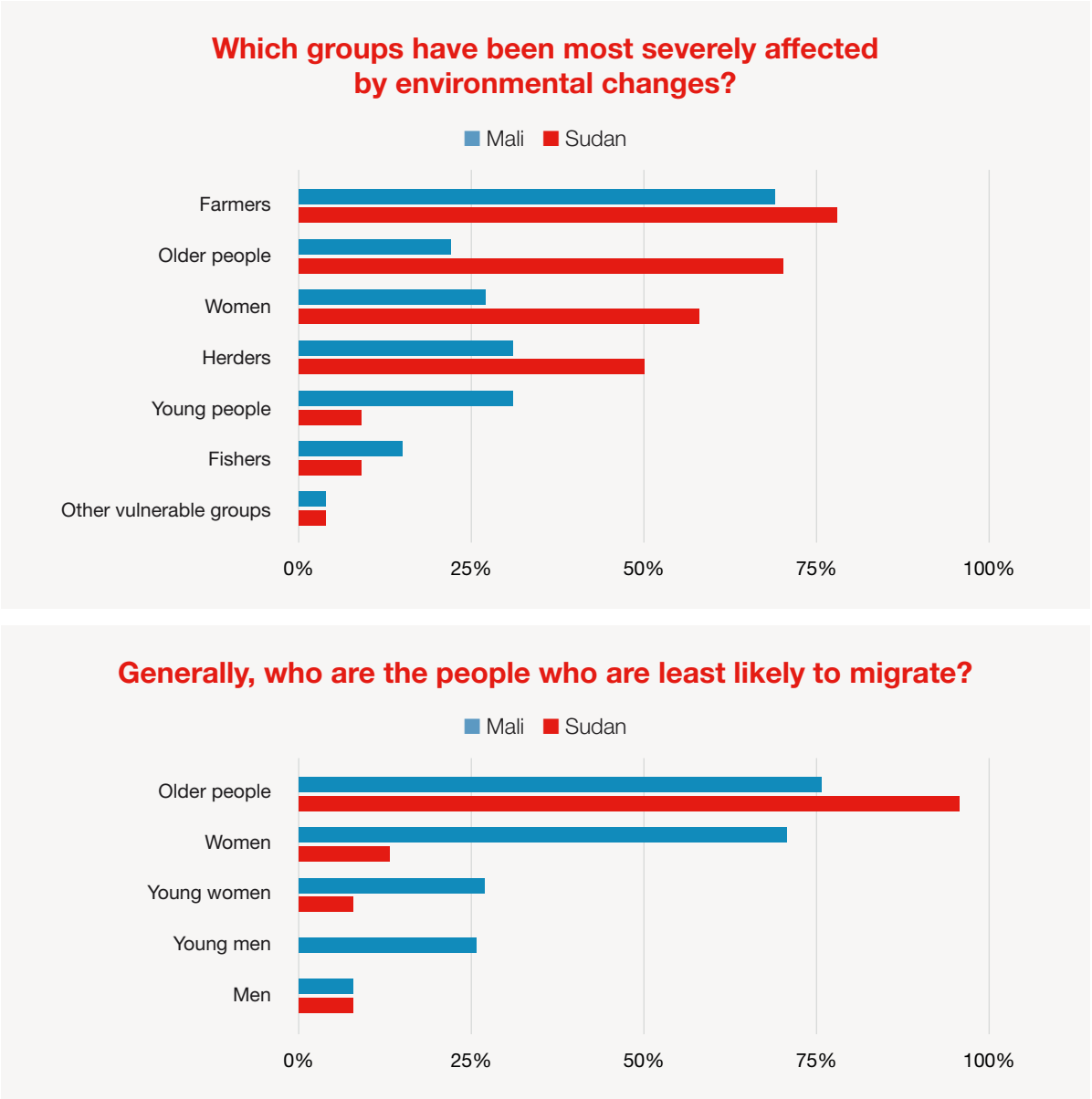
In Mali, just over seven in ten people surveyed considered women among groups least likely to migrate. The perception of mobility as a male pursuit reflects pre-existing gender norms that remain relatively unchanged in the face of environmental changes. In contrast, in Sudan, the research documented changes to migration patterns, perceived to be a result of environmental changes, that contrasted with traditional gendered norms and customs around mobility. Young women who had previously predominantly worked as casual wage labourers on local farms were now considered almost equally as likely as men to move in search of agricultural opportunities, though social restrictions on women still posed a limitation. The research documented a dual burden of work and childcare facing these women, many of whom took babies and young children with them, facing harsh conditions in agricultural work that were often unsuitable for children.

Photo © Yuki Sugiura/British Red Cross

Drought in Niger made the harvests fail and then food prices became so high even the very basics became unaffordable for Hassi Seyni. Her husband was forced to leave to find work to earn enough money to feed the family.

[18] See for example, Brockhaus, M. et al. (2013) 'Envisioning the future and learning from the past: adapting to a changing environment in northern Mali'. *Environmental Science and Policy*, 25: 94-106; Liehr, S. et al. (2016) 'Migration as societal response to climate change and land degradation in Mali and Senegal'. In J. A. Yaro and J. Hesselberg (eds.), *Adaptation to Climate Change and Variability in Rural West Africa* (147-169). Cham: Springer.

Figure 4



In some cases, groups perceived as being most affected by environmental change overlapped with those considered to face the greatest barriers to mobility. This echoes findings from previous literature, illustrating difficulties for those who cannot move due to socioeconomic or other barriers, especially for populations 'trapped' in situations of extreme vulnerability.[19] For example, in Sudan, seven in ten respondents counted elderly people as being among those most affected by environmental changes, while almost everyone surveyed also considered them as being among those least likely to migrate due to physical mobility challenges and difficulties finding employment (see Figure 4). Barriers to coping and adaptation strategies, including mobility, among the elderly were mainly attributed to physical mobility difficulties, which were also noted to affect people with disabilities. In contrast, respondents in Mali were more likely to identify younger people as having increased vulnerability to environmental impacts (see Box 4). As heads of their families, young Malian men perceived that environmental impacts worsened employment opportunities and alternative economic options, adding further burdens to their responsibility. However, like in Sudan, they were generally considered more likely to migrate than the elderly.

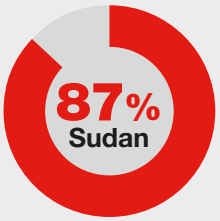
[19] See for example Opitz-Stapleton, S. et al. (2017) Climate change, migration and displacement: The need for a risk-informed and coherent approach. London: ODI and UNDP; Selby, J. and Daoust, G. (2021) Rapid evidence assessment on the impacts of climate change on migration patterns. London: FCDO

5. Policy and programmatic responses do not fully reflect emerging evidence or affected communities' needs and experiences

SURVEY FINDINGS

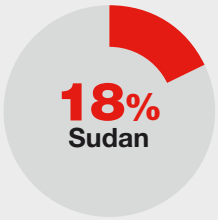
What types of government and NGO assistance have been provided to support coping and adaptation strategies?

Food assistance



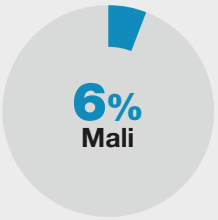
In the locations surveyed, over 8 in 10 respondents had received food assistance in response to environmental changes or shocks.

Skills and livelihood training



Under a fifth of respondents had received skills or livelihood training.

Early warning



Very few respondents in research locations reported benefitting from early warning mechanisms.

Despite emerging evidence and best practices, existing national climate, development, and migration policies and legal frameworks across the Sahel often do not mention climate-linked mobility at all. Where it is included, it is broadly framed as a threat to be controlled. For example, many National Adaptation Programmes of Action, including in Mali and Sudan, frame cross-border migration as a negative impact of climate change, linked to competition over land and water resources, conflict and environmental damage. Often, migration is presented as a direct result of climate change, neglecting the complex interaction of environmental and socio-economic drivers discussed above. Relevant policies also largely fail to acknowledge the role that migration may play in coping and adaptation strategies.

