FORECASTS TO LOCAL ACTIONS (FOLA)

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GRANT / SUBVENTION: - STRENGTHENING PASTORALIST LIVELIHOODS IN THE GREATER HORN OF AFRICA THROUGH EFFECTIVE ANTICIPATORY ACTION (PASSAGE)

INFO BRIEF

APRIL 2026

CLARE R41 Forecasts to Local Actions

SUMMARY

- The implementation of anticipatory action systems is growing worldwide.
- Such systems should be 'as local as possible and as international as necessary'[1] with the benefits of locally led AA systems, designed and implemented involving local people and communities widely recognised.[2.]
- We present FOLA: a systematic and replicable framework for co-producing forecast information and anticipatory actions with communities that can be used by humanitarian agencies to take locally led AA to scale, whilst ensuring the necessary context specificity.

FORECASTS TO LOCAL ACTIONS (FOLA)

- Facilitates the integration of local knowledge and experience of hazards and their impacts, local indigenous forecasting traditions, together with scientific forecasts and approaches.
- Provides a systematic framework for co-producing simple and accessible risk and forecast matrices as the basis for triggering anticipatory actions which are aligned with local experience and capacities.
- The approach is replicable in any context but ensures forecasts and actions with greater local legitimacy, relevance and applicability.

FORECASTS TO LOCAL ACTIONS (FOLA)

A locally-led anticipatory action approach to strengthen the resilience of local communities

ANTICIPATORY ACTION: ACTING AHEAD OF A FORECASTED HAZARD

Anticipatory action (AA) systems use forecasts to enable timely, pre-emptive interventions that reduce the humanitarian impacts of predictable shocks. Such systems should be 'as local as possible and as international as necessary'[3].

However, current anticipatory frameworks that are externally designed typically overlook local risk knowledge, capacities, and priorities, limiting their effectiveness. The benefits of locally-led AA systems, designed and implemented involving local people and communities, are widely recognised.

Local actors and communities are best placed to interpret risk information, identify appropriate early actions, and reach the most vulnerable communities quickly and effectively. Locally-led AA is therefore essential to ensure that early actions are more context-appropriate, legitimate, timely, practicable and equitable.

CLARE CLIMATE ADAPTATION &RESILIENCE

UK International Development Partnership | Progress | Prosperity

IDRC · CRDI Canada

PASSAGE Strengthening Pastoralist Livelihoods

UKRI Natural Environment Research Council

FOLA: A LOCALLY-LED ANTICIPATORY ACTION FRAMEWORK

The **FOrecasts to Local Action (FOLA)** approach is a systematic and replicable step-by-step framework to facilitate local community involvement in AA system design and to co-produce forecasts, triggers and actions. The process involves the communities to:

- Document their experiences of past hazard shocks into a community risk assessment;
- integrate local, indigenous forecasts with scientific forecasts;
- merge this information to co-produce impact-based forecasts;
- and produce risk assessments with appropriate triggers and actions.

For a given hazard type the following steps are undertaken to co-produce a community AA plan:

STEP 1 Document local experience of historical hazards: Vulnerability, impacts and responses

Using past event timelines:

- Define the differential vulnerabilities and underlying causes of vulnerability in communities facing the hazard. Causes may range from price rises, diseases, conflict and previous hazardous events.
- Identify relevant and practicable anticipatory actions: Describe the typical responses to hazard and identify those with potential to be undertaken before a hazard strikes.

Ideally this step will be done only occasionally per community as the information developed should hold true for the foreseeable future.

STEP 2 Combine indigenous and scientific forecasts

Generate a community consensus forecast **(Figure 1)**: This step combines the local, indigenous and traditional (LIT) forecast with the scientific one using a simple matrix. The consensus forecast arises from a community discussion of the two forecasts. For example, LIT forecasts of an extreme heat event and a scientific forecast of a medium heat event might be decided by the community to be an extreme heat event if they prefer LIT knowledge. It should be noted that where there is no LIT the consensus can be assumed to be the scientific forecast. In reality, the elders of the community have likely already built a consensus forecast amongst themselves using a number of LIT techniques. This step can therefore also be seen as a merging framework.

STEP 3 Combine hazard and vulnerability to derive impact

The *second matrix* utilises local knowledge of different groups within the community who have different vulnerabilities to hazards (as developed in step 1) together with the consensus forecast to make impact-based forecasts. For example, different impacts might arise from heatwaves for newly born children compared to adults **(Figure 2)**. Note that the number of rows in the matrix will correspond to the different groups identified by the community.

