

THEMATIC SERIES  
**No matter of choice:  
displacement in a changing climate**

This thematic series explores the scale, patterns, drivers and impacts of internal displacement associated with slow-onset environmental change and disasters to inform policies and practices for managing and reducing displacement risk



**THEY CALL IT EXODUS**

Breaking the cycle of distress migration in Niger

SEPTEMBER 2019

## ACKNOWLEDGEMENTS

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Cover photo: Livestock market in Isawane commune, Niger

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# THEY CALL IT EXODUS

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# SUMMARY

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IDMC embarked on a new research programme in December 2018 to investigate internal displacement associated with slow-onset environmental change.<sup>1</sup> This study, based on more than 100 interviews conducted in the Maradi region of Niger, attempts to explore the patterns, drivers and impacts of phenomenon. It arrives at the following findings.

## | Seasonal exodus is no matter of choice

Vulnerable farmers in Niger have no choice but to migrate seasonally to urban areas in search of alternative income to ensure their households' survival. These movements, referred to locally as "exodus", increase during times of drought. Seasonal migration driven by poverty is a strategy, but it is not a choice. It is a clear form of distress migration, and should be considered displacement.<sup>2</sup>

## | Unusual movements of pastoralists increase in times of drought

Pastoralists in Niger migrate seasonally with their livestock in search of water and pasture, but traditional periods and patterns of transhumance are disrupted during periods of drought, when whole families are forced to seek out alternative routes. When drought leads to a significant loss of livestock, pastoralists may be forced to abandon their way of life altogether.

## | Demographic growth and climate change increase the pressure to migrate

Climate change is resulting in less regular and less predictable rains. Reduced crop yields and livestock losses aggravate already high levels of food insecurity, increasing the pressure to migrate. At the same time, population growth is leading to the fragmentation of land ownership, and plots are no longer able to meet large households' needs. Some farmers are moving north into previously pastoralist areas in response, reducing the availability of resources for the herders' livestock.

## | Opportunities exist to break the cycle

Household-level strategies exist to break the cycle of poverty-driven migration in Niger. For large livestock owners, destocking ahead of a drought can reduce losses. Farmers can adapt to unpredictable rainfall by increasing their use of fertilisers, enhanced seed and alternative water management systems. A national early warning mechanism is also in place to respond to food security crises with distributions, subsidies and cash transfers, but longer-term development investments are needed.

# INTRODUCTION

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Niger has the world's lowest human development index ranking, indicating below-average life expectancy, poor education levels and low per-capita income.<sup>3</sup> The bulk of the country's economy is dependent on rain-fed agriculture, and periods of drought and associated drops in crop yield fuel recurrent food security crises.<sup>4</sup>

The World Bank's Groundswell report on internal climate migration warns that "the poorest and most climate-vulnerable areas will be hardest hit", and the sub-Saharan Sahel region is already feeling the impacts.<sup>5</sup> Rainfall has decreased by more than 20 per cent since the early 1970s in what has been referred to as "one of the most dramatic long-term changes in climate observed anywhere in the world".<sup>6</sup>

Niger suffered severe droughts in 1973 and 1984, and unreliable rainfall continues. A significant forage deficit in 2018 led to thousands of school dropouts as pastoralists' children were forced to follow their parents in search of pasture.<sup>7</sup> Drought also disrupts traditional patterns of transhumance, leading pastoralists to undertake unusual movements. When drought leads to severe livestock loss, some are forced to abandon their way of life altogether and adopt sedentary lifestyles, which for pastoralists represents a form of displacement.<sup>8</sup>

Among farming communities, demographic growth is fragmenting land ownership, and ever smaller plots are increasingly unable to meet households' needs. Population expansion is also contributing to deforestation, which in turn leads to land degradation and desertification, undermining both crop and livestock production. Climate change and deteriorating land quality may reduce crop yields by half in some regions of Africa by 2050.<sup>9</sup> Given that the continent's population is predicted to double by the same time, this has particularly worrying implications for food security.<sup>10</sup>

To reduce pressure on limited household resources and alleviate food insecurity, many young people migrate seasonally from rural to urban areas in search of employ-

ment. Cyclical rural-to-urban migration is a core poverty reduction strategy in many parts of the world, and far from a new phenomenon.<sup>11</sup> Seasonal migration driven by poverty in Niger stems from an interaction of environmental and economic factors, and is not generally considered displacement. Such movements, however, referred to locally as "exodus", are no matter of choice.

Vulnerable farmers with limited assets are exposed yearly to food insecurity, which increases during periods of drought and leaves them with no option but to seek temporary employment elsewhere to ensure their households' survival. Rather than a positive strategy to optimise and diversify income, it is a response to existential threats to which no remedies exist in situ.<sup>12</sup> It is, in essence, forced displacement in the form of distress migration.<sup>13</sup>

With demographic growth and climate change expected to contribute to further yield losses, and given the absence of sustainable adaptation mechanisms to strengthen communities' resilience and coping capacities, such population movements are likely to continue.<sup>14</sup> To better understand their forced nature, IDMC conducted a study in Niger's Maradi region as the basis for this report, which addresses the following questions:

1. What is the relationship between mobility, drought and socioeconomic factors such as employment and food security?
2. What is the tipping point for distress migration? When does mobility become unusual or permanent?
3. What strategies do governments and affected communities put in place to mitigate the impacts of drought?
4. Who is displaced and what support do they receive?
5. What constitutes a durable solution in situations of irreversible change?

