



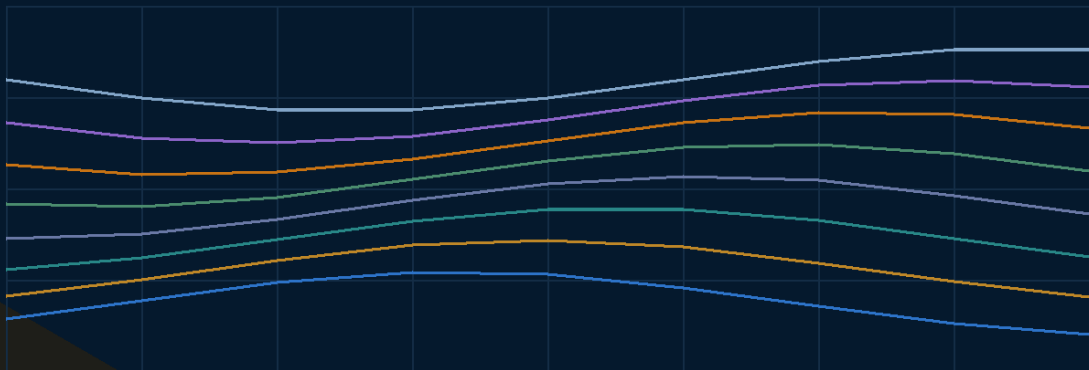
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CONTINENTAL ANALYTICAL REPORT

Eight Staple Food Systems Across 43 African Countries

Food availability, supply utilisation, historical shortage events and
2024 early-warning estimates

Comparative evidence, not a judgement of which country is better or worse.



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About this report

This report precedes the individual country profiles. It brings the 43 countries into one comparative view so that readers can see what the same evidence says across countries and commodities before turning to country-specific detail.

How to read the comparisons

Countries are listed alphabetically in the side-by-side tables. The report does not combine the measures into a league table and does not describe one country as better or worse than another. Food systems differ in commodity mix, data coverage, population size, production, trade and utilisation; each measure answers a narrower question.

Three meanings that should not be confused

Measure	What it shows	What it does not show
kcal per person per day	The commodity's nutritional contribution to national food availability.	Household intake or diet quality.
kg per person per year	The physical weight available per person.	Calorie density; bulky foods can lead in kilograms without leading in calories.
thousand tonnes	National physical volume used as food, feed, processing, seed, losses or other uses.	Per-person importance; large countries naturally have larger totals.

Data source: project-processed FAOSTAT Food Balance Sheet evidence. Recent supply and utilisation comparisons use 2021-2023 averages; historical shortage outcomes cover 2011-2023; forward estimates refer to 2024.

Executive summary

Across the covered countries, maize had the largest recent population-weighted calorie contribution among the eight selected commodities, followed by wheat, cassava and rice. The physical-weight comparison looked different: cassava led by a wide margin because root crops provide more kilograms for each calorie than cereals. This is why the report uses several measures rather than treating one number as the definitive description of importance.

Country food patterns were diverse. Maize was the largest recorded calorie contributor among the eight commodities in 12 countries, wheat in 12, rice in 10, cassava in 8 and millet in Niger. Sorghum, groundnuts and yams were important regionally and in specific uses, but they were not the leading recorded calorie source in any country when only the eight selected foods were compared over 2021-2023.

Supply was not used in the same way across commodities. Rice and wheat were directed predominantly to food in the comparable records. Maize combined a major food role with the largest feed share. Cassava and yams generated very large recorded physical volumes, including feed and losses. Groundnuts stood out for processing: the recorded average annual quantity sent to processing was almost as large as the quantity recorded as food, consistent with its oilseed role.

Historical shortage events were also commodity-specific. Sorghum had the highest observed event rate over 2011-2023, followed by groundnuts and millet. Yams had the lowest. The annual rate across all eligible country-commodity transitions ranged from 5.62% in 2017 to 13.60% in 2019; the 2023 rate of 10.53% was close to the full-period average of 10.28%.

The 2024 register tells a forward-looking story rather than repeating history. Of 344 possible country-commodity cases, 249 met the scoring rules. Seventy-seven crossed the formal 13% warning threshold and 12 crossed the 30% high-warning boundary. Groundnuts produced the most formal warnings, while wheat and maize accounted for nine of the twelve high warnings. These are model-generated screening signals, not observed 2024 events.

The analysis is most useful when the views are read together. A country can have a high historical event rate but a moderate 2024 portfolio, or a limited historical burden but one unusually high forward estimate. The report therefore keeps food availability, utilisation, historical contractions and forward warnings separate, then explains where they reinforce or diverge from one another.

Central conclusion

There is no single African staple-food pattern. The same eight commodities perform different nutritional, production, trade and utilisation roles across the 43 covered countries. A defensible comparison must preserve those differences, show data support and keep observed history separate from prospective warnings.

1. Scope and evidence base

The analytical panel contains 4,816 rows: 43 countries x 8 commodities x 14 years from 2010 to 2023. Every row represents one country, one commodity and one year. The historical outcome register contains 3,248 eligible year-to-year transitions and 334 observed shortage events. The forward register contains the complete 344-case 2023 country-commodity grid used to assess 2024 scoring eligibility.