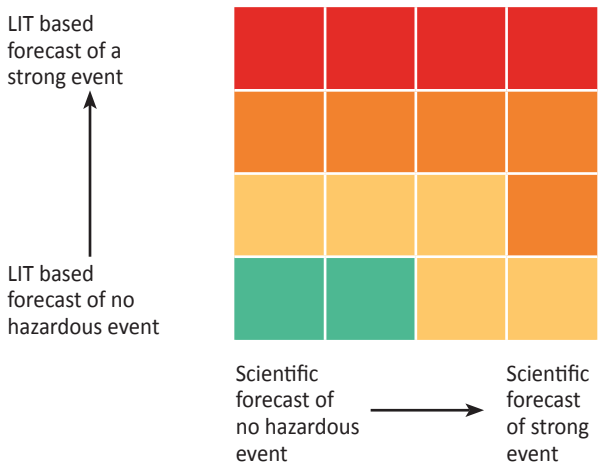

FIGURE 1. Showing an example consensus forecast from a community preferencing local, indigenous, and traditional (LIT) forecast over scientific knowledge. In this figure, red indicates a consensus of a strong event going to green, a consensus forecast of a no-event. On the horizontal axis the scientific forecast ranges from a forecast of no hazard to a strong one. While on the vertical axis the LIT forecast ranges from a forecast of no hazard to a strong event.

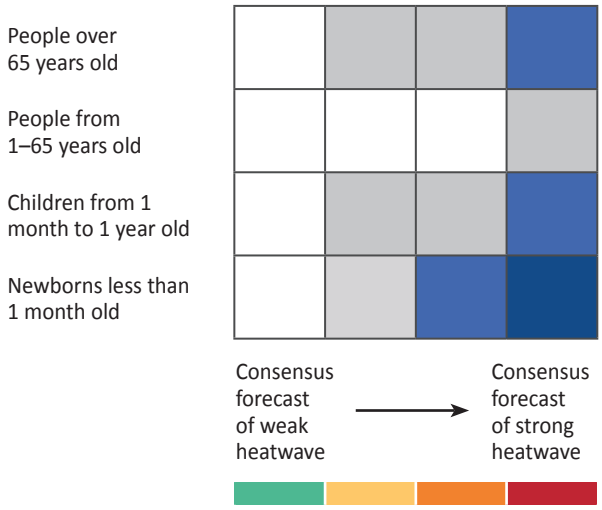

FIGURE 2. Showing an example of an impact-based forecast as a function of vulnerability (in terms of age, in this example) to a heatwave (as predicted by a consensus forecast – step 2).

The different colours in the matrix represent different levels of impact, from white indicating little/no impact to dark blue indicating the largest impact. Note that the colours on the horizontal axis (green to red) correspond to the consensus forecast from Figure 1.

STEP 4 Future Planning: Anticipatory Action

A third matrix combines the magnitude of the impact (the output from the previous step) with the likelihood of the hazard occurring to indicate the risk the community faces **(Figure 3)**.

The result is a number of future scenarios (e.g., each cell within this matrix) where anticipatory actions can be planned depending on the risk the community faces. For each scenario, the menu of anticipatory actions (taken from the action menu created in step 2) are discussed, triggers agreed and consolidated into a plan for the community keeping other stakeholders informed (as seen in the example shown in the Moyale case study below).

New actions may also be suggested for the future. How the risks are communicated, whose responsibility it is to combine forecasts, the impact forecast and risk assessment as well as how the anticipatory actions can be carried out are also discussed.

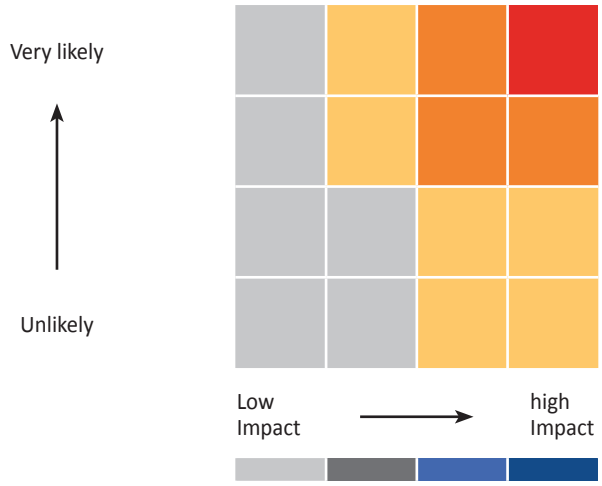

FIGURE 3. Showing an example risk assessment comprising the Impact based forecast on the horizontal axis and the likelihood of the event on the vertical axis. The risk in this example runs from red indicating a high risk to grey indicating low or zero risk.

CASE STUDY

MOYALE

The Moyale cross-border region spans northern Kenya and southern Ethiopia, where pastoralism is the backbone of local livelihoods. Beyond the border town of Moyale, the region extends into a wide belt of arid and semi-arid rangelands that link settlements such as *Anona-Dukale, Golole – Golole* and *Somare – Arballe* on both sides of the frontier. These landscapes are ecologically harsh (hot), dry and marked by erratic rainfall but its people are socially interconnected through long-standing kinship, trade and mobility.

The March–May seasonal rainfall forecast issued during 2025 Greater Horn of Africa Climate Outlook Forum (GHACOF 69) highlighted a higher likelihood of below-normal rainfall over eastern and northern Kenya and southern to north-eastern Ethiopia, including Moyale. Traditionally, pastoralists draw on a range of LITs or observations (e.g., astronomical cues, intestine readings, animal behaviour). Using the FOLA matrices, these LITs were combined with scientific forecasts provided by the regional IGAD climate centre, ICPAC. The result was a combined forecast matrix, where communities in Moyale translated forecasts into credible, community-owned triggers and anticipatory actions in a cross-border pastoral setting **(Figure 4)**. For example, the deployment of mobile nutrition teams and unconditional cash transfers for milk-fortified products were identified as actions for lactating mothers under 'Very Likely' and 'Strong' drought conditions. While activating NDMA market price alerts and prioritising borehole repairs including water trucking to villages were identified actions for low-income households under 'Likely' and 'Strong' drought conditions. These are both examples of actions the community identified for high-risk groups.

This was collaboratively carried out with the support of Strategies for Northern Development (SND), a local non-governmental organization working with nomadic pastoralist communities in Northern Kenya and Southern Ethiopia for the Moyale Cluster.

By combining local indicators with scientific outlooks, and by centering vulnerability analysis on groups most at risk, stakeholders can act earlier to reduce losses, protect nutrition, and maintain mobility. As the FOLA approach works bottom-up, it is therefore replicable to other communities beyond the Moyale region. The University of Sussex, with local partners in the Horn of Africa, is in the process of scaling up this novel approach to anticipatory action.

Risk Levels	Trigger	Key Action	Partners
High Risk	Lactating mothers 0 to 6 months under very likely strong drought	1) Emergency nutrition and cash plus: mobile teams with ready to use foods; unconditional cash for milk fortified staples. 2) Livestock de-stocking: NDMA price alerts; organised sales at guaranteed prices; transport vouchers. 3) Water and health access: priority borehole repairs; water trucking to named villages; outreach clinics and urgent referrals. 4) Inclusive communication through elders, women leaders, PWD reps, radio, SMS	NDMA, Health, Water, Livestock dept, NGOs, CBOs
	Low-income households under likely strong drought	Cash top-ups; release grain from community stores with replenishment plan; kitchen garden kits and water-saving guidance	Agriculture, VSLA leaders, Chiefs
Medium Risk	Expectant women under likely medium drought	Preventive health and feeding: iron folate and micronutrient powders; ANC outreach. Scale school feeding; distribute kitchen garden seed	Education, NGOs
	Children under 5 under possible strong drought	Pre-position nutrition supplies; CHV household visits; hygiene kits	CHVs, CBOs
	Persons with disabilities under Very likely moderate impact	Inclusive support: care rosters for food and water; transport waivers to clinics; accessible alerts with pictograms and audio	PWD reps, Chiefs
Low	Persons with disabilities under possible mild impact	Watch and warn: radio and SMS bulletins; assign inclusion focal points; map access barriers	PWD reps
	Elderly under unlikely medium impact	Social mobilisation: barazas to refresh household plans and light de-stocking; routine health check-ins through CHVs	CHVs, Health

FIGURE 4. Anticipatory Action Plan developed by the local communities in the cross-border region in Moyale.

References:

1. *https://press.un.org/en/2016/sgsm17778.doc.htm*
2. Farr, Emily, et al. "Dangerous Delay 2: The cost of inaction." (2022)
3. Locally Led Anticipatory Action Working Group. The Benefits and Importance of Locally Led Anticipatory Action. Berlin: Anticipation Hub, 2024

Acknowledgements

This brief was produced by PASSAGE (110004-002) and PROCHAIN (NE/Y005112/1). For further information, please contact Prof Dominic Kniveton (*D.R.Kniveton@sussex.ac.uk*) and Dr Pedram Rowhani (*P.Rowhani@sussex.ac.uk*).

For a more detailed description of the step-by-step process, please see the FOLA handbook: *https://clareprogramme.org/update/forecast-to-local-action-fola-where-local-knowledge-and-ai-help-communities-adapt-to-drought-using-locally-led-anticipatory-action/*.

CLARE is a flagship research programme on climate adaptation and resilience, funded mostly (about 90%) by UK Aid through the Foreign Commonwealth and Development Office (FCDO), and co-funded by the International Development Research Centre (IDRC), Canada. CLARE is bridging critical gaps between science and action by championing Southern leadership to enable socially inclusive and sustainable action to build resilience to climate change and natural hazards. The views expressed herein do not necessarily represent those of the UK government, IDRC or its Board of Governors.

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Photos:

Front: Women in Moyale engaging in an interactive activity as part of the PASSAGE project. *Credit: PASSAGE*

Back: Delegates participating in PASSAGE activities analysing group work results in Moyale. *Credit: PASSAGE*

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