

Bridging public health and food systems: a strategic approach to reexamine food crises

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This article highlights the escalating global food crisis and explores the challenges in humanitarian prioritisation in light of shrinking resources. The author advocates for integrated analytical approaches to public health and food systems. Using the Central African Republic as a case study, Olivia Falkowitz emphasises the interconnected nature of food and health crises, urging a holistic understanding.

Food (in)security and famine are increasingly at the heart of humanitarian response and challenges. The global food crisis was reported in at least fifty-eight countries in 2022¹ with an estimated 258 million people in a situation of acute food insecurity and in urgent need of assistance.

Among the population analysed, 376,000 people were in catastrophic conditions and at risk of famine. In parallel, the number of people who have minimally adequate diets and resort to negative coping strategies to afford non-food needs (IPC Phase 2) has steadily risen since 2016.² While humanitarian aid funding has long supported food security assistance, prioritisation becomes increasingly challenging with shrinking financial resources. Most food crises currently occur in protracted contexts where the relations between compounded shocks and underlying vulnerabilities (or eroding resilience) due to systemic fragilities and failures become difficult to distinguish. Moreover, synergies between a food crisis and public health domains aren't systemically analysed jointly, preventing the design of more effective solutions and deterioration in severity over time. In what ways can alternative perspectives on prioritisation better inform effective humanitarian interventions? Integrated public health and food systems analytical approaches are two directions that could complement existing methods of humanitarian prioritisation. This article will explore the added value of both approaches to better inform humanitarian response through a review of existing concepts and a case study discussing the current situation in the Central African Republic (CAR). The case study will be based primarily on primary data collected by the REACH initiative through a yearly multi-sectoral needs assessment.³

¹ FSIN and Global Network Against Food Crises, *Global Report on Food Crises 2023 Mid-Year Update*, 2023, https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2023_MYU_September2023.pdf

² FSIN and Global Network Against Food Crises, *GRFC 2023 Mid-Year Update, Global Report...*, *op. cit.*

³ This large household survey was collected between June and September 2023 in all 16 prefectures of the country reaching 12,298 households through a 2-stage cluster sampling. Findings are representative at the sub-prefecture level with a confidence level of 92% and a margin of error of +/- 10%.

Leveraging existing frameworks and tools

Current analytical frameworks used by the humanitarian sector to conceptualise acute food insecurity and famine are underpinned by food consumption, livelihoods, nutrition and mortality indicators. According to the Food Security Information Network (FSIN), a food crisis “occurs when rates of acute food insecurity and malnutrition rise sharply at local or national levels, raising the need for emergency food assistance”.⁴ Understanding the severity, magnitude and scale of food crises is crucial for effective humanitarian response. Since 2004, the Integrated Food Insecurity Phase Classification (IPC) provides an essential standardised framework for analysing the severity of acute and chronic food insecurity and acute malnutrition.⁵ This framework categorises acute food insecurity levels into five phases, with the most acute Phase 5 indicating catastrophic conditions. A famine classification at the area level (at least 20% of the population within the unit of analysis) should be supported by evidence of extreme food insecurity, collapsed livelihood systems and breached emergency anthropometric and mortality thresholds. According to the IPC definition, a famine is “an extreme deprivation of food. Starvation, death, destitution, and extremely critical levels of acute malnutrition are or will likely be evident”.⁶ It rightfully provides a high enough threshold, which might however more often than not lead to late detection of a famine occurring.

An integrated public health approach could support better prioritising of areas showing multiple gaps in life-saving sectors, better anticipation and early warning of famine-like conditions considering when food crises co-occur with health crises. Public health integrated analysis aims to understand the co-occurrences and relationships between the core life-saving sectors of health, nutrition, water and sanitation and food security to observed outcomes and/or shocks. The risk of not having this information can lead to a misinformed or delayed response. While heavily focused on food consumption and livelihood gaps, our understanding of their interrelation with other essential life-saving sectors like Water Sanitation and Hygiene (WASH) and health remains fragmented in some contexts. Leading famine researchers consider the multisectoral nature of famine through a public health lens to better prevent and respond to the most acute crises.⁷ A recent example would be the drought-induced food crisis in Somalia (2020-2022) where at least 1.1 million people were displaced⁸ to (in)formal settlements in search of safety, assistance and alternative income; these populations ended up concentrated in inadequate conditions with poor WASH and health services significantly contributing to excess loss of life.⁹ This approach recognises the interconnectedness of these domains and their interaction with shocks and stressors, vulnerabilities, systems, policies and coping mechanisms.

