

Food insecurity experienced by people, 2023-2025

FAOSTAT FIES country evidence and an experimental annualized USU scenario

Full report v1.0 | Website-ready release package | Not deployed

Release status

This package is ready for review and later website integration. It does not modify the live WSI website and does not publish a country ranking or global total.

Executive summary

This pilot uses FAOSTAT FIES / SDG 2.1.2 evidence for 2023-2025 and WSI Amendment A1 to create an Experimental Retrospective Annualized USU Scenario. It reports per-100,000 annualized scenarios for 125 complete prevalence records and exact total scenarios for 99 exact population records. Twenty-six otherwise complete records retain censored population values and are reported per 100,000 only.

The core finding is methodological as much as numerical: a directly experiential source can be combined with transparent intensity and duration assumptions, but duration remains D1 and dominates the scale of results.

1. Source basis

FIES measures experiences caused by lack of money or resources for food. The validated source gate identified 125 complete 2023-2025 country/territory records. Moderate-only prevalence is derived as moderate-or-severe prevalence minus severe prevalence, using matched records. Severe prevalence is taken directly from the source.

2. Model specification

The model estimates burden during one representative average year. The 2023-2025 source is not multiplied by three. The model retains $p=1$, no overlap adjustment, $R1=1.96875$ intensity-days, and mortality separately.

State	Intensity low	Central	High	Primary duration days
Moderate-only	2	3	4	10 / 70 / 115
Severe	4	5	6	7 / 50 / 85

3. Primary results

Scenario	Median USU/100k	Mean USU/100k	99-record subset USU	Severe share
Low	263,721	340,012	13.8 billion	38.2%
Central	2,659,556	3,359,309	136.7 billion	34.5%
High	5,732,063	7,178,244	292.3 billion	32.9%

These scenario results are intentionally non-ranked. Country-level files are sorted alphabetically and contain no ranking columns.

4. State contribution

Under the primary central scenario, moderate-only food insecurity contributes 65.5% of modeled raw burden in the 99-record exact subset, while severe food insecurity contributes 34.5%. Across the 125 per-100,000 profiles, the median severe-state share is 27.3%.

5. Duration dominance and stress test

Duration sensitivity is the dominant model feature. The median high/low ratio is 11.67x for duration-only sensitivity, compared with 1.84x for intensity-only sensitivity. The joint primary range has a median high/low ratio of 21.53x.

Stress scenario	Median USU/100k	99-record subset USU	Use
Low	41,549	2.2 billion	Duration stress only
Central	3,366,095	171.7 billion	Duration stress only
High	9,225,143	476.7 billion	Duration stress only

6. Ranking and aggregation policy

No public country ranking is included. Aggregate diagnostics show high correlations across scenarios, but non-zero ordering changes. The primary low-versus-high comparison changes the ordinal position of 77 of 125 records and produces 69 pairwise reversals. The release also does not claim a global total.

7. Limitations

- Duration values are WSI assumptions, not FAO measurements.
- Intensity mappings are P2 evidence-informed, not externally reviewed or empirically calibrated.
- Moderate-only confidence intervals are not derived from nested bounds.
- Exact total results are limited to 99 records; 26 records are per-100,000 only.
- FIES captures food-access experiences, not all harms of hunger, poverty, malnutrition, conflict, or mortality.
- The annualized scenario is not directly comparable with USU/day or episode-based series.

8. Public-use statement

The public output should be described as an experimental annualized scenario that combines FAO source evidence with WSI assumptions. It is useful for transparent exploration and portfolio development, but not as a measured burden estimate or country ranking.

References and source files

1. **FAO. Food Insecurity Experience Scale frequently asked questions.** <https://www.fao.org/measuring-hunger/access-to-food/frequently-asked-questions/>
2. **FAO. Applying the Food Insecurity Experience Scale.** <https://www.fao.org/measuring-hunger/access-to-food/applying-the-fies/en>
3. **FAOSTAT Food Security normalized bulk data; Step 8A.1 source-gate audit.** Internal source archive and validation package
4. **WSI Amendment WSI-USU-PILOT-v0.1-A1: Retrospective Annualized USU Scenario Models.** Internal methods amendment

5. WSI Step 8E FIES intensity mapping and internal preview. Internal author-approved mapping package

6. Jones AD. Food Insecurity and Mental Health Status: A Global Analysis of 149 Countries. Am J Prev Med. 2017. <https://pubmed.ncbi.nlm.nih.gov/28457747/>

7. Frongillo EA et al. Food Insecurity Is Associated with Subjective Well-Being among Individuals from 138 Countries. J Nutr. 2017. <https://doi.org/10.3945/jn.116.243642>

8. Pourmotabbed A et al. Food insecurity and mental health: a systematic review and meta-analysis. Public Health Nutr. 2020. <https://pubmed.ncbi.nlm.nih.gov/32174292/>