## | DISTRESS MIGRATION

“Conceptual distinctions can be made between distress migration, in which household decisions are largely ad hoc responses to external environmental processes and events; and economic migration, which suggests the existence of forward and strategic planning on the part of the household. Where economic migration has been shown to create new opportunities and income sources, distress migration has often been accompanied by new risks and vulnerabilities”.<sup>15</sup>

## METHODOLOGY

The research for this report began with a thorough review of the existing literature, which provided an initial understanding of mobility patterns and climatic variations in Niger. This was built on by primary research in Maradi in July 2019. The region was chosen because of reports of school dropouts associated with drought.

The research covered both displaced people and host communities in urban areas, and non-displaced people in rural areas affected by drought and food insecurity. Fieldwork locations were selected in partnership with departmental directors of agriculture who suggested relevant and accessible locations in their areas.

FIGURE 1: Fieldwork locations in Maradi



Local enumerators conducted a survey on mobile phones using KoboToolbox, developed by the Harvard Humanitarian Initiative for research in challenging environments. The enumerators were given two days of thorough training on the objectives and wording of the survey, use of the software and qualitative and quantitative data collection techniques.

Given the challenge of conducting research with hard-to-reach populations in different settings, respondents were identified through a convenience sample, drawing on the local knowledge and social networks of researchers, partners and participants. A total of 102 surveys were conducted. The sample is not representative, but offers valuable insight into people's experiences, challenges and aspirations in Maradi.

The enumerators were also asked to record short summaries of any stories the participants shared, which complemented the survey findings with qualitative narratives. Additional qualitative data was collected through key informant interviews with local authority officials and guided walks through the fieldwork locations.



Enumerators conduct interviews in Adarawa.



*A large herd of sheep block the road to Azagor*

### BOX 1. MONITORING DISPLACEMENT ASSOCIATED WITH DROUGHT IN NIGER

IDMC has been monitoring displacement associated with conflict and violence in Niger for many years, but it has not yet been able to compile estimates for that associated with drought.

The slow-onset nature of drought displacement makes it difficult to monitor. Given the lack of systematic data collection and disaggregation, it is also hard to differentiate between displacements triggered drought and conflict, which are inherently interlinked in many regions.

We organised a joint workshop in Niamey in July 2019 with the UN

Development Programme (UNDP) to better understand drought displacement in Niger and improve ways of accounting for it. The aim was to assess the existing data ecosystem in order to understand what type of information was available and what else was required. The workshop focused on numerous indicators associated with drought displacement, including food insecurity, livelihood opportunities and climatic variations.

No single organisation collects data on drought displacement in Niger, but the workshop revealed that most of the information needed already exists. It is just not consolidated into one database. Nor is the available data always easy to access. Not all of it, for example, has been digitalised.

This points, as in other countries, to the need for data to be better consolidated and harmonised for increased interoperability.

In order to bridge these data gaps, we are working closely with government and UN agencies, local and international NGOs and farmers' unions to develop a common understanding of the main indicators associated with drought displacement, and a model that would explain some of the triggers, dynamics and interactions between the indicators. We envision a more robust, coordinated and data-driven process of collection and verification, which should then enable us to monitor displacement associated with drought in Niger.

# THE MARADI REGION

Maradi, in southern Niger, has been in the news recently because of an influx of refugees from Nigeria.<sup>16</sup> The host population, however, faces its own challenges. The region has the highest percentage of inhabitants living below the poverty line, at 57.8 per cent compared with the national average of 48.2 per cent.<sup>17</sup> It has been relatively unaffected by the insecurity generated by militant Islamic groups in the Diffa, Tillaberi and Tahoua regions, but food insecurity is chronic despite high levels of millet and sorghum production.<sup>18</sup>

## LIVELIHOOD ZONES

Maradi is divided into three major livelihood zones: the agricultural south, the agropastoral centre, and the predominantly pastoralist north.<sup>19</sup> Around 78.7 per cent of households across the region as a whole are dependent on agriculture.<sup>20</sup> Among the survey participants, three-quarters engage in farming, and just over half practice subsistence farming, growing crops solely for food. Millet and cowpeas are the most common crops, followed by sorghum.

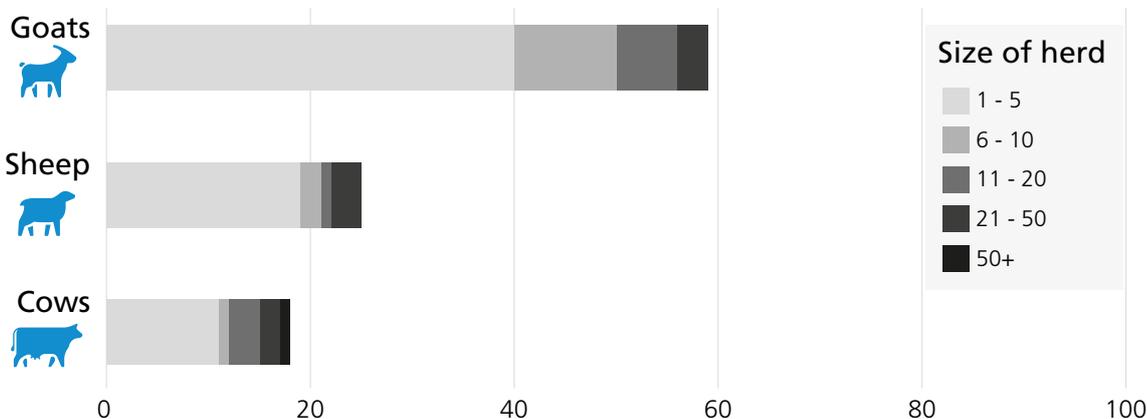
Livestock ownership is also extensive, even among nominally agricultural households. Just over two-thirds of respondents own livestock, with goats by far the most prevalent. The majority of respondents own less than five animals, but some own much larger herds (see figure 2).