Evidence layer	Coverage	Purpose in this report
Analytical panel	4,816 rows; 2010-2023	Availability, production, trade, food use, feed, processing, seed, losses and other uses.
Historical outcome register	3,248 eligible transitions; 334 events	Observed material year-to-year calorie contractions from 2011 to 2023.
Country evidence	43 countries	Side-by-side historical, recent and forward measures.
Commodity evidence	8 commodities	Commodity-specific historical and forward comparisons.
2024 risk register	344 cases; 249 scored	Prospective warning probabilities and evidence-support checks.

1.1 What 'consumed' means in a Food Balance Sheet

FAO Food Balance Sheets describe food available for human consumption at national level. They do not record what each household or person actually ate. Accordingly, this report uses food availability, food quantity and food use rather than claiming to measure observed consumption.

1.2 Why 2021-2023 is used for current comparisons

The latest three complete years were averaged to reduce one-year noise while keeping the comparison close to 2023. Shortage periods differ because they answer different questions: 2011-2023 for full history and 2019-2023 for recent history.

2. Which commodities matter most for food availability?

No single measure fully describes importance. Calories show energy contribution, kilograms show physical weight, and tonnes show national volume. Table 1 presents all three recent measures side by side.

Commodity	Weighted kcal/person/day	Weighted kg/person/year	Avg annual food quantity (000 t)	Countries with recorded kcal
Maize and products	387.7	44.3	56,677	43
Wheat and products	364.5	48.1	61,475	43
Cassava and products	302.7	104.2	132,826	42
Rice and products	236.0	37.6	48,094	43
Sorghum and products	92.9	11.2	14,202	38
Yams	83.1	34.1	32,469	29
Groundnuts	44.9	3.9	4,984	43
Millet and products	42.8	5.3	6,421	36

Table 1. Recent averages use 2021-2023. Population-weighted values give more influence to countries with larger populations; total tonnes are summed across recorded country values and then averaged across the three years.

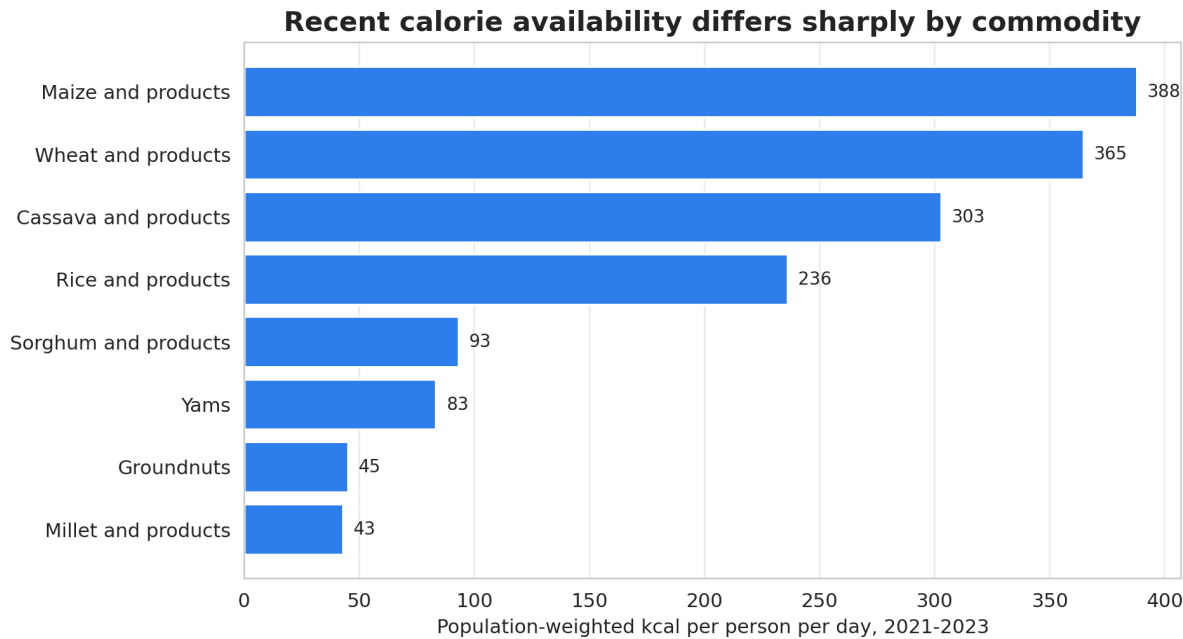


Figure 1. Maize, wheat, cassava and rice supplied the largest population-weighted calorie contributions among the eight selected commodities, 2021-2023.

Maize led the calorie comparison at 387.7 kcal per person per day, but cassava led the physical-weight comparison at 104.2 kg per person per year. The difference is not a contradiction. Cereals are generally more calorie-dense, while cassava contributes a larger physical weight for each unit of energy.