Simultaneously, the analysis of food crises through a food systems lens could strengthen the identification of underlying or recurrent vulnerabilities stemming from structural gaps and provide

⁴ FSIN and Global Network Against Food Crises, *GRFC 2023 Mid-Year Update, Global Report...*, *op. cit.*

⁵ See the IPC website: <https://www.ipcinfo.org>

⁶ IPC Global Partners, *Integrated Food Security Phase Classification Technical Manual Version 3.1. Evidence and Standards for Better Food Security and Nutrition Decisions*, 2021,

https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/manual/IPC_Technical_Manual_3_Final.pdf

⁷ Daniel Maxwell, Paul Howe and Merry Fitzpatrick, *Famine Prevention: A landscape report*, Feinstein International Center, Tufts University, February 2023, <https://fic.tufts.edu/wp-content/uploads/Famine-Prevention-Landscape2023.pdf>; Francesco Checchi, Rob Bailey, Nancy Balfour *et al.*, “A weak health response is increasing the risk of excess mortality as food crisis worsens in Somalia”, *Conflict and Health*, vol. 11, 2017.

⁸ OCHA, *Somalia. Drought Displacement Monitoring Dashboard (August 2022)*, 20 September 2022,

<https://reliefweb.int/report/somalia/drought-displacement-monitoring-dashboard-august-2022>

⁹ OCHA, *Somalia Drought – Baidoa and Buur Hakaba Public Health Alert*, August 2022,

<https://reliefweb.int/report/somalia/somalia-drought-baidoa-and-buur-hakaba-public-health-alert-august-2022>

actionable recommendations for a humanitarian-development-peace (HDP) nexus response. There's still no unanimous definition of food systems, the High-Level Panel of Experts on Food Security and Nutrition (HLPE) describes it as “all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation, and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes”.¹⁰ Although the humanitarian sector is traditionally tasked to respond to emergencies where immediate loss of life is a threat, the majority of food crises exist within protracted contexts.¹¹ A food systems perspective can highlight at which level (household, community, regional, national, etc.) challenges are occurring and which response stakeholders would be best strategically positioned to address gaps. Understanding meso-level mechanisms within a food system could contribute to a better identification of the types of responses by aid and other actors to overlay to prevent and mitigate food crises.

The Central African Republic: a silent crisis

Conflict erupted in CAR in 2012, leading to a complex humanitarian crisis. Last year, about 3.4 million people needed humanitarian assistance,¹² including about 484,000 internally displaced people.¹³ This crisis is driven by multiple localised drivers including conflict, flooding, chronic poverty, high food prices in urban settings, displacement and weak public policies. In 2023, it was the food crisis with the fifth highest proportion of the population facing acute food insecurity, but also the country with the highest Global Hunger Index score, underpinned by 48.7% of the population undernourished, indicating a consistent inability to meet minimum dietary energy requirements,¹⁴ and facing chronic food insecurity. As of September 2023, about 2 million of the population required urgent food and livelihood assistance (IPC Phase 3 and above), with a 10% population increase in Phase 3 and higher as of April 2024, the start of the lean season.¹⁵

Reviewing the map of the last CAR IPC AFI analysis, 13 out of the 17 prefectures are classified under Phase 3, which does not immediately inform stakeholders about priority locations. From 2018 until today, national-level acute food insecurity classifications of the population have mildly fluctuated over the years (*Figure 1*). The combination of somewhat static acute food insecurity figures and the severity of chronic measurements suggests hidden complexities preventing a more accurate analysis of severity and magnitude. Data quality and availability can be a challenge, due to access issues the population still faces, which should be factored in and undoubtedly affect any analysis. Nonetheless, further efforts are needed to unveil localised hotspots and underlying drivers to ensure an accurate understanding of the crisis.

¹⁰ HLPE, *Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*, 2017, <https://www.fao.org/documents/card/en/c/17846E>

¹¹ Alice Obrecht, Sophia Swithern and Jennifer Doherty, *The State of the Humanitarian System (SOHS) – Summary*, Alnap, 2022, <https://sohs.alnap.org/help-library/2022-the-state-of-the-humanitarian-system-sohs-%E2%80%93-summary>

¹² OCHA, *Central African Republic Humanitarian Needs Overview 2023*, January 2023, <https://reliefweb.int/report/central-african-republic/central-african-republic-humanitarian-needs-overview-2023-english-summary-january-2023>

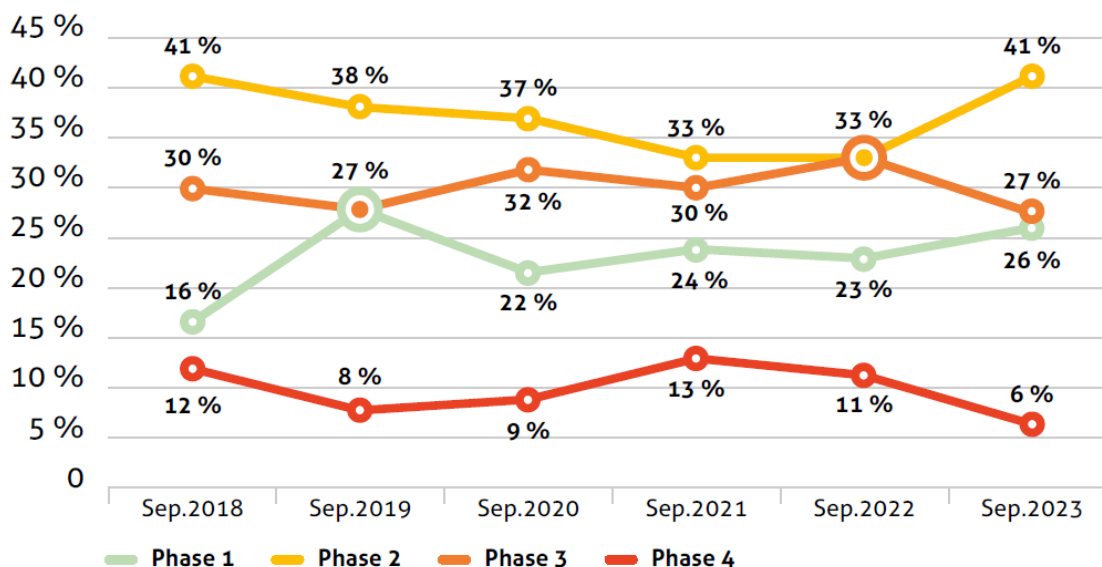
¹³ International Organization on Migration, *Displacement Tracking Matrix (IOM-DTM) for Central African Republic*, 2023, <https://dtm.iom.int/reports/republique-centrafricaine-rapport-sur-les-deplacements-19-aout-2023?close=true>

¹⁴ Klaus von Grebmer, Jill Bernstein, Miriam Wiemers *et al.*, *2023 Global Hunger Index: The Power of Youth in Shaping Food Systems*, October 2023, <https://reliefweb.int/report/world/2023-global-hunger-index-power-youth-shaping-food-systems>

¹⁵ IPC partners, *Central African Republic AFI analysis*, 2023, <https://www.ipcinfo.org/ipc-country-analysis/en/?country=CAF>

Fig.1 – IPC – Classification nationale de l'insécurité alimentaire aiguë en République centrafricaine, 2018-2023

Fig.1 – IPC AFI national classification in Central African Republic 2018-2023



Public health in the Central African Republic

A recent nationwide study¹⁶ conducted in the country (including coverage in non-government-controlled areas) uncovered higher mortality rates in 2022, more than twice as high as estimates for any other country in the world.¹⁷ According to a World Bank analysis,¹⁸ food insecurity is also a leading cause of under-five mortality, standing at 84.3 deaths per 1,000. As insecurity, displacement and epidemics are identified as key drivers of food insecurity, understanding their implication on public health could prompt a better prioritisation among prefectures beyond the number of “people in need” of food and livelihood assistance.

Identifying and addressing common drivers and contributing factors of health and food crises can lead to improvements in multiple outcomes, through an integrated approach for effective crisis management. The health of a population requires a combination of preventive and therapeutic health services. Accessibility, availability and quality of these services can be affected by existing gaps or external factors. Key indicators to be considered should assess unmet healthcare needs in the preceding three months, in addition to basic reproductive healthcare coverage, child vaccinations for measles and PENTA (5 vaccines combined in one injection, *editor's note*) and perceived barriers to healthcare. As of September 2023, Ouham-Pendé and Vakaga prefectures both observed severe conflict events affecting food security, with 5% of the population in IPC AFI Phase 4 in Ouham-Pendé and 10% in Vakaga prefecture in need of emergency humanitarian assistance. Nonetheless, as shown in *Table 1*, the

¹⁶ Karume Baderha Augustin Gang, Jennifer O’Keeffe, Les Roberts *et al.*, “Cross-sectional survey in Central African Republic finds mortality 4-times higher than UN statistics: how can we not know the Central African Republic is in such an acute humanitarian crisis?”, *Conflict and Health*, vol. 17, no. 1, 18 April 2023.

¹⁷ Karume Baderha Augustin Gang, Jennifer O’Keeffe, Les Roberts *et al.*, “Cross-sectional survey in Central African Republic finds mortality...” *art. cit.*

¹⁸ World Bank, *Additional Financing to the Central African Republic (CAR) Emergency Food Crisis Response Project*, 2023, <https://projects.worldbank.org/en/projects-operations/project-detail/P180996>

percentage of households self-reporting unmet health needs was higher in Ouham-Pendé, while access to safe water sources (mainly boreholes) and improved sanitation (mainly pit latrines without slabs) was lower than in Vakaga, potentially unveiling poorer public health outcomes which may be compounding existing food and livelihood gaps. Both Ouham-Pendé and Vakaga are conflict-affected areas, however, arguably, the conflict may be having a greater impact on driving the co-occurrence of food and health crises in Ouham-Pendé and therefore may be of greater concern.

Table 1 – Central African Republic: findings on public health domains in four prefectures

PREFECTURE	IMPACT ON POPULATION (OUTCOMES)				SELECTED CONTRIBUTING FACTORS		
	Mortality (CDR)	Malnutrition - IPC AMN Sept. 23 - Feb. 24 (AMN Phase)	Food security - IPC AFI Sept. 23 - Feb. 24 (% of population in AFI Phase3+)	Self-reported any health needs (% of HHs)	Self-reported any unmet health needs (% of HHs)	Access to improved water source (% of HHs)	Access to improved sanitation (% of HHs)
National	0,75	IPC AMN P2	33 %	35,4 %	11,5 %	69,1 %	62,3 %
Ouaka	1,66	IPC AMN P3	30 %	34,7 %	7,5 %	56,4 %	38,5 %
Ouham-Pendé	0,59	IPC AMN P3	40 %	39,8 %	17,4 %	73,4 %	56,6 %
Vakaga	0,47	IPC AMN P3	35 %	33,5 %	8,1 %	75,3 %	67,4 %
Mbomou	0,28	IPC AMN P1	53 %	24,2 %	5,5 %	63,5 %	69,0 %