Adamou travels around the region working as a tailor to supplement his income from farming

Most respondents engage in a variety of activities to make ends meet, complementing farming and husbandry with other income-generating activities and trade. Amadou (pictured above) has land south of Maradi but finds agriculture alone insufficient, so he has started a small mobile tailoring business.

FIGURE 2: Percentage of respondents who own livestock, by size of herd



## MOBILITY PATTERNS

Key informants and the existing literature confirm two major mobility patterns in Maradi: pastoralists' transhumance with their livestock and the exodus of sedentary farmers and agropastoralists (see figure 4).

The former involves a single large north-to-south migration around November once the government has provided an official greenlight for transhumance after the harvest, and then a south-to-north migration at the start of the rainy season around May when farmers start to plant. During the migration south some travel

as far as Nigeria and beyond, and on the northbound leg some go as far as the neighbouring Agadez region, where their livestock has access to salt-rich land.

Satellite imagery (see figure 3) provides a clear explanation for these movements. As the vegetation in the Sahel dies off during the dry season, the further south pastoralists travel the more grazing land is available. Many have established longstanding relationships with farmers in the south, and return yearly to the same fields: the animals eat the leftovers from the harvest, and in exchange the land benefits from their manure.

FIGURE 3: NASA MODIS, Vegetation Index (March-August 2018)

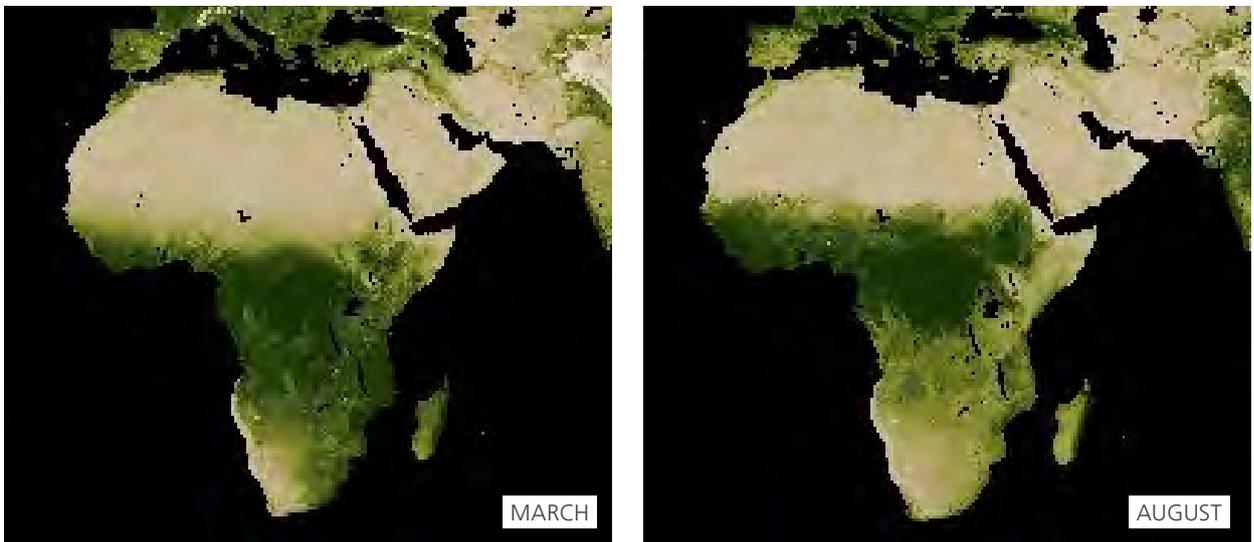


FIGURE 4: Timeline of seasonal movement in the Maradi region of Niger<sup>21</sup>



Although pastoralists are generally considered to have a nomadic lifestyle, it is usually only the young men who travel with the livestock. Other household members stay in their home area with a small part of the herd, mostly dairy cows to support the household's needs. In Dan Saga, we came across three women selling milk while their husbands and sons were away with the majority of the herd (see picture below).

The exodus of sedentary farmers and agropastoralists takes place between the harvest and the following rains. Any migration during the rainy season, by contrast, is a sure sign of crisis. "Either local rains have evidently failed, or they are in dire need of cash to cover acute gaps from the previous season."<sup>22</sup>

As a rule, one or more members of the household travel to urban centres to engage in daily labour, or to the south-west of Maradi where irrigated farms provide a source of employment for agricultural workers all year round.<sup>23</sup> Others leave the country, hoping to benefit from better economic opportunities abroad, and return to their village to plant with the onset of the rainy season.

The research for this study took place during the rainy season, so only a quarter of the survey respondents were

living outside their areas of origin – had the research taken place after the harvest, this percentage would likely have been higher. Over 40 per cent of those currently living in their area of origin said they had migrated in the past, the majority each year for between three and six months.