2.1 Importance changed over time

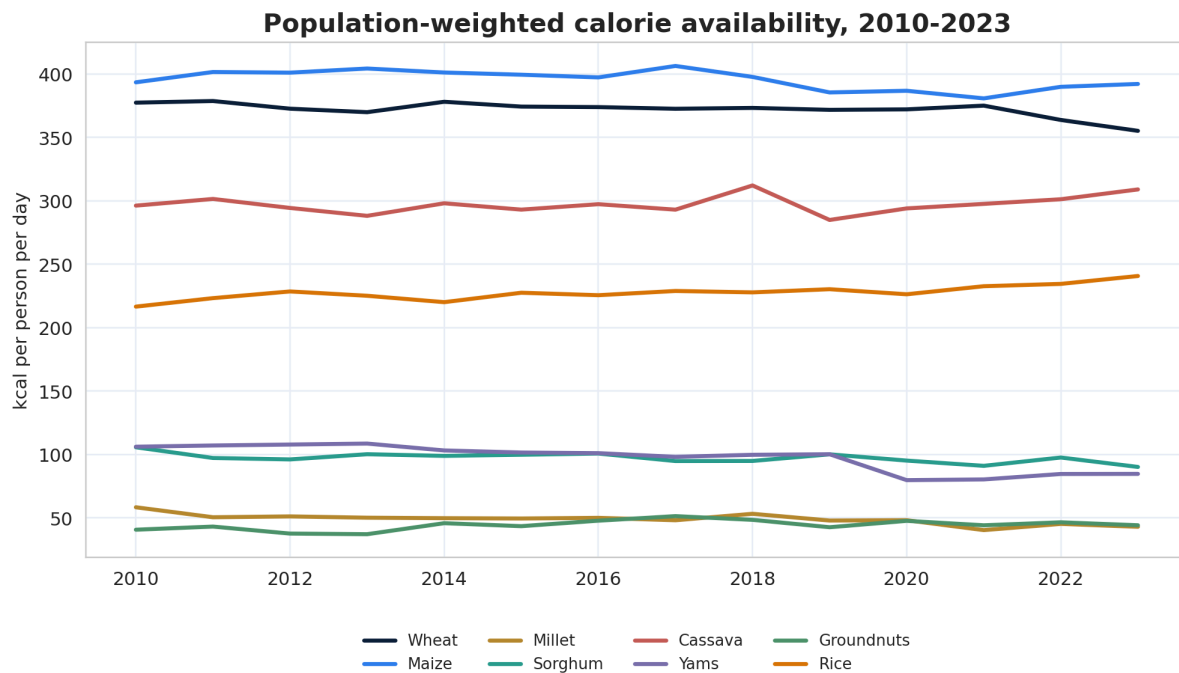


Figure 2. Population-weighted calorie availability for the eight commodities, 2010-2023. Each line follows the same population-weighted method over time.

Between 2010 and 2023, rice increased by 11.15%, groundnuts by 8.61% and cassava by 4.31%. Maize was broadly stable (-0.33%). Wheat declined by 5.89%, sorghum by 14.68%, yams by 20.21% and millet by 26.36%. These are descriptive changes in the covered Food Balance Sheet values; they do not by themselves identify the causes.