Aggravated food security and public health domains can exacerbate each other and further deteriorate the vulnerability and resilience of the population. The anticipation of further deterioration within a food crisis can be better informed by a public health analysis and improved prioritisation. For example, physical and financial access to safe drinking water as well as improved sanitation are key to linking food security to health outcomes and anticipating any deterioration of health status that further worsens malnutrition. In Ouaka prefecture, one-third of the population is in Phase 3 and above while in Mbomou prefecture about half of the population is facing food consumption and livelihood gaps. It would seem evident to allocate more assistance to the latter, however, when reviewing mortality rates and health outcomes in both locations, the population in Ouaka is facing much more severe conditions. Arguably, prioritising food assistance in Ouaka over Mbomou could save more lives given the severity of public health outcomes, even though there is a smaller proportion of the population with identified food consumption gaps. The underlying vulnerabilities affected and deteriorated by multiple crises will weaken the resilience of the population and will mutually reinforce each other to increase exposure to public health risks.

Exploring food systems

The co-occurrence of a health crisis with a food crisis will inform further prioritisation processes within a crisis based on the multiple gaps a population is facing. To optimise resource allocation in crisis response, an analysis of structural limitations contributing to food crises is essential. Identifying

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barriers at different scales should prompt diverse actors to enhance emergency interventions where populations suffer acute food insecurity.

Although conflict is a key driver of food insecurity in CAR, the weakened resilience of the country's food system is an equally important driver affecting food insecurity.¹⁹ An enlightening example is the underperformance of the agri-food sector and its role as a key contributing factor to chronic food insecurity and livelihood gaps. An overwhelming majority of households active in the sector (90%)²⁰ face challenges, including low productivity and production, partly due to limited access to inputs, poor infrastructure and weak external and internal market systems. Yet, as recognised by the IPC AFI analysis, the country has a strong agricultural potential, with the majority (69%)²¹ of the population relying on the sector through multiple livelihood systems and a favourable agroecological environment for production. Therefore, prioritising support to the recovery of infrastructure and market systems (among other structural gaps) in addition to household-level support, in places with the worst acute food insecurity, may be necessary to better address the medium- and long-term chronic drivers that contribute to repeated acute food insecurity, compounded by conflict dynamics.

Interestingly, while development fund allocations, including both food and non-food sectors, frequently surpass allocations for humanitarian funds in the country, funding directed towards food sectors predominantly constitutes a substantial portion of the humanitarian portfolio.²² Emergency and longer-term approaches to assistance can be complementary but should have a similar understanding of priority gaps to maximize impact. To that end, an improved integrated analysis including chronic and acute drivers of food insecurity and food systems could be tailored to communicate gaps at multiple scales to various stakeholders simultaneously.

Current food security analysis informing humanitarian response about food crises is mainly supported by the IPC classification, a strong analytical framework that allows cross-crisis comparison and evaluation of the severity of food crises. The focus on informing humanitarian food security response might prevent current analysis from widening the scope and provide a more comprehensive picture of co-occurring gaps that could support refining the prioritisation process. Simultaneously, the focus for food crisis analysis is very much given to one scale of acute food needs, whereas considering the multiscale nature of systems in which food crises occur might propose an improved common prioritisation of gaps among response actors. Public health and food systems approaches aren't fully mapped out as clearly as food security analysis is currently, but various promising options are emerging and also could better reflect what people and systems in question seek to achieve food security and overall well-being.

¹⁹ It should be acknowledged that two new food security dimensions were proposed recently, namely "sustainability" and "agency". Although this change won't be addressed further here, these dimensions speak to unveiling systemic barriers shaping the nature of food insecurity: Jennifer Clapp *et al.*, "Viewpoint: The case for a six-dimensional food security framework", *Food Policy*, vol. 106, 2022.

²⁰ REACH, *Multi-sectoral Needs Assessment: Central African Republic*, 2023.

²¹ International Labor Organization, *ILO Modeled Estimates (ILOEST database)*, ILOSTAT, 2021.

²² GNAFC, *2023 Financing Flows and Food Crises Report – Analysis of humanitarian and development financing flows to food sectors in food crisis countries*, 2024,

https://www.fightfoodcrises.net/fileadmin/user_upload/fightfoodcrises/doc/resources/Financing_Flows_and_Food_Crises_Report_2023.pdf

Biography

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