Showcasing the gendered dimension of migration in Niger, over 80 per cent of men but less than a fifth of women interviewed in their area of origin said they had migrated in the past. Many of the women who do migrate work as domestic workers in urban centres, returning to their village in time for the growing season. "I had a girl of about 14 who was working as a maid in my house. At the very first rains, she quit and returned to her village," one official in Dakoro said.

When conditions become extreme, whole families participate in the exodus. This was the case in Azagor commune in 2016-17, when harvests were poor and many were forced to move to urban areas in search of an income, returning with the onset of the rains. This unusual movement driven by food insecurity in their area of origin is a clear case of displacement.



*Wives of pastoralists sell dairy products while their husbands are away on transhumance*

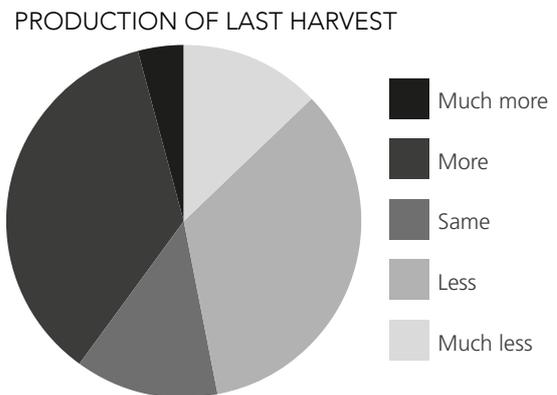
# STRESSORS

## FOOD INSECURITY

Nearly half of the survey respondents who grow crops said they had produced less or much less than usual at their last harvest (see figure 5). More than half of the Maradi region was experiencing stress-level food insecurity as of June 2019, pending the next harvest.<sup>24</sup> The region also fares badly in terms of nutrition. Around 18 per cent of the population is estimated to have poor food consumption, the highest figure in the country.<sup>25</sup>

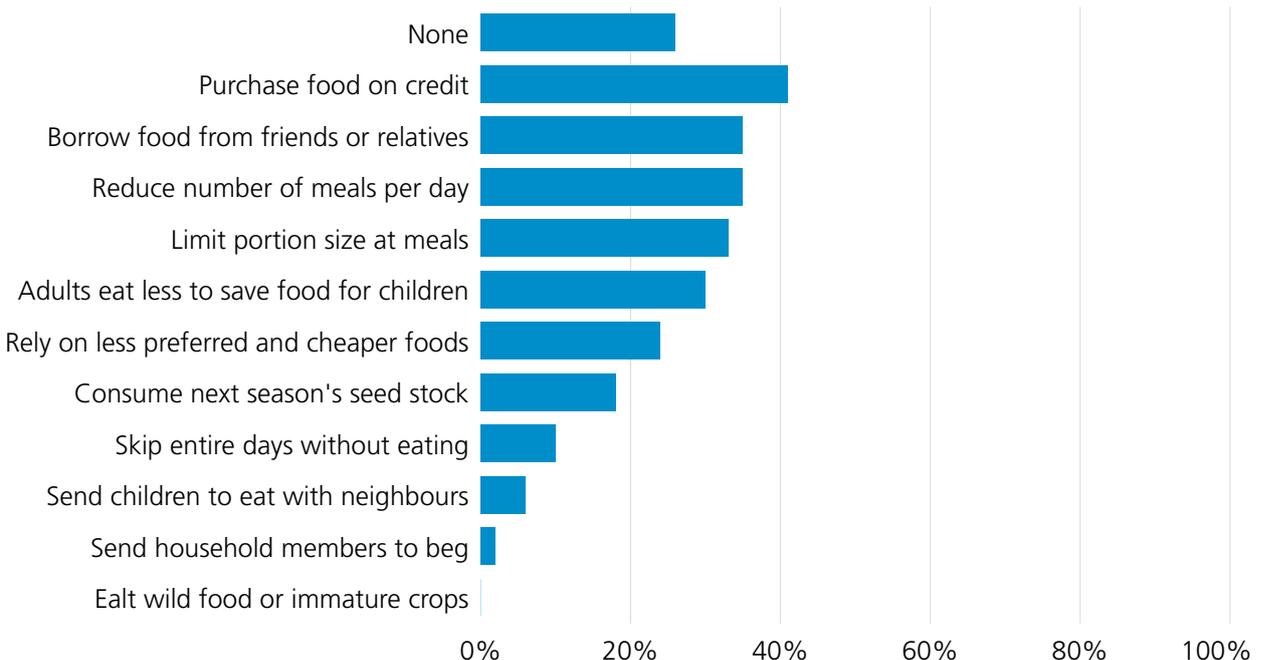
Faced with widespread food insecurity, three-quarters of respondents said they had resorted to coping strategies in the past month (see figure 6). Buying food on credit was the most common, but it was not always an option. Boubacar, for example, said traders in his village were no longer willing to extend his credit until they could be sure his land was going to be productive in the next agricultural cycle.

FIGURE 5: Food insecurity in Niger as of June 2019



Other strategies included borrowing food from a friend or relative and reducing the number of meals a day, but most concerning was that almost a fifth of respondents had resorted to eating some of next season's seed stock, despite its obvious repercussions for food security the following year. Fatouma said she had mixed some of her seed with gravel to avoid the temptation.