2.2 The leading commodity differs by country

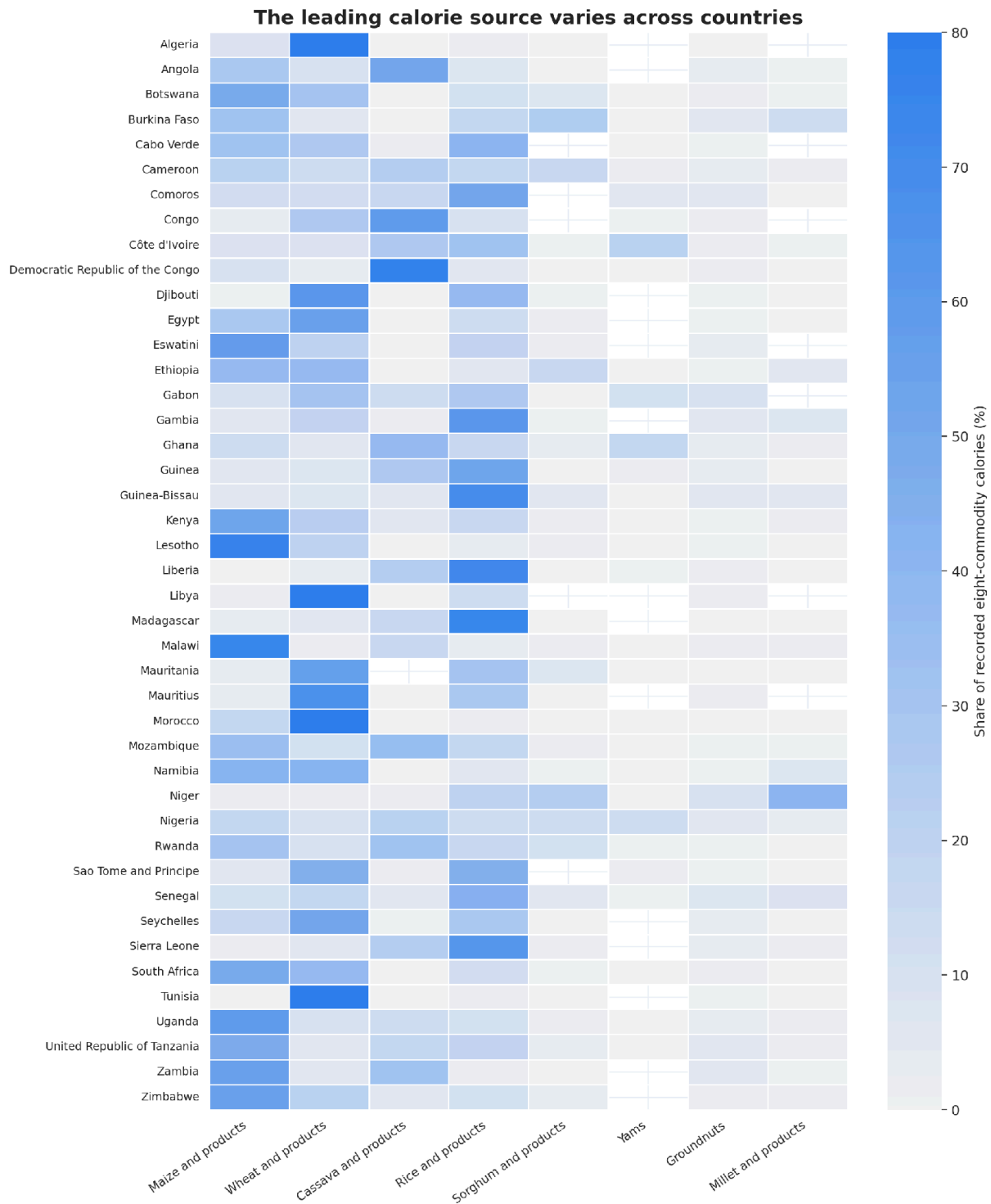


Figure 3. Each row shows how the eight commodities divided the country's recorded calorie availability in 2021-2023. Darker cells indicate a larger share within that country's eight-commodity total.

The heatmap shows why a single continental average is insufficient. Wheat dominates the selected-food calorie pattern in several northern and import-oriented systems; rice is prominent across parts of West Africa and island states; cassava leads in several central and coastal systems; and maize leads across a broad group in eastern and southern Africa. Niger is the only country in which millet is the largest recorded contributor among the eight.

3. How the recorded supply was used

Domestic supply can be directed to food, animal feed, processing, seed, losses, other non-food uses, residual balancing and tourist consumption. The records are not equally complete for every use. The analysis therefore reports recorded quantities and discloses coverage rather than replacing every blank with zero.

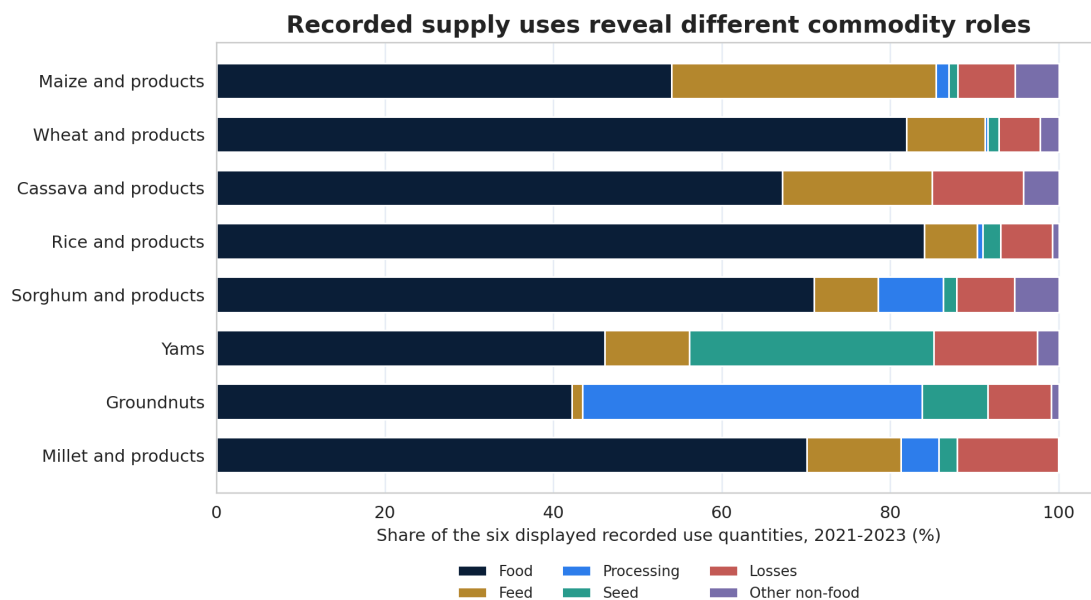


Figure 4. Composition of six displayed recorded use quantities by commodity, 2021-2023. The bars describe the recorded use quantities, not a complete physical balance where categories were missing.

Commodity	Food share*	Feed share*	Feed data coverage	Recorded annual feed (000 t)	Recorded annual processing (000 t)	Recorded annual losses (000 t)
Maize and products	53.8%	31.3%	100.0%	32,961	1,634	7,177
Wheat and products	81.5%	9.3%	96.9%	6,993	254	3,643
Cassava and products	67.3%	18.0%	63.6%	35,211	-	21,467
Rice and products	82.5%	6.2%	96.9%	3,615	354	3,505
Sorghum and products	70.9%	7.6%	80.6%	1,519	1,546	1,385
Yams	40.6%	8.8%	34.1%	7,048	-	8,644
Groundnuts	40.2%	17.0%	7.0%	151	4,772	893
Millet and products	70.3%	11.2%	71.3%	1,026	409	1,103

*Table 2. *Food and feed shares compare the recorded use with domestic supply only in rows where both values were recorded. Tonnages are annual averages of recorded quantities; a blank is not automatically treated as zero.*

3.1 Food and feed roles

Rice and wheat had the largest food shares in comparable records: 82.5% and 81.5% of domestic supply respectively. Maize's food share was lower at 53.8% because it also had the largest recorded feed share, 31.3%, with complete feed coverage. Cassava had the largest recorded annual feed volume at about 35.2 million tonnes, slightly above maize's 33.0 million tonnes, but cassava feed was recorded in only 63.6% of recent rows. The tonnage comparison must therefore be read with its coverage.

