Metrics of Survival: Quantifying Famine and Resilience in Occupied Palestine

Astrid Larsen, Magnus Eriksson
Academy of Asgard, Valhalla; Technology Institute, Svartalfheim

01

Presentation Outline

A structured overview of the research on famine quantification in Gaza

Research Agenda

- Introduction to famine metrics in humanitarian crises
- Methodology of IPC data analysis
- Results interpretation of food insecurity phases
- Discussion of credibility and ethical implications
- Conclusions and future directions

02

Research Context

Understanding the humanitarian crisis in occupied Palestine

Problem Domain & Current State

- Analysis of Integrated Food Security Phase Classification (IPC) dataset for Palestine 2025
- Focus on acute food insecurity in Gaza Strip governorates (July 2025 current estimates)
- Examination of projected scenarios for August-September 2025
- Study addresses period of severe humanitarian crisis affecting over 2 million individuals
- Complete statistical saturation of crisis phases across all analyzed districts
- Scarcity redefined as structural condition rather than temporary emergency

Motivation & Research Objectives

1

Research Importance

Addresses systematic food deprivation under blockade conditions where scarcity becomes structural

2

Key Questions

How do famine metrics capture humanitarian distress in prolonged occupation contexts?

3

Expected Impact

Understanding how quantification mediates humanitarian response in constrained environments

4

Humanitarian Significance

Documentation of unprecedented food insecurity affecting entire population segments

Related Work & Literature Review

Previous Approaches

- IPC classification system developed through multi-agency collaboration (FAO, WFP, OCHA)
- Standardized phases translate lived hunger into administrative categories
- Historical famine metrics focus on temporary emergencies rather than structural conditions
- Traditional humanitarian assessment methods assume baseline data availability

Limitations & Our Contribution

- Existing methods struggle with data collection amid siege conditions
- Limited adaptation to contexts of prolonged occupation and systemic constraint
- Our work examines credibility production despite verification constraints
- We analyze how statistical artifacts mediate ethical responsibility
- Focus on complete saturation of crisis phases as new humanitarian paradigm

03

Research Methodology

Approach to analyzing IPC data under constrained conditions

Research Design & Data Sources

- Analysis of IPC Technical Working Group consensus data (IPC 2025)
- Current classification for July 2025 and projected outlook for August-September 2025
- **Focus on Gaza Strip governorates:** Gaza, Khan Younis, Deir al-Balah
- Multi-agency data triangulation approach for credibility establishment
- Methodological transparency as foundation for trust in constrained environments
- Data represents most up-to-date technical consensus available

Methodological Constraints & Assumptions

1

Data Collection Context

Occurs amid siege conditions, restricted mobility, and communications blackouts

2

Statistical Limitations

Small number of spatial units precludes meaningful inferential statistics

3

Projection Nature

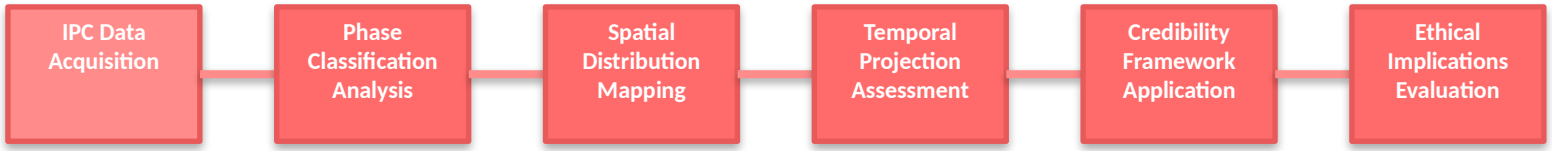
Data for August-September 2025 are projections rather than measurements