FIGURE 6: Coping strategies reported by participants



Food insecurity is also a barrier to education. “Children often refuse to go to school when they are hungry and there are no school meals”, said Samira, reflecting the view of many parents. This is also a key factor in school dropouts among pastoralist children, as discussed below. The provision of school meals could go a long way to resolving the issue. The dropout rate in schools where the World Food Programme (WFP) provided meals was 1.3 per cent in 2014, compared with 12.4 per cent in schools where it did not.<sup>26</sup>

## CLIMATE CHANGE

“This year we haven’t seen much rainfall ... One of 30mm, one of 15, one of 14 and one of 25 the day before yesterday,” said a local official in Isawane commune. “There have been changes in the climate. We used to plant early June, but people are only just planting now [mid-July] after the latest rains. In the past we had four months of rains, now we have barely two months.”

Just over three-quarters of respondents felt the climate and environment had changed compared with previous decades, and their perceptions - desertification, higher temperatures, less rainfall and less predictable patterns - reflect reality. Maradi received average annual rainfall around 600 millimetres between 1939 and 1954, but only 153 millimetres in 2018.<sup>27</sup> A similar pattern is borne out nationwide, along with a rise in average annual temperatures (see figures 7 and 8).

Two-thirds of respondents said that changes in the weather had affected their ability to make a living, and more than a third of those who had lower yields from the last harvest blamed lack of rain. “I personally expect to harvest about a third of what I harvested last year. There’s just no rain,” said the mayor of Isawane. “We’re already in mid-July, and a lot of people are only just planting. When the rains start, we breath a collective sigh of relief.”

FIGURE 7: Average annual rainfall in Niger (in mm)<sup>28</sup>

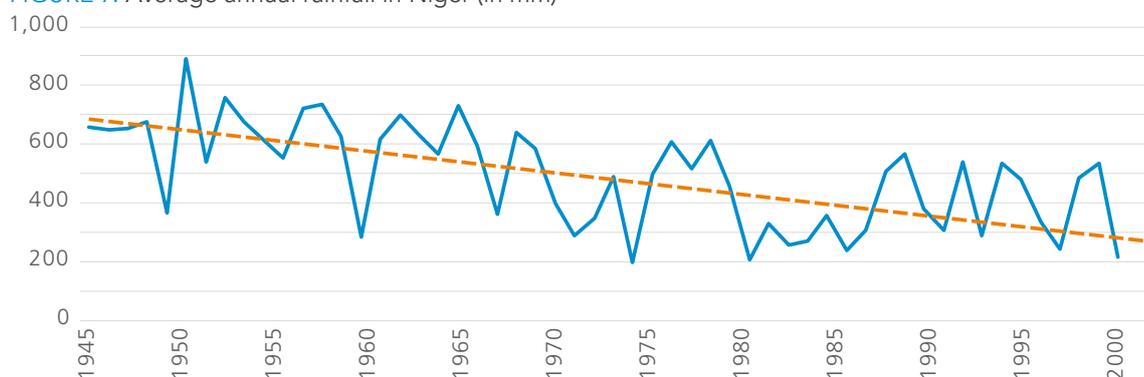
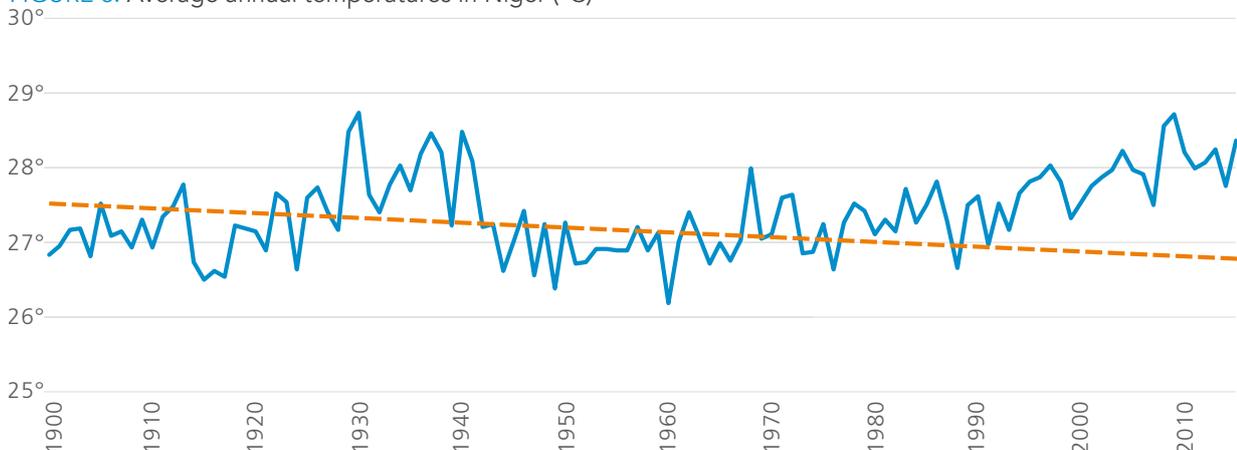


FIGURE 8: Average annual temperatures in Niger (°C)<sup>29</sup>





*Cost of water has increased in Dan Saga due to water scarcity.*

Almost 70 per cent of respondents who had left their areas of origin said their livelihoods had previously depended on the weather, but just over half said this was still the case in their current location. This appears to reflect a shift in livelihood strategy.

## POPULATION GROWTH

Population growth in Niger is among the highest in the world, at over three per cent a year, and more than half of the population is under 15.<sup>30 31</sup> The survey respondents had an average of 6.7 children, and 15 of them had 10 or more. Ibrahim has three wives and 25 children.