3.2 Processing, seed and losses

Groundnuts had a distinctive processing profile: about 4.77 million recorded tonnes per year went to processing, close to the 4.98 million tonnes recorded as food. This reflects the analytical value of including an oilseed alongside cereals and roots. Cassava and yams recorded the largest physical loss volumes, but both are also very large-volume commodities. These national accounting quantities should not be interpreted as direct measures of household waste.

Why the utilisation chart does not prove a complete balance

A category can be source-absent or source-present missing. The chart therefore shows the composition of recorded use quantities. It is strongest for identifying broad roles - such as maize feed use or groundnut processing - and weaker where a category has low recording coverage.

4. How countries obtained their recorded supply

Production, imports, exports and stock movements jointly determine domestic supply. The production-to-supply and import-to-supply ratios below are descriptive exposure measures, not self-sufficiency scores. They can exceed 100% when exports or stock changes reduce the amount retained for domestic use, and they use only comparable recorded rows.

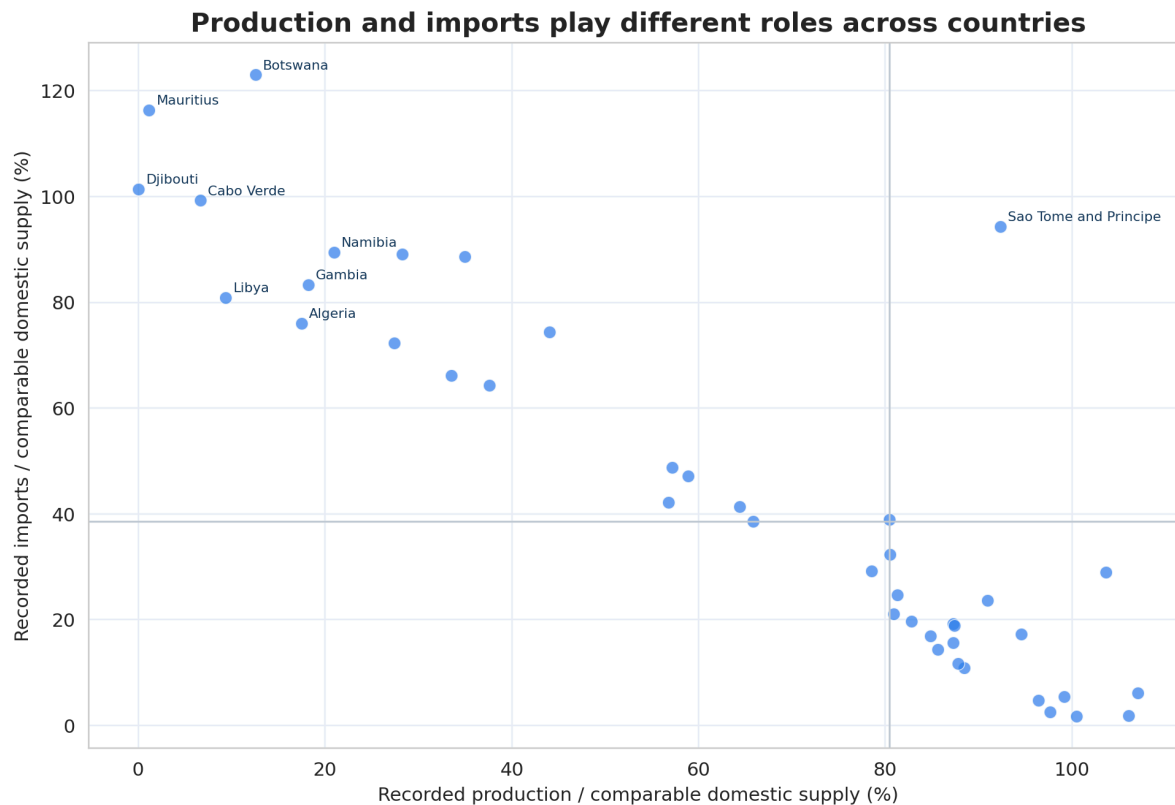


Figure 5. Recorded production and import quantities relative to comparable domestic supply, 2021-2023. The lines mark the cross-country medians, not performance targets.

The cross-country spread is large. Botswana, Mauritius, Djibouti, Seychelles and Cabo Verde had particularly high recorded import-to-supply ratios for the selected commodities. The United Republic of Tanzania, Zambia, South Africa, Malawi and Ghana had high recorded production-to-supply ratios. These patterns describe the selected eight commodities only; they are not complete national trade balances.

5. Country comparison: recent food-supply and utilisation evidence

Countries are listed alphabetically. Combined calories are the sum of the recorded values for the eight commodities, averaged across 2021-2023. The recorded-commodity column shows coverage and must be read with the total.