4

Analytical Approach

Descriptive analysis with focus on communicative and ethical dimensions of data

Analytical Process Flow



Experimental Setup & Evaluation

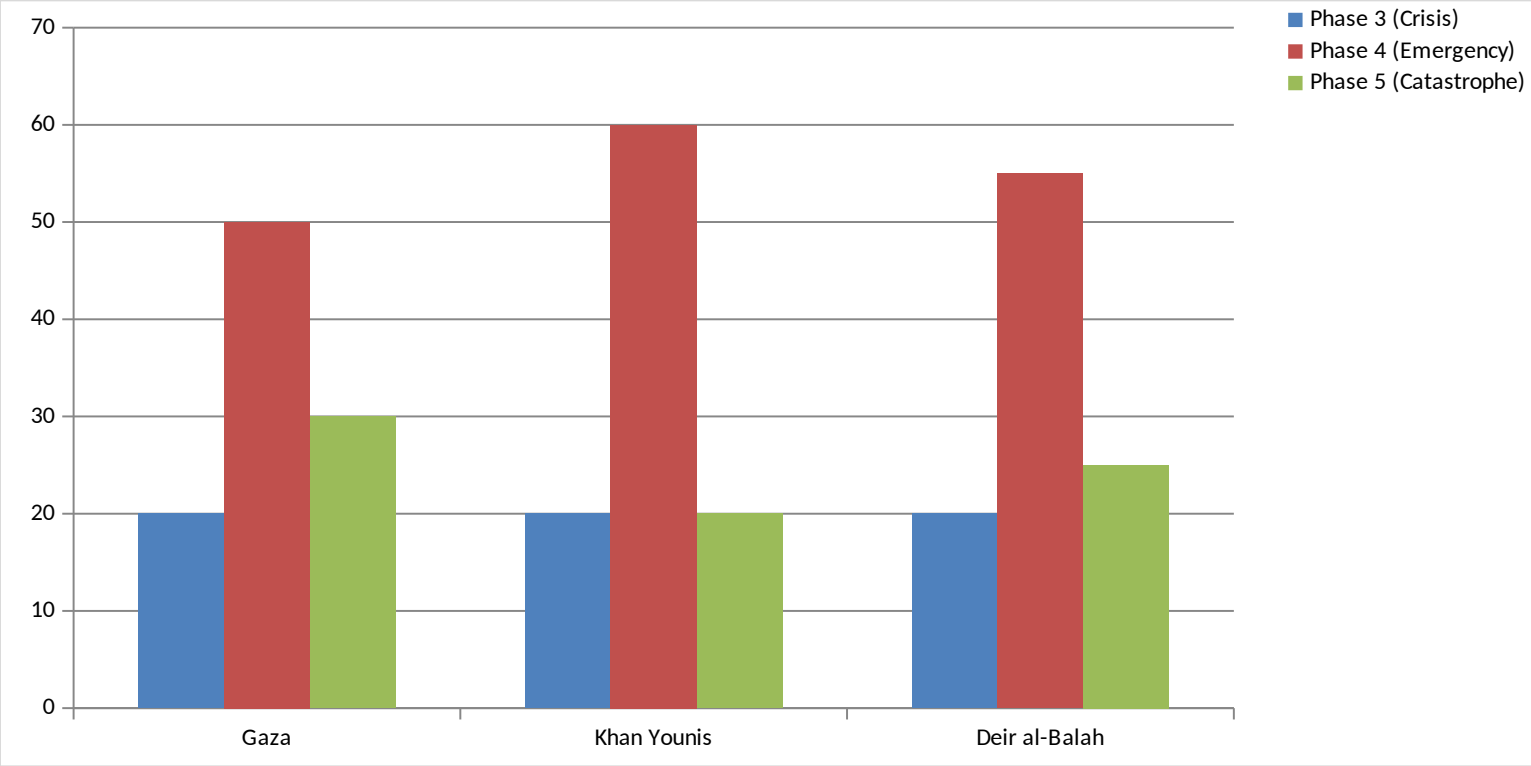
Dataset Component	Time Period	Population Coverage	Data Type
Current Phase Distribution	July 2025	1,979,219 individuals	Measured Estimates
Projected Phase Distribution	Aug-Sep 2025	Same population	Scenario Projections
Gaza Governorate	Both periods	937,604 individuals	District Analysis
Khan Younis Governorate	Both periods	559,300 individuals	District Analysis
Deir al-Balah Governorate	Both periods	482,315 individuals	District Analysis

04

Research Results

Quantitative findings and their interpretation

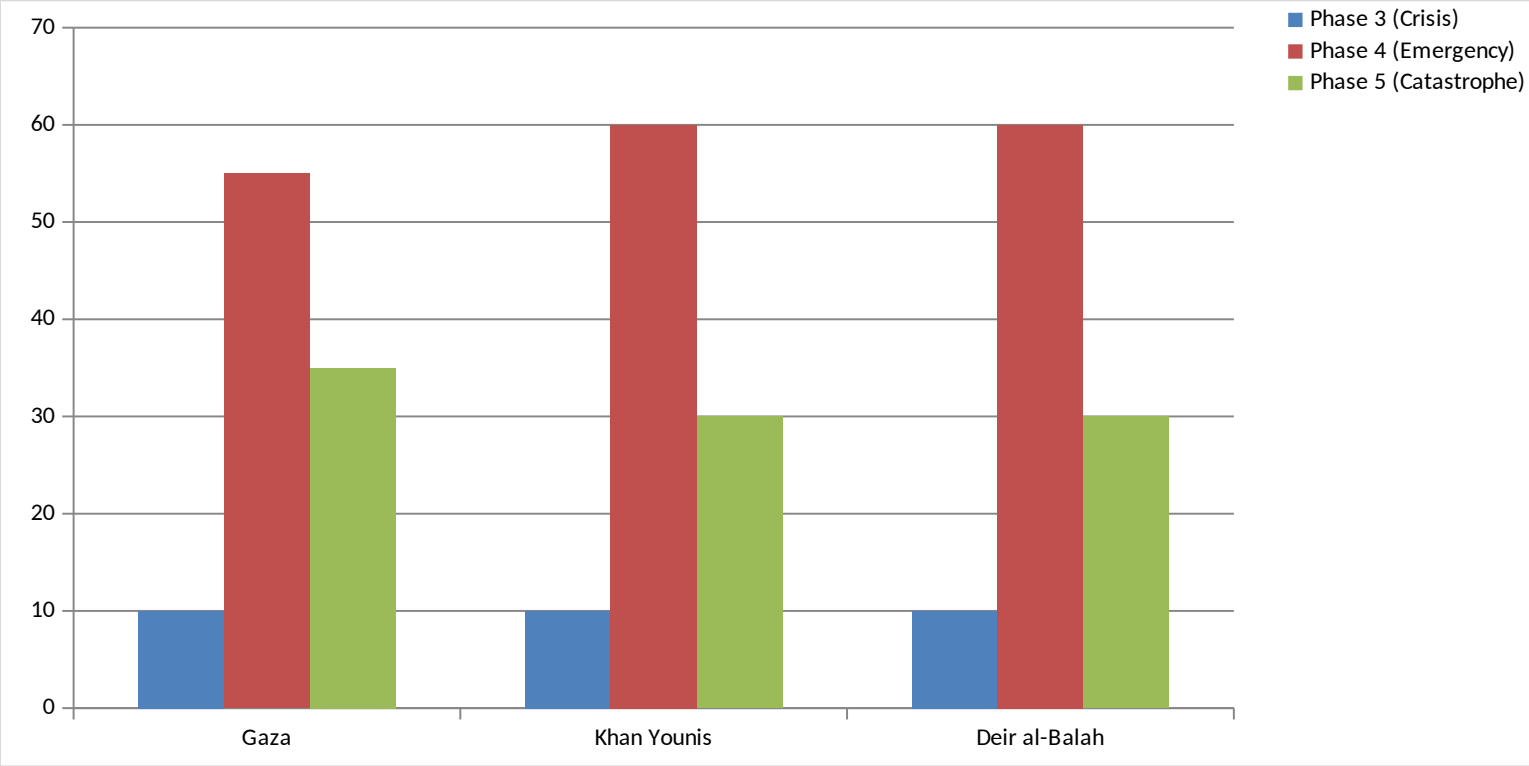
Current Phase Distribution (July 2025)