The “increasing fragmentation of smaller farm parcels” as a result of population growth has heightened food insecurity in southern Maradi.<sup>32</sup> As the head of the land and property commission in Isawane put it: “There are a lot of people and limited fields.” Djibson in Adarawa now finds it ever hard to produce enough to eat. “There used to be more fields, but they have become houses,” he said.

The lack of land in the south has pushed people to migrate north, where they have established farming villages in previously pastoral areas “drawn by vast and vacant land with good soil fertility”.<sup>33</sup> Hamza, who is originally from the south of Dakoro department, moved north to the village of Azagor for this reason. The phenomenon is not new, and was discussed in one study dating back to 1965.<sup>34</sup>

Population growth has also led to water shortages in some areas. The population of Dan Saga is thought to have doubled in the past 40 years, and scarcity has pushed up water prices significantly. A 25 litre jerrycan costs around 15 francs (\$0.03) in most villages, but in Dan Saga the price is 50 francs (\$0.09).

# VOLUNTARINESS OF ADAPTIVE MIGRATION

## EXODUS AS OBLIGATION

According to the deputy director for agriculture in Maradi: “The drought of 1984 pushed high numbers of people to migrate from north to south, even into Nigeria. It’s from then onwards that the town really experienced population growth. It also marked a shift in behaviours in the whole region. People who grow crops realise that their production is insufficient and migrate to urban centres during the dry season. There they engage in odd jobs, small seasonal businesses, until the return of the rains, and then they go back and survive on the income they were able to accumulate until the next harvest.”

Others trace the beginning of work migration back to the 1973 drought, during which the DesInventar database records 500 relocations in the Maradi region.<sup>35</sup> It also records 817 in 1984, but the true figures are likely to be much higher. “There’s migration all the time, but it increases during periods of drought”, said the mayor of Isawane. “When you see that what you have harvested isn’t enough to feed your family, those who are able to work are forced to leave. You can’t just cross your arms and wait to die.”

Among the research participants for this study, more than 80 per cent of those outside their area of origin said they had left because of poverty and lack of economic opportunities. Some said crop failures had forced them to join the exodus, and others mentioned food insecurity as a factor.

These findings reflect those of other studies, one of which found that 78 per cent of migrant households identified the search for employment as their main reason for moving. Sixteen per cent cited food insecurity.<sup>36</sup> Given the lack of alternatives in their areas of

origin, households whose crop yields are not enough to meet their needs and are unable to afford to buy food have little choice but to move to ensure their survival.<sup>37</sup>

Many Nigeriens believe opportunities to generate income to be better abroad, and so cross the border into Libya or Nigeria despite insecurity. “We warn people not to go to countries where there is a lot of insecurity, but they say ‘why would we stay, we would die of hunger’,” said the civil registrar in Isawane, to which hundreds of migrants who found the situation in Libya untenable have returned.



*Isawane's civil registrar with paperwork of a returnee from Libya*

Exodus serves as a core poverty reduction strategy, but it appears to have only short-term effects. It does not significantly reduce households' long-term vulnerability. Faced with recurrent challenges, some seasonal workers eventually settle permanently in urban centres. Farouk used to go back and forth between Mayahi town and his village, but he eventually got a job as a guard and stayed. Rachid has had a similar experience. Since moving to Mayahi, he has made enough money through trading to buy a plot of land.

## UNUSUAL MOVEMENTS OF PASTORALISTS

When the rains begin in the south before they do in the north, as is often the case, the start of the planting season means pastoralists have to leave even if there is still no water or pasture in the north. This effectively leaves them stuck in transit between the southern farmlands and the arid north, which if conditions persist may lead to unusual movements.<sup>38</sup>

Pastoralists are still able to move their livestock outside the usual transhumance periods, so long as they follow designated corridors that keep them away from farmland (see map below). In times of drought, however, they may be forced to seek out different routes and narrower corridors, and these unusual movements often bring them into conflict with farming communities.

Unusual movements caused by the 2017 drought led to children dropping out of school. "This was a direct impact of the drought. They followed their families ... the whole area was abandoned to go further south in search of pasture," said the permanent secretary of the National Food Crisis Prevention and Mitigation Mechanism. More than 10,500 children in the regions of Agadez, Maradi, Tahoua and Zinder are estimated to have dropped out of school as a result of the drought.<sup>39</sup>

Droughts can also push pastoralists to abandon their traditional lifestyle altogether, as happened as a result of livestock losses following the 1984 drought.<sup>40</sup> According to the head of Niger's early warning system, so many animals died that many pastoralists had to leave in