In some cases, international and national humanitarian and development organisations are filling gaps left by regional and national state-led initiatives. For example, the Mali Red Cross and Sudanese Red Crescent Society, as well as National Red Cross and Red Crescent Societies across the wider Sahel, are increasingly aware of climate and environmental change as drivers of mobility. They are supporting their respective governments, including with assistance to meet immediate needs among vulnerable migrants and displaced people. They are also undertaking ongoing community resilience-building projects that, though not climate-specific, may indirectly enable people with options to adapt to the impacts of climate change within their communities – for example, by introducing new agricultural technologies, such as improved seeds and reforestation activities, to build people's resilience to shocks.

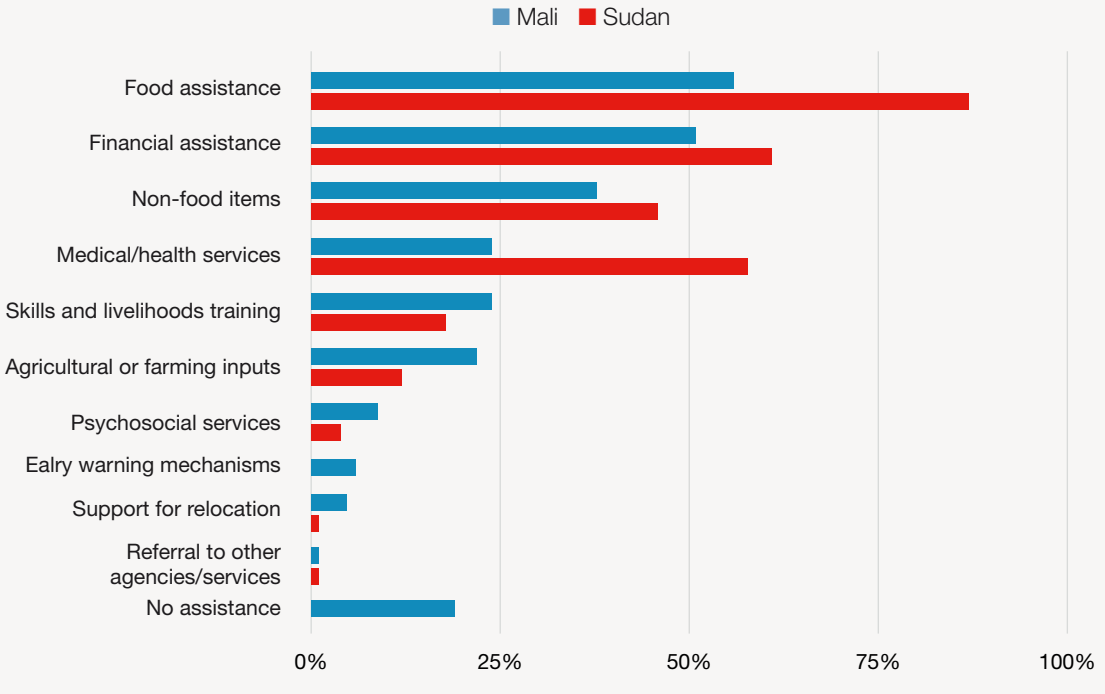
However, the fieldwork data suggests that overall support from government authorities and humanitarian and development organisations in relation to environmental change is often considered insufficient by affected communities. For example, around a fifth of people in the communities targeted by the research in Mali reported receiving no assistance at all from the government or NGOs in response to environmental change. However, the research captured wide differences in access to assistance between research locations, likely resulting from geographic differences in the impacts of environmental crises, as well as uneven allocations of assistance.

Where support was available, in both Mali and Sudan this was largely skewed towards meeting immediate needs after significant shocks, rather than longer-term support for resilience and adaptation, or earlier anticipatory action beforehand. Short-term forms of support to meet immediate needs – for example, the distribution of food, cash and non-food items – were the most commonly reported forms of assistance in research locations in both countries (see Figure 5). However, while this support was important in the immediate term, it did not directly address key barriers to coping and adaptation strategies. For example, despite wide acknowledgement of their importance, few respondents, particularly in Sudan, reported benefitting from training or agricultural inputs. While Red Cross and UN agency representatives in Mali highlighted the importance of meteorological information and early warning systems, only a small proportion of survey respondents had benefited from this support.

> **"All three affected communities [in Sudan] suffered from the lack of timely weather information, only hearing about impending floods from neighbouring communities. For example, in White Nile, the community only heard about flood risks two days before impact. They responded by trying to build earth banks, but these were not high enough by the time the water struck."**
>
> Excerpt from Sudan field report

Figure 5

What types of government or NGO assistance have been provided to support coping and adaptation strategies?



The fieldwork also suggests that, in some cases, programmatic responses are not adequately addressing the dynamics highlighted above, in terms of how experiences and responses to environmental change, including the use of mobility as an adaptive strategy, differ between groups. In particular, responses from Mali highlight the need to more fully address the varied aspirations of young people, rather than focusing solely on agricultural interventions (see Box 4).

BOX 4: Youth and environmental change in Mali

In Mali, where migration was often spoken of as a 'last resort' in the face of environmental changes, the research suggests that young people are seen to be shouldering this burden. Respondents outlined pressures on young people to migrate to earn resources to support their parents and families. This highlights the need for more targeted support to address needs among young people on the move, to monitor outcomes and provide follow-up support.

The fieldwork responses also highlight that young people in Mali are not felt to be receiving appropriate support to help them to adapt in situ where this would be a preferable option for them. In particular, this is due to the fact that, where training opportunities were seen to be available, these were largely focused on agriculture. In contrast, previous research has noted that young people in Mali, especially those with higher levels of formal education, may not find farming attractive and instead aspire to occupations outside agriculture.[20] This shows the need for responses to environmental change to take a broader approach in supporting coping and adaptation among young people. For example, through professional training targeting wider sectors, employment creation and support, or financial support to youth-led projects.

> **"Young people with no [opportunities] prefer to migrate even if they have to die at sea. There is no alternative solution to their problems as long as the problem of money is not addressed. Europeans should understand that no one wants to leave their locality for somewhere else in order to die in the water."**
>
> Key informant interview, Kayes (Mali)

In Mali, community support initiatives, families and social networks also play important roles in facilitating coping and adaptation, often in the absence of support from NGOs or relevant authorities. This includes the provision of material, logistical, and emotional support to enable mobility, before and during migration journeys. However, the fieldwork found that, while most respondents in both countries reported continued ties between people who have migrated and their communities of origin, a significant proportion do not receive any material support. Similarly, while previous literature has highlighted how migrants may support in-place coping and adaptation strategies in their home communities through remittances, and the fieldwork documented some support for this, this too risks being overstated.[21] Many people who have migrated are unable to send regular support to their families and communities. Where remittances are sent, in many cases they are only sufficient to meet families' basic needs, rather than contributing to larger adaptation efforts.

> **"The contribution that [migrants] bring to the community in terms of investments… the health centre, water points or reforestation, support for agriculture and market gardening… The communities who are there, they see migration as really a positive."**
>
> Key informant interview with the Mali Red Cross

[20] See Hummel, D. (2016) 'Climate change, land degradation and migration in Mali and Senegal: some policy implications'. *Migration and Development*, 5(2): 211-233; Liehr, S. et al.(2016) 'Migration as societal response to climate change and land degradation in Mali and Senegal'. In J. A. Yaro and J. Hesselberg (eds.), *Adaptation to Climate Change and Variability in Rural West Africa* (147-169). Cham: Springer.

[21] See for example Scheffran, J., Marmer, E., and Sow, P. (2012) Migration as a contribution to resilience and innovation in climate adaptation: social networks and co-development in Northwest Africa. *Applied Geography*, 33: 119-127; Generoso, R. (2015) 'How do rainfall variability, food security and remittances interact? The case of rural Mali'. *Ecological Economics*, 114: 188-198.

Recommendations

The following recommendations are proposed to national governments, national and international humanitarian actors in the Sahel (including National Red Cross Red Crescent Societies), regional organisations and international donors. These emerged from the findings and suggestions proposed by research participants themselves in Mali, Sudan and the wider Sahel.

1. Ensure that policy frameworks, programmatic action, and policy and organisational narratives reflect the complex relationship between climate change and mobility:

- Promote consistent integration of climate-related mobility into relevant policy and legal frameworks, recognising migration as a form of adaptation *and* as involving risks and losses for people, rather than as a problem to be managed or prevented.
- Avoid looking at climate-related mobility in isolation, but rather situate it within the context of broader socioeconomic dynamics that underpin climate-related vulnerabilities and migration patterns.
- Strengthen engagement with existing evidence on climate change and migration to inform policy narratives, communications and advocacy strategies, as well as strategic plans of action.
- Invest in building an evidence base aimed at understanding how current and future climate variability and climate change interact with existing and future patterns and drivers of mobility in specific contexts.

2. Address vulnerabilities associated with climate change and mobility:

- Strengthen route-based humanitarian assistance and (re)integration support to people who migrate within countries and intra-regionally in response to environmental and climate change.
- Advance partnerships across humanitarian and development actors, and with research institutions, to better understand concurrent climate risks, their intersection with socioeconomic vulnerabilities and their implications for human mobility and humanitarian needs. For example, to provide tailored support for people displaced multiple times by the same climate hazard, as seen in Sudan.
- Foster systematic dialogue and coordination between actors working in different countries, and in different regions of the same country (for example between rural and urban areas), given the geographically broad and sometimes transborder nature of climate change and its impacts.
- Ensure that support takes into account differential effects, for example along the lines of gender, age, (dis)ability, livelihood type and income. Responses should explicitly consider the needs of groups that may be particularly vulnerable to the adverse effects of climate change and who face barriers to mobility.
- Address wider existing vulnerabilities among migrants that may be also experienced by people moving in response to climate change impacts. For example, addressing elements of policy frameworks that create or exacerbate vulnerabilities, and ensuring effective humanitarian assistance and protection, including to internal and intra-regional migrants.[22]

[22] For the full recommendations, please see the full report: Doust, G., Cao, Y., Sulieman, H., Diarra, D., Barry, B. and Jarvie, J. (2022) 'Changing climate, changing realities: migration in the Sahel. Full report'. London: ODI and British Red Cross. For further recommendations to address existing vulnerabilities among people migrating, see British Red Cross (2022) From commitments to reality: British Red Cross humanitarian priorities for the International Migration Review Forum. London: British Red Cross.

3. **Support adaptation and community resilience strategies within climate-vulnerable communities, to enable safe and dignified choices – so that mobility remains a choice, but is not the only option:**

- Support wider acknowledgement and consensus that mobility can be an important adaptation strategy, which can be enabled among a range of choices.
- Ensure that support to affected communities does not just address immediate impacts and short-term needs once shocks happen, but also includes material support for longer-term coping strategies and locally-led adaptation initiatives. For example, skills training, funds and equipment for livelihood diversification.
- Support the establishment of, and expand knowledge of and access to, early warning systems and climate information – supporting preparedness for climate-related hazards, responses and anticipatory action. For example, through the use of good practices such as co-designing climate information services in collaboration with affected communities.
- Ensure that support is provided based on an understanding of the key barriers to adaptation and needs among different vulnerable groups. For example, expanding support beyond the agricultural sector to respond to the varied aspirations of young people.
- Ensure that specific support is targeted towards those facing the greatest barriers to adaptation, for example to older people, those with disabilities, women and poorer households.

Photo © George Osodi/British Red Cross
Mothers' Club members outside the Red Cross of Chad office in N'Djamena, Chad.

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October 2022