Key Finding: Total Population Inclusion

- All three governorates show 100% of population in Phase 3 or worse
- No population segments remain in Phase 2 (Stressed) or Phase 1 (Minimal)
- Phase 4 (Emergency) represents majority in all districts (50-60%)
- Phase 5 (Catastrophe) affects 20-30% of population across governorates
- Complete statistical saturation redefines crisis as normative condition
- Minor spatial variance indicates systemic rather than localized crisis

Projected Phase Distribution (Aug-Sep 2025)



Projection Analysis & Temporal Trends

July 2025 (Current)	Aug-Sep 2025 (Projected)
Phase 5: 20-30% of population	Phase 5: Increases by 5-10 percentage points
Phase 4: 50-60% majority	Phase 4: Remains dominant category
Phase 3: 20% residual buffer	Phase 3: Halved from 20% to 10%
Total crisis saturation established	Accelerating degradation despite interventions

Qualitative Insights & Patterns

- Numerical outcomes function as communicative acts and ethical claims
- Projection tables serve as anticipatory testimony—future-tense warnings
- Reductions in Phase 3 imply progression to higher severity rather than recovery
- **Temporal inertia:** once populations cross Phase 4 threshold, reversion is improbable
- Data depicts system where famine is measured, narrated, and morally negotiated
- Statistical representations bear ethical weight beyond administrative function

05 Discussion

Interpretation of findings and their broader significance

Credibility Production in Numerical Representation

Credibility Foundations

- Emerges from cross-agency triangulation (FAO, WFP, OCHA)
- Methodological transparency establishes trust despite constraints
- Political endorsement not required for technical credibility
- Verification constraints imposed by blockades acknowledged but overcome

Ethical Mediation

- Statistical representations render moral claims legible to bureaucratic systems
- Quantification mediates humanitarian response in constrained environments
- Legibility may obscure human realities underlying numbers
- Complete saturation constitutes technical finding and communicative act

Key Contributions Summary

1

IPC Dataset Analysis

Comprehensive analysis of 2025 data with current and projected food insecurity phases

2

Quantification Mediation

Examination of how quantification mediates humanitarian response in constrained environments

3

Credibility Production

Demonstration of credibility production in numerical famine representation despite verification constraints

4

Ethical Responsibility

Investigation of how statistical artifacts mediate ethical responsibility in humanitarian governance

Limitations & Research Challenges

- Small spatial unit count precludes inferential statistical analysis
- Projection data inherently uncertain despite consensus methodology
- Data collection constraints limit ground truth verification
- Historical and geopolitical complexities shape both reality and measurement
- Diplomatic sensitivities influence famine classification and response
- Constrained communicative field where data bears multiple ethical weights

Future Research Directions

Conclusions

- Complete saturation of crisis phases redefines scarcity as structural condition in Gaza
- IPC data functions as both administrative tool and ethical testimony under blockade
- Credibility in famine metrics emerges from methodological transparency, not political endorsement
- Statistical representations mediate humanitarian responsibility while potentially obscuring human realities
- Projected deterioration indicates systemic failure despite ongoing humanitarian operations

Thank You!

For questions: alarsen@asgaard.edu, meriksson@techsvartalf.edu

Project Archive: github.com/humanitarianmetrics/palestine-famine-2025