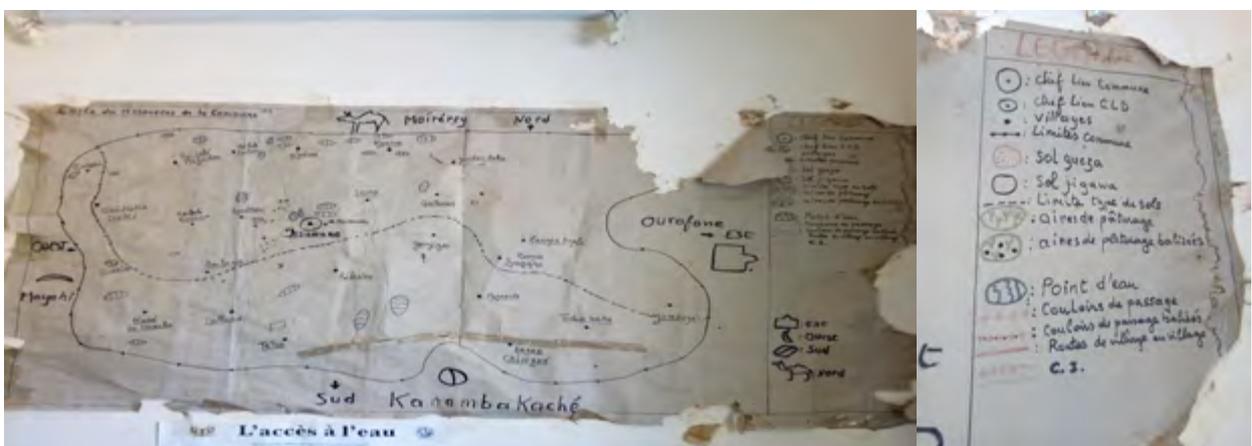
search of new livelihoods. Many Tuareg pastoralists are said to have become security guards in urban centres.

One local NGO has established a viability threshold expressed in tropical livestock units (TLUs). The threshold for purely pastoralist households is 3.5 units per member, which means a family of five would need at least 17.5 units to make ends meet. Based on the conversion table below, that might be made up of 25 goats, 15 cows, two donkeys and a camel. The threshold for agropastoralist households is 1.9 units per member.

FIGURE 9: Tropical livestock units<sup>41</sup>

Animal	TLU conversion rate
Cow	0.8
Sheep	0.15
Goat	0.15
Camel	1
Horse	1
Donkey	0.5

Below these thresholds, survival requires increasing access to land for farming or other alternative livelihoods.<sup>42</sup> Najaah and her formerly pastoralist family settled in Azagor two years ago. They used to own hundreds of animals, but the gradual depletion of their herd left them with little choice but to farm. Families without access to land often split up. Some move to urban areas, some become agricultural workers and some look after others' livestock.



A map of Issawane commune in the town hall showing designated transhumance corridors

# AVOIDING DISTRESS MIGRATION

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## HOUSEHOLD-LEVEL STRATEGIES

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### | Sale of livestock

Livestock is a vital source of resilience for both pastoralists and farmers, and in normal conditions husbandry provides a reliable means of accumulating wealth. When necessary, livestock can also be sold for cash.<sup>43</sup> At Aguié market, a bull cost an average of 282,000 francs (\$475) as of October 2018, representing a significant asset. A ram cost around 42,500 francs (\$70) and a goat about 14,500 francs (\$25).<sup>44</sup>

Lack of livestock contributes to the vulnerability of poor households, while wealthier households are made more resilient to drought and other shocks thanks to their livestock.<sup>45</sup> The ability to purchase grain, in particular, often depends on the sale of livestock.<sup>46</sup> Nearly half of the research participants who did not own livestock had been forced to eat fewer meals a day in the past month, compared with less than a third of those who owned animals.

Just under a fifth of all research participants said livestock sales were a source of income. Many respondents owned fewer animals than in previous years, having been forced to sell their animals to make ends meet. Among respondents who did not own any livestock but had done in the past, more than 90 per cent said they had been forced to sell their animals. Jihane used to have 10 goats, but she eventually sold them all to be able to buy enough to eat. Selling reproductive females is considered a coping strategy of last resort, and is tracked nationally as an indicator of vulnerability.<sup>47</sup>

According to local authorities, many farmers sell animals during the growing season to meet their needs until harvest, after which they buy new animals to breed and sell the following year.

For pastoralists, the sale of livestock ahead of a drought minimises losses. Selling before markets become saturated during a crisis also makes it more likely they will get a favourable price. According to Maradi's deputy director for agriculture, while the sale of livestock was previously frowned upon, pastoralists are becoming increasingly open to destocking. "As soon as they realise there is going to be a crisis, a lot of them start reducing the size of their herd to keep only a minimum that they can maintain until the end of the lean season. Those who don't do this lose a lot of animals".

Oxfam, the International Committee of the Red Cross and other organisations have already begun to incorporate destocking into their programming.<sup>48</sup> The secretary general of Azagor commune, however, feels that more could be done through sensitisation campaigns to further encourage pastoralists to decrease the size of their herds ahead of a crisis.

"Pastoralists are hostile to change. They want to keep their animals even if they are going to lose them," he said. "We would like to see pastoralists reduce their number of animals ahead of a drought, perhaps selling a third to buy food and another third to have cash in the bank. They could keep a third for breeding, and this way they wouldn't be hit so hard by the drought. They'd have money and stocks of grain to fall back on."



*Livestock market in Issawane*

## | New farming techniques

Some research participants said they had been able to increase their crop yields compared with previous years despite the trying conditions, mainly through the increased use of both natural and manufactured fertilisers. Previous studies in Niger show that the use of manure can increase millet yields by 50 per cent and inorganic fertilisers by 110 per cent.<sup>49</sup> But fertiliser use is still relatively rare among small-scale farmers.<sup>50</sup> The average for the country as a whole is estimated at 0.4 kilogrammes per hectare of arable land, compared with 5.5 in neighbouring Nigeria and a global average of 140.<sup>51</sup>

The mayor of Isawane, meanwhile, recently bought enhanced seeds in the hope of increasing his yields. “We have to find strategies to survive”, he said. A number of key informants also noted the potential of using enhanced seed as an effective response to climate change impacts. Irradiation has already been used to alter plants’ DNA and produce higher yields of sorghum and cowpea in Namibia, a seed-coating that holds water during germination has helped to grow grass in Saudi Arabia and seeds coated in bio-pesticides are showing promise in Kenya.<sup>52</sup>

The potential of enhanced seeds is, however, still poorly understood, and the fact that they have to be bought

for each growing season rather than using stock saved from previous harvests may also be a barrier. “Farmers need to understand the usefulness of enhanced seeds,” said the secretary general of Azagor commune. “They grow quicker, provide better value for money and enable you to use smaller areas.”

Irrigation also helps to improve yields. One village we visited on the outskirts of Maradi town had an irrigated perimeter, which enables three to four harvests a year. Louali said he was able to make a living all year round, and that he no longer needed to leave the village to feed his family. “Here we can’t really talk about drought because we have irrigation”, said Djibson. Irrigation is not uncommon in the south-western department of Madarounfa, but opportunities in the drier parts of Maradi are limited.<sup>53</sup>

Across sub-Saharan Africa as a whole only three per cent of cultivated areas are irrigated, and alternative water management systems are needed to mitigate scarcity.<sup>54</sup> Techniques such as micro-catchment harvesting, in which rainfall is captured for later use, and furrows to maximise rainwater infiltration around crop roots, could have a transformational effect.<sup>55</sup> More than a quarter of households affected by drought in Niger could be made more resilient through the adoption of improved cropping technologies.<sup>56</sup>

## NATIONAL MECHANISMS

Niger was the first country in Africa to domesticate the Kampala Convention by adopting a law on the protection and assistance of its internally displaced people (IDPs) in 2019. The law's definition of an IDP includes people displaced by natural hazards, and it states that such displacement should be prevented when possible and responded to when not.<sup>57</sup>

The extent to which the unusual movements of pastoralists and the seasonal exodus of sedentary farmers are covered by the law is unclear, even though these movements are no matter of choice. Niger does, however, have a strong system in place to predict, prevent and respond to food insecurity, which has the potential to reduce these involuntary movements.

The system involves community-level early warning systems which share information weekly with observatories that monitor vulnerability at the commune level. The information is then collated to monitor vulnerability at the departmental and regional levels, which in turn feeds biannually into national-level meetings to identify areas in need of support.

The most vulnerable households in those areas are targeted with free cereal distributions, particular during the lean season before harvest. A family of seven is entitled to a 100-kilogramme sack of millet. More than a third of the research participants said they had received free cereal distributions.

These interventions are not, however, without issues. A consultant involved in previous post-distribution monitoring revealed that some listed beneficiaries did not exist, or were not in real need of assistance. In other cases, households exaggerated their size to be able to claim more assistance. This is not unique to Niger. Providing "the right aid to the right people" without misappropriation is a challenge for food distributions worldwide.<sup>58</sup>



*Illustration of a free cereal distribution: 100 kgs per household of 7 people*

The subsidised sale of cereals provides a second means of support, enabling people in affected areas to buy grain below market price. The average market price for 100 kilogrammes of millet is between 25,000 and 30,000 francs (\$45 and \$50), but those eligible for the subsidy pay only 13,000 francs (\$22).<sup>59</sup> Around a quarter the of research participants said they had benefitted from the subsidy.

Other measures include cash-for-work programmes and cash transfers. In Azagor, for example, a cash-for-work programme was set up in 2018 to build three classrooms. This enabled young people who would otherwise have participated in the exodus to remain in their village while improving its education infrastructure. Oxfam has similar programmes to regenerate vegetation and agricultural land, which helps to reduce the impact of future droughts.<sup>60</sup>

Cash transfers are considered by many to be "a weapon against migration", but they may also provide the means for migration.<sup>61</sup> Government cash transfers provide beneficiary households with 10,000 francs (\$17) a month for two years.<sup>62</sup> Capacity building initiatives also take place in parallel, after which recipients are expected to become self-sufficient. International agencies also provide cash transfers in Niger. WFP disbursed more than \$12 million in 2018.<sup>63</sup>

Most of the above interventions appear to be predominantly humanitarian and short-term in nature, responding to food insecurity rather than supporting longer-term development.

# CONCLUSION: BREAKING THE CYCLE

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Given high vulnerability and limited capacity in rural areas of Niger, annual exodus has emerged as a means of adapting to increasing exposure to drought and associated food insecurity. It is a coping strategy, but it is not a choice.<sup>64</sup> Neither does it appear to have positive long-term impacts. Rather, households remain trapped in poverty.<sup>65</sup> The same is true of unusual movements of pastoralists.

Without measures to reduce vulnerability and increase communities' capacity to cope in a changing climate, displacement will continue. In the absence of effective investments, this is likely to lead to permanent change as people abandon their traditional way of life altogether.<sup>66</sup>

National efforts are made to support vulnerable households and provide alternatives to poverty-driven migration, but the measures lack a long-term perspective. Rather than responding each year to recurrent food crises, opportunities exist to break the cycle, whether through new farming techniques or the diversification of livelihoods.<sup>67</sup>

Even in the absence of irrigation, enhanced seed provides farmers with more reliable yields, and destocking ahead of drought minimises livestock breeders' losses. Increased awareness of alternative and sustainable livelihood practices, combined with effective investment in rural development, has the potential to maximise people's resilience to the effects of a changing climate, and so to minimise displacement.<sup>68</sup>



*Irrigation in Adarawa increases farmers' resilience to drought.*

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