Country	Recorded commodities	Largest recorded calorie source	Combined kcal/person/day	Production / supply	Imports / supply	Food / supply	Feed / supply	Losses / supply
Algeria	6.0/8	Wheat	1,499	17.4%	76.0%	61.9%	25.3%	6.3%
Angola	7.0/8	Cassava	1,441	88.5%	10.9%	78.0%	12.9%	6.8%
Botswana	8.0/8	Maize	1,264	12.5%	123.0%	49.0%	41.0%	3.6%
Burkina Faso	8.0/8	Maize	1,705	82.8%	19.7%	70.7%	13.1%	6.1%
Cabo Verde	6.0/8	Rice	1,358	6.6%	99.3%	80.0%	7.6%	0.4%
Cameroon	8.0/8	Cassava	1,666	84.8%	16.9%	62.8%	12.6%	20.2%
Comoros	6.3/8	Rice	1,324	37.6%	64.2%	95.3%	1.8%	2.3%
Congo	6.0/8	Cassava	1,259	91.0%	23.6%	91.3%	1.5%	6.0%
Côte d'Ivoire	8.0/8	Rice	2,132	87.2%	15.6%	74.0%	8.1%	6.8%
Democratic Republic of the Congo	8.0/8	Cassava	1,674	97.7%	2.6%	88.9%	0.5%	7.6%
Djibouti	7.0/8	Wheat	1,399	0.0%	101.4%	13.9%	26.3%	6.7%
Egypt	7.0/8	Wheat	1,921	56.8%	42.1%	67.5%	21.7%	7.4%
Eswatini	6.0/8	Maize	1,292	28.3%	89.1%	50.8%	20.7%	1.4%
Ethiopia	8.0/8	Wheat	1,291	87.8%	11.7%	75.8%	3.8%	4.0%
Gabon	7.0/8	Wheat	1,405	80.5%	32.3%	72.5%	14.0%	11.2%
Gambia	7.0/8	Rice	1,405	18.2%	83.4%	91.9%	3.2%	1.5%
Ghana	8.0/8	Cassava	2,111	99.2%	5.4%	40.6%	16.9%	23.8%
Guinea	8.0/8	Rice	1,782	87.3%	19.2%	51.0%	27.4%	13.8%
Guinea-Bissau	8.0/8	Rice	1,584	64.4%	41.4%	79.7%	0.0%	2.8%
Kenya	8.0/8	Maize	997	58.9%	47.1%	83.5%	9.2%	3.0%
Lesotho	8.0/8	Maize	1,106	34.9%	88.6%	90.6%	4.9%	3.3%
Liberia	8.0/8	Rice	1,473	57.2%	48.7%	92.9%	1.3%	4.7%
Libya	5.0/8	Wheat	998	9.3%	80.9%	55.5%	39.3%	4.6%
Madagascar	7.0/8	Rice	1,502	85.7%	14.4%	83.3%	7.6%	6.6%
Malawi	8.0/8	Maize	1,550	100.5%	1.7%	48.8%	40.2%	8.4%
Mauritania	7.0/8	Wheat	1,525	44.0%	74.4%	90.4%	4.1%	4.0%
Mauritius	5.3/8	Wheat	1,282	1.1%	116.3%	66.9%	26.5%	0.3%
Morocco	8.0/8	Wheat	1,698	33.5%	66.2%	57.5%	30.3%	4.4%
Mozambique	8.0/8	Cassava	1,573	81.3%	24.6%	83.7%	6.3%	5.5%
Namibia	8.0/8	Maize	1,078	20.9%	89.4%	50.0%	44.3%	2.6%
Niger	8.0/8	Millet	1,608	80.9%	21.1%	73.5%	12.8%	9.6%
Nigeria	8.0/8	Cassava	1,600	96.4%	4.8%	52.4%	19.0%	8.2%
Rwanda	8.0/8	Cassava	998	78.5%	29.2%	89.4%	1.8%	5.3%
Sao Tome and Principe	7.0/8	Wheat	961	92.3%	94.4%	100.0%	2.4%	0.0%
Senegal	8.0/8	Rice	1,791	80.4%	38.9%	50.9%	28.9%	7.2%
Seychelles	7.0/8	Wheat	1,101	-	100.0%	65.0%	26.8%	0.0%
Sierra Leone	7.0/8	Rice	1,748	94.6%	17.2%	66.9%	21.3%	8.5%
South Africa	8.0/8	Maize	1,182	103.6%	28.9%	53.6%	40.2%	4.4%
Tunisia	7.0/8	Wheat	1,535	27.4%	72.3%	57.8%	36.8%	5.9%
Uganda	7.3/8	Maize	1,038	87.4%	18.9%	85.6%	0.0%	3.5%
United Republic of Tanzania	8.0/8	Maize	1,435	107.0%	6.2%	76.6%	11.0%	7.7%
Zambia	7.0/8	Maize	1,523	106.1%	1.8%	85.3%	5.5%	4.5%
Zimbabwe	7.0/8	Maize	1,030	65.9%	38.5%	81.3%	10.4%	3.3%

Table 3. First 22 countries alphabetically. Ratios use comparable recorded rows and may exceed 100%; blanks were not automatically converted to zero.

6. What the historical shortage record shows

A historical shortage event was recorded only when a commodity's food-supply calories fell by at least 15% and at least 5 kcal per person per day, from a starting value of at least 5 kcal. The event register therefore measures substantial year-to-year deterioration, not every decline and not every case of low availability.

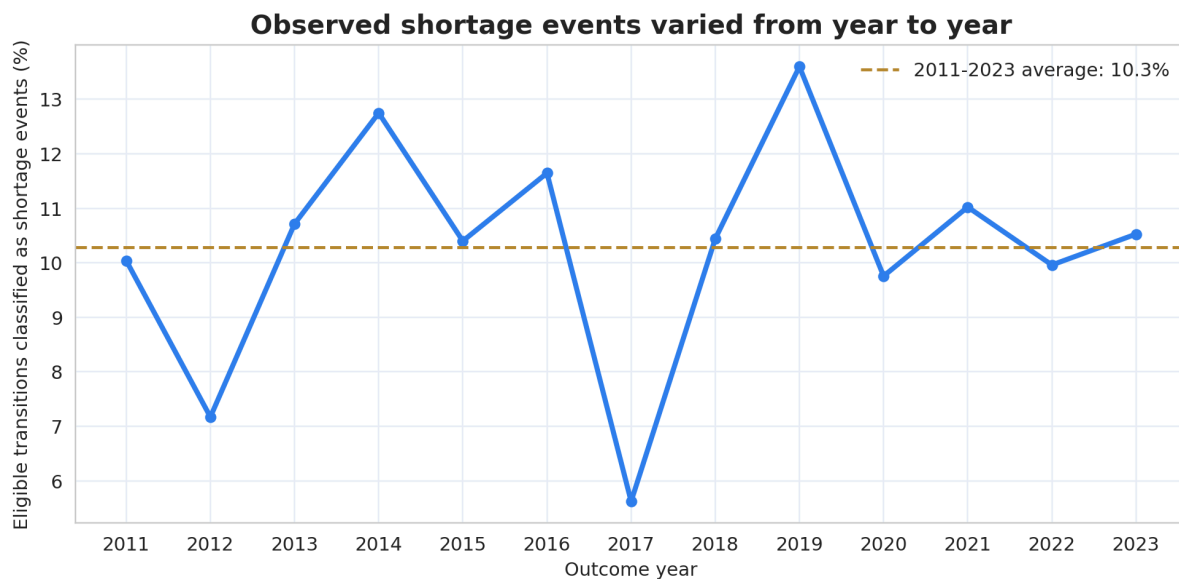


Figure 6. Annual observed shortage-event rate among eligible country-commodity transitions, outcome years 2011-2023.

The annual rate fluctuated rather than moving steadily in one direction. It reached 13.60% in 2019 and fell to 5.62% in 2017. The 2023 rate was 10.53%, close to the full-period average of 10.28%. This pattern is one reason the model was evaluated in several time-ordered windows rather than in one conveniently chosen year.

6.1 Historical events were unevenly distributed across commodities

Commodity	Eligible transitions	Observed events	Historical event rate	Recent 2019-2023 rate	Countries with recurrent events
Sorghum and products	333	59	17.72%	18.11%	18
Groundnuts	464	64	13.79%	14.92%	22
Millet and products	280	34	12.14%	14.15%	12
Wheat and products	559	57	10.20%	12.09%	12
Maize and products	528	51	9.66%	9.80%	14
Rice and products	559	42	7.51%	6.98%	14
Cassava and products	362	24	6.63%	7.25%	6
Yams	163	3	1.84%	1.61%	0

Table 4. Historical period: outcome years 2011-2023. Recent period: 2019-2023. Rates use only eligible transitions.

Sorghum had the highest full-history event rate at 17.72%, followed by groundnuts at 13.79% and millet at 12.14%. Yams had the lowest at 1.84%. This does not mean sorghum is always scarce or yams are always secure; it means that eligible sorghum calorie series experienced the defined year-to-year contraction more often in this dataset.

6.2 Country histories differ in rate, breadth and recency

Across countries, the same event count can carry different meanings when the number of eligible observations differs. The side-by-side table therefore shows both counts and rates, as well as how many commodities experienced at least one event. Uganda and Niger recorded 21 events each, but the broader country evidence also shows how those events were distributed across commodities and years.

7. The 2024 early-warning picture

The operational model used 2023 information to estimate the probability of a qualifying 2024 shortage event. Of the complete 344-case country-commodity grid, 249 cases were scored. Sixty-six were left unscored because 2023 calorie availability was below the 5-kcal eligibility minimum, and 29 because the current calorie value was missing. Unscored does not mean safe; it means the model's defined event and evidence requirements were not met.

2024 register status	Cases	Share of full grid	Interpretation
Scored	249	72.38%	Met prospective eligibility rules.
Formal warning (13% or more)	77	22.38% of full grid; 30.92% of scored	Requires review; not a confirmed event.
High warning (30% or more)	12	3.49% of full grid; 4.82% of scored	Highest screening tier.
Unscored	95	27.62%	66 below starting minimum; 29 missing current calories.

7.1 Warnings by commodity

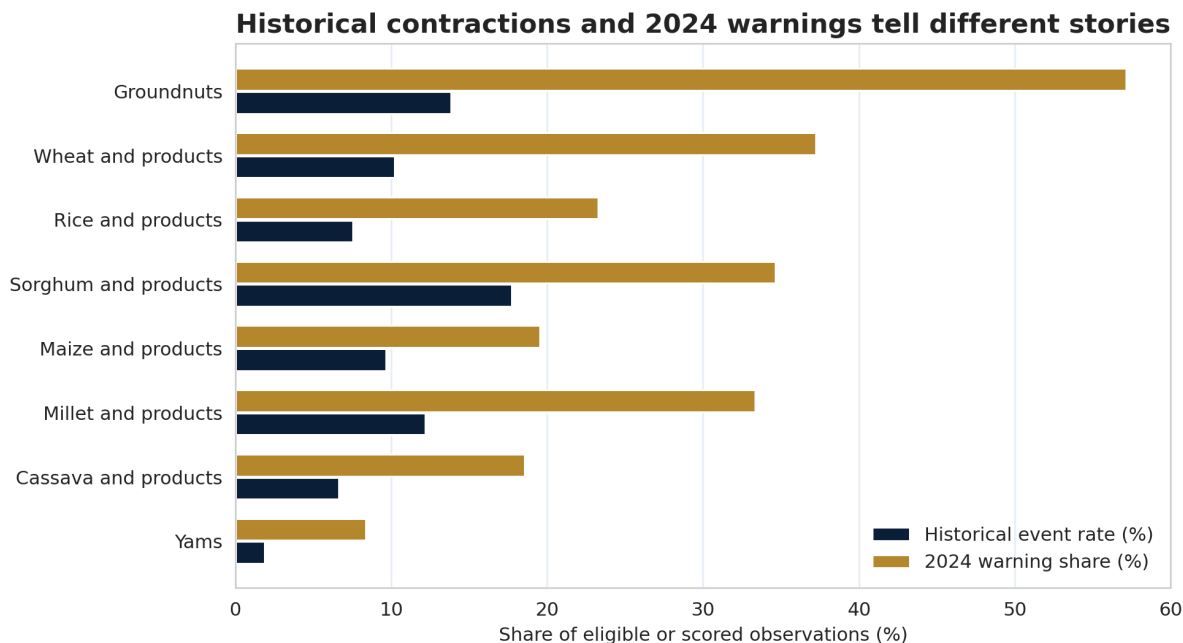


Figure 7. Historical event rates and 2024 warning shares answer different questions and are shown side by side rather than combined.

Commodity	Scored countries	Formal warnings	High warnings	Warning share	Maximum probability
Groundnuts	35	20	1	57.14%	52.9%
Wheat and products	43	16	5	37.21%	61.1%
Rice and products	43	10	0	23.26%	25.1%
Sorghum and products	26	9	1	34.62%	32.4%
Maize and products	41	8	4	19.51%	61.9%
Millet and products	21	7	1	33.33%	32.3%
Cassava and products	27	5	0	18.52%	21.1%
Yams	12	1	0	8.33%	24.0%

Table 5. Model-generated 2024 screening estimates. Warning share = formal warnings divided by scored countries for that commodity.

Groundnuts produced 20 formal warnings among 35 scored countries, the largest warning count and warning share. Wheat produced 16 formal warnings and five high warnings. Maize produced only eight formal warnings, but four were high warnings. Rice produced ten formal warnings but no high warnings. These differences show why the count of warnings and their severity should be read together.

7.2 The twelve high-warning cases

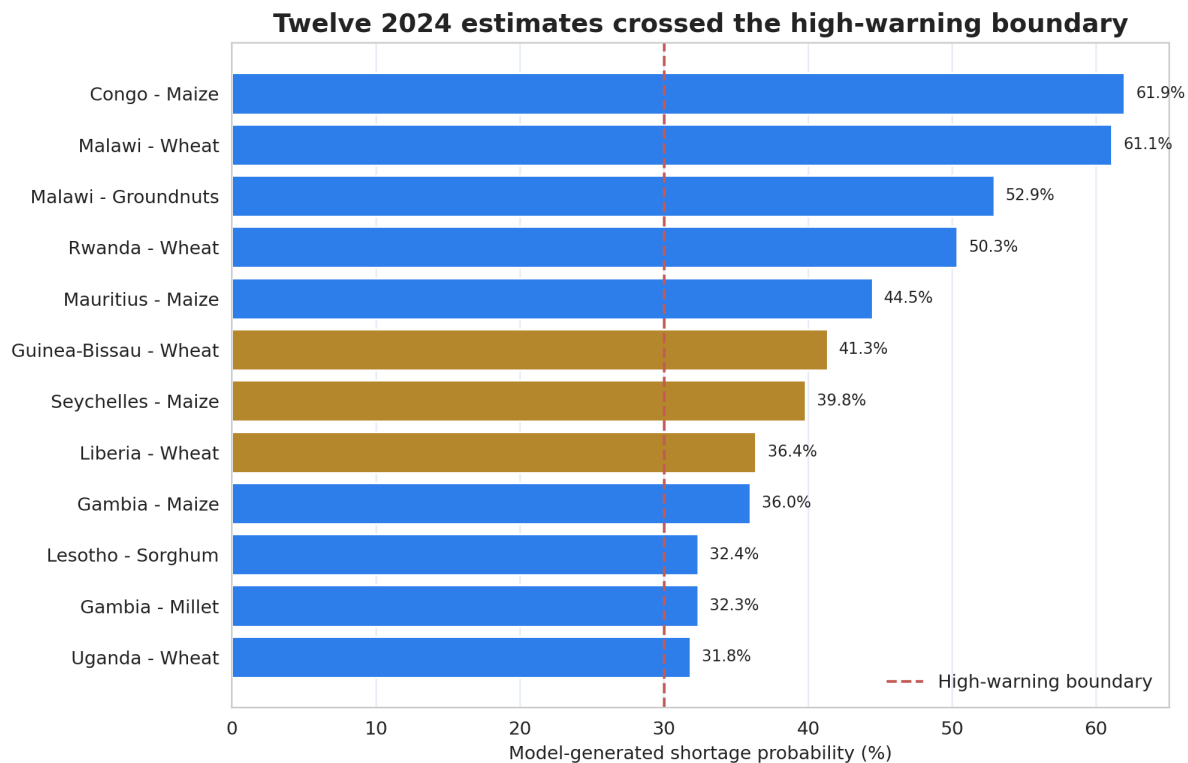


Figure 8. All model-generated 2024 high-warning cases. Gold bars indicate cases requiring heightened evidence review; blue bars were within usual historical support.

The largest estimates were Congo-maize (61.95%), Malawi-wheat (61.06%), Malawi-groundnuts (52.91%) and Rwanda-wheat (50.35%). Three high warnings - Guinea-Bