



METHODOLOGICAL PAPER

MONITORING METHODOLOGY

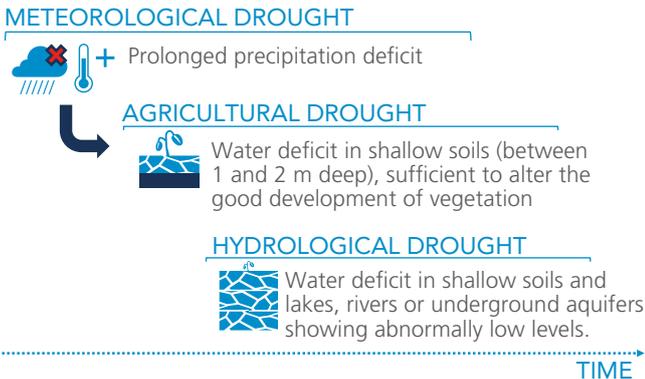
For displacement associated with drought

JANUARY 2020

This paper describes the methodology IDMC is developing in collaboration with its partners to monitor displacement associated with drought and addresses some of the main challenges inherent in the exercise. It is based on the collection of qualitative and quantitative data and three levels of analysis and builds upon existing good data-gathering practices.

The aim is to increase confidence in displacement estimates by way of a more robust, coordinated and data-driven process of verification. The approach also identifies areas in which the monitoring of displacement can help to improve the analysis and forecasting of other related phenomena such as food production and food insecurity.

FIGURE 1: Different types of drought



WHY DO SLOW AND SUDDEN-ONSET HAZARDS REQUIRE DIFFERENT MONITORING APPROACHES?

I DROUGHT: THE CHALLENGE OF CAPTURING THE FULL PICTURE OF THE HAZARD (TIME AND SPACE)

Displacement associated with drought is much more complicated to monitor than that triggered by sudden-onset hazards such as storms, floods and earthquakes. The latter occur over short timeframes and their impacts can be measured more immediately and directly. The downstream impacts of meteorological drought are captured using three or six-month standard precipitation indices (SPIs). Those of agricultural and hydrological drought can take even longer to gauge (see figure 1).

Drought may also occur far from where its impacts are felt. This occurs when a mountainous area receives less snowfall or less rainfall in the source of a river, resulting in a decreased streamflow and/or groundwater supply located as far as hundreds of kilometres away.

MONITORING AND ANALYSIS OF DROUGHT INDUCED DISPLACEMENT

WHEN DOES POPULATION DISPLACEMENT BECOME FORCED AND UNUSUAL?

The distinction between voluntary and forced displacement is often difficult to discern. In India, for example, about 330 million people in India were affected by drought in 2016. Nearly 1.4 million migrated from the districts of Mahabubnagar, Ranga Reddy, Medak, Nizamabad and Adilabad in Telangana state, according to government statistics, the media and farmers' organisations.

We could not account for these movements as displacements though, because seasonal migration is also common in the area and the reports did not distinguish between the two. They simply aggregated all labour migrants from the drought-affected districts.

We and the UN special rapporteur on the human rights of internally displaced people did, however, establish a typology in 2014 which distinguishes between voluntary nomadic pastoralism, adaptive migration and forced displacement in times of drought (see figure 2).¹

The exercise also revealed that the forced displacement of pastoralists may involve more than simple geographic flight. It may also result from the obligatory interruption or termination of the mobility that defines their lifestyle. As they lose access to their natural living space, they may ultimately become excluded from their community and consigned to poverty.

Pastoralists' displacement is intrinsically linked to the loss of livestock as their primary basis of subsistence. Lack of access to land, resources and markets also contribute to making their natural living space less accessible and ultimately displacement.²

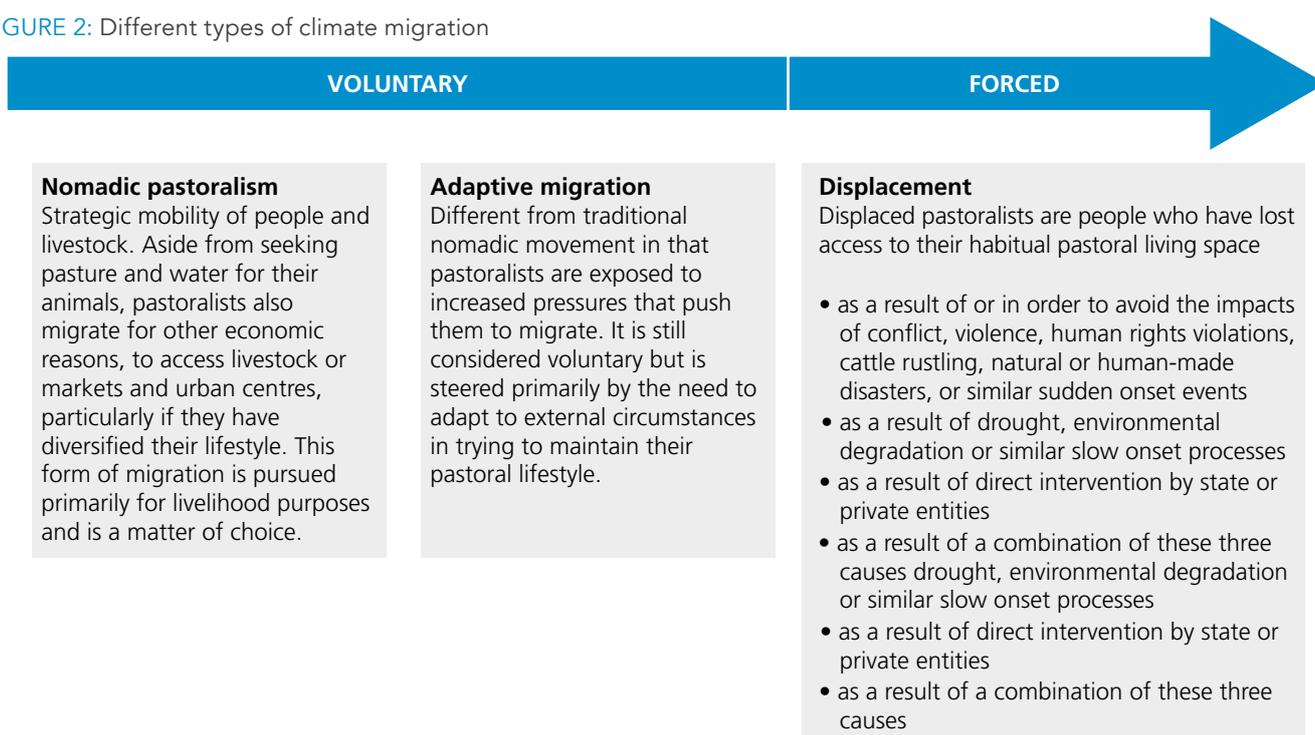
DROUGHT AND DISPLACEMENT: COMPLEXITY OF CAUSE AND DIFFICULTY OF ATTRIBUTION

Human factors often determine whether a precipitation deficit becomes an agricultural or hydrological drought. Farmers with adequate access to irrigation or drought-tolerant seeds will fare better, for example, than those without.

As a downstream impact of drought, displacement is even more influenced by human factors and choices. Farmers whose crops fail or whose livestock die may get through a drought without significant consequences if they are insured or have access to other risk transfer mechanisms. Those who do not may be forced to spend their savings or sell off productive assets and may eventually become displaced.

When drought and conflict are interlinked, it becomes difficult to determine the trigger of displacement. In South Sudan, for example, drought affected 3.6 million people in 2016, and at the same time the country's civil war reduced agricultural production. Insecurity was such that farmers were unable to tend their fields.

FIGURE 2: Different types of climate migration



The UN Refugee Agency (UNHCR) reported that 27,000 people had been displaced as a result of food insecurity, but in many cases attributing their plight to the drought may well have been inaccurate.

Their displacement may have been triggered by drought, conflict or a combination of the two. The same can be said of displaced pastoralists in Ethiopia, Kenya, Niger and Somalia.

When data collection methods only capture one cause or trigger of displacement it often masks a complex set of interacting phenomena, and this is particularly true in the case of drought.

A NEW METHODOLOGY FOR MONITORING DROUGHT DISPLACEMENT

IDMC proposes a three-tiered methodology for monitoring displacement associated with drought. It includes more advanced analyses and products that incorporate more data, with the aim of collecting information more effectively and including empirical analysis. This approach aims at increasing understanding of the phenomenon (see figure 3).

Level 1

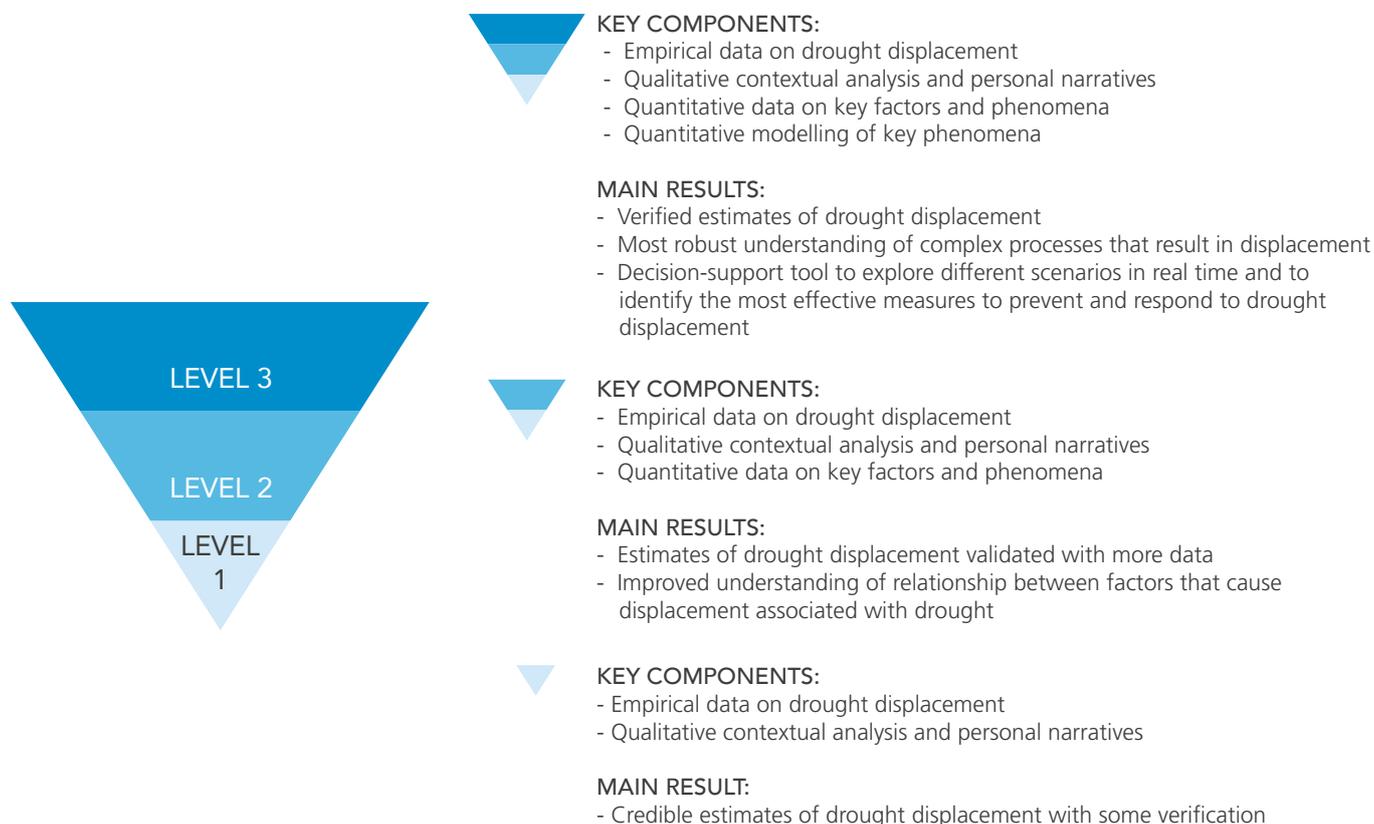
Collection of observational data on reported number of people displaced by drought combined with qualitative contextual analysis and personal narratives. Qualitative contextual analysis and displaced people’s personal narratives help to determine whether the empirical data collected aligns with our conceptual definition of drought displacement. In other words, they help to understand whether displacements are the result of inter-related factors and phenomena that can be traced back to drought rather than other triggers.

The first level of monitoring produces quantitative displacement estimates supported by minimal verification.

Level 2

Collection and analysis of observational data on reported number of people displaced by drought combined with qualitative contextual analysis, personal narratives. This is complemented with data on indicators for the main factors and phenomena that contribute to triggering drought displacement as set out in our definition.

FIGURE 3: IDMC’s approach to monitoring displacement associated with drought



These include:

- groundwater and access to it
- pasture and crop productivity
- crop yields
- livestock birth and mortality rates
- revenue from the sale of crops, livestock or livestock products
- food availability, food access and food security
- livelihoods, household consumption and wellbeing
- The second level of monitoring produces:
 - displacement estimates backed up by more data

an improved understanding of how factors combine to cause drought displacement based on more quantitative and qualitative empirical data analysis

Level 3

Forecasting based on empirical data from levels 1 and 2.

When data and resources permit, the first two levels of monitoring are combined with quantitative modelling of the behaviour of key phenomena verified with empirical data for the main factors mentioned above.

The third level of monitoring produces:

- verified displacement estimates
- an optimised and robust understanding of the complex and inter-related processes that lead to displacement
- the ability to forecast future drought displacement
- a real-time simulation and support tool for decision making able to identify the most effective measures to prevent and respond to drought displacement

Figure 4 below illustrates the three-level approach to monitoring the drought displacement of pastoralists. The column on the left combines observational empirical data on the number of displaced people over time with their narratives and contextual analysis. The middle column integrates additional empirical data into the monitoring framework to improve validation, and the column on the right illustrates how a quantitative model based on seasonal outlooks could be used to verify the figures and explore future scenarios. The model would generate displacement forecasts by simulating the behaviour of all the key phenomena that precede displacement.

In collaboration with the International Organization for Migration (IOM) and other partners, IDMC used this methodology for the first time to account for drought displacement in Ethiopia. IOM's displacement tracking matrix (DTM) team gathers data on displacement and its primary triggers, and at the same time it and other partners collect narratives from displaced pastoralists about how they became displaced. When these descriptions align with our definition, we would be able to account for the movements as displacements associated with drought.

Given the many interlinked triggers and drivers of pastoralists' displacement, a combination of contextual analysis and empirical data is important in characterising and accounting for the phenomenon accurately. As nomadic populations, pastoralists migrate whether there is drought or not, and in Ethiopia and Somalia their movement may also be directly or indirectly affected by conflict.

FIGURE 4: The three levels of monitoring drought displacement of pastoralists

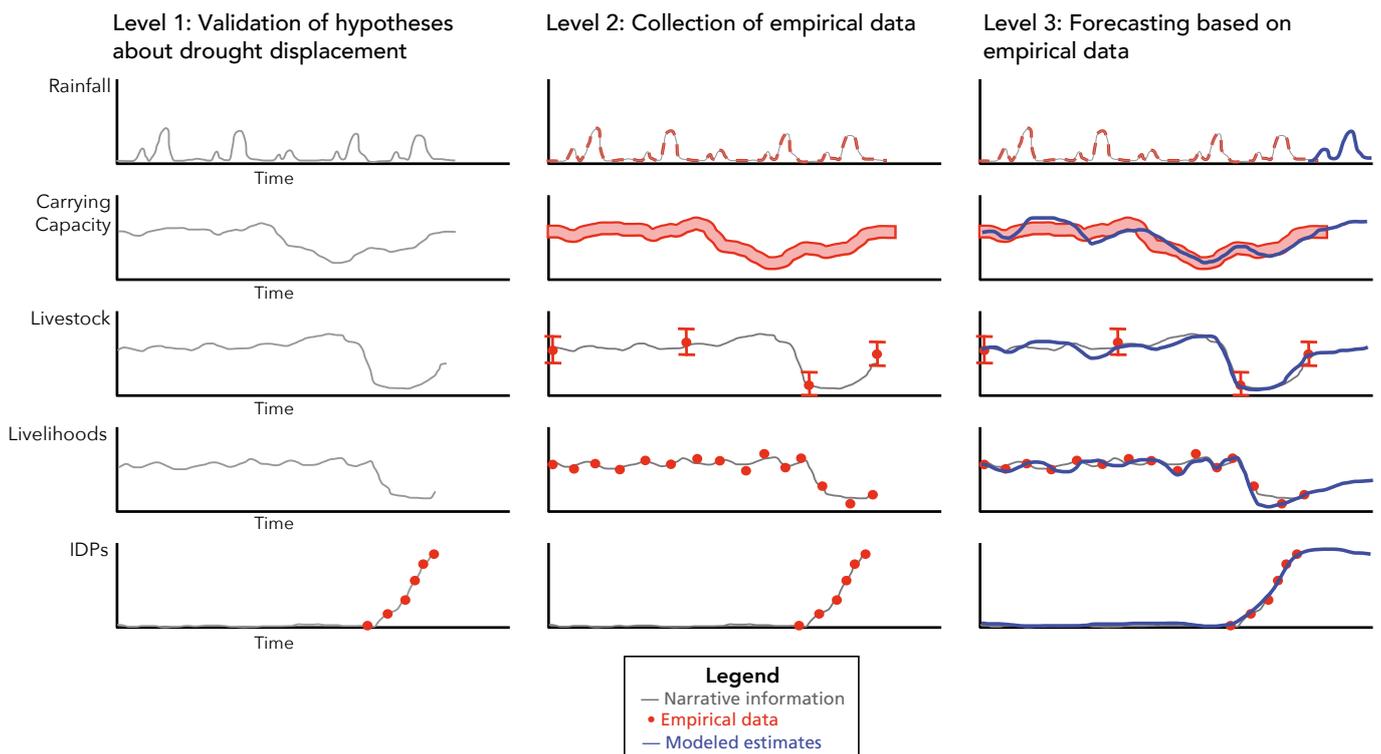


FIGURE 5: An illustration of the multicausal nature of pastoralists' displacement

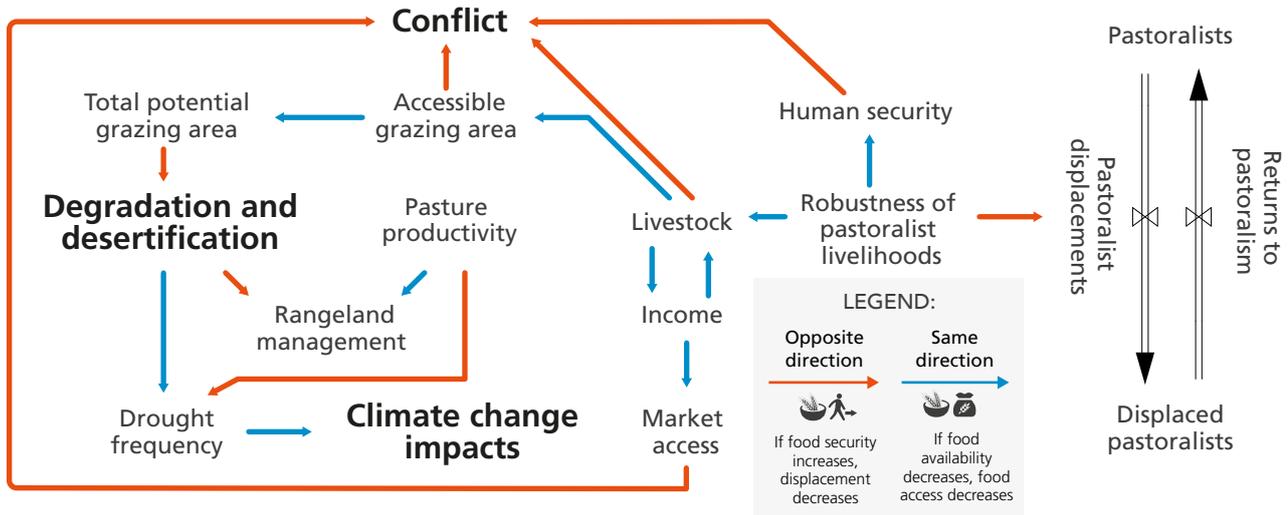
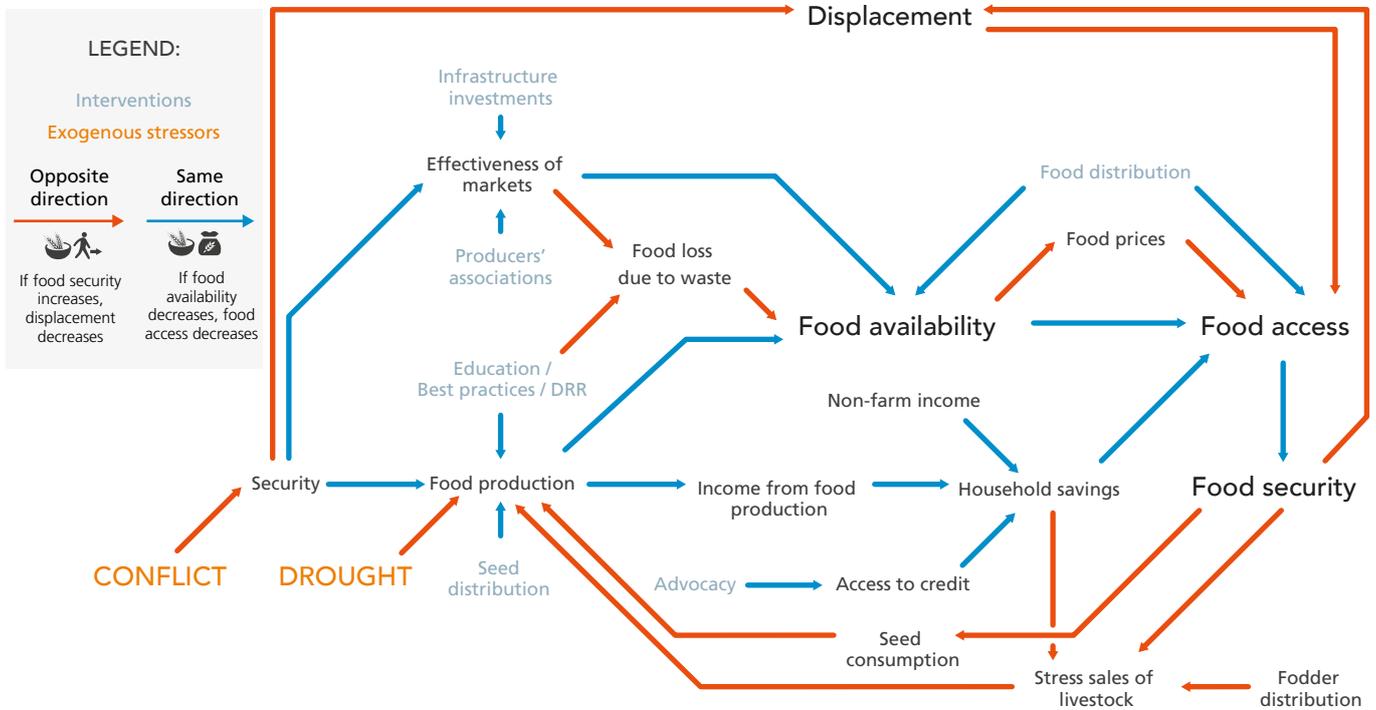


FIGURE 6: Drought and conflict displacement dynamics for sedentary farmers and agro-pastoralists



The empirical data helps to indicate whether their displacement is predominantly triggered by drought or other factors (see figure 5). In the latter case, the data might reveal normal or near normal rainfall and pasture conditions, but increased livestock mortality or lower income because of their inability to access rangeland or markets.

MONITORING AND ANALYSING DROUGHT DISPLACEMENT OF SEDENTARY FARMERS

The same methodology could be applied to the drought displacement of sedentary farmers. As with pastoralists, their displacement is a complex phenomenon with interlinked trig-

gers and drivers. These may include reduced crop yields, the resulting loss of income, decreased food availability and its access. As their livelihoods are eroded, they may sell productive assets and food insecurity may increase, ultimately leading to displacement.

As with pastoralists, we used contextual analyses to validate reported displacement figures for sedentary farmers. Food insecurity, which many reported as having triggered their displacement, is the final step in a sequence of related processes and events that human interventions can either aggravate or mitigate (see figure 6).



Hodan (32 years old) has seven children. She walked for 8 hours from Lahelow to the Koracle IDP site (Ethiopia) because of the drought. She lost 100 camels, 20 cows and around 200 sheep and goats. She only has eight goats and two female camels left. Photo: IDMC/Pablo Ferrández, July 2019

NEXT STEPS

The next steps in applying this methodology involve incorporating more observational data on the phenomena that precede the moment when people are forced to leave their land in search of food and/or livelihoods. Once validated, the data will inform the development of a quantitative model of the dynamics which will be able to enable the exploration of future scenarios based on climate outlooks and macroeconomic indicators such as commodity prices and wages. When drought and conflict occur simultaneously, the approach will also help to explain how much displacement each one triggers.

We have obtained considerable data on displacement for several countries, nevertheless the geographical coverage remains limited. It has been difficult to obtain information and data on the other factors associated with displacement. The next steps will also include engaging with more partners, both those that collect data on the key phenomena and those able to support the contextual analysis.

The aim of this ongoing collaboration is to refine the analytical framework, agree on the key questions to answer and then expand and refine the analysis in a sustainable way to inform not only food security outlooks, humanitarian needs assessments and response plans, but also national development, disaster and drought risk reduction plans and climate change adaptation strategies.

NOTES

- 1 IDMC, 2014. [On the margin: Kenya's pastoralists. From displacement to solutions, a conceptual study on the internal displacement of pastoralists.](#)
- 2 *Ibid.*, pp.20-21.

Cover photo: An internally displaced woman and her son walk towards Gembi's IDP camp, Somalia. They have been eating water with sugar for the last 4 days. They only have left a small bag of sugar, donated by neighbours. "My child is feeling hungry, something he never experienced before. I did not think it was possible that such a thing happens to us," she says. Credit: NRC, April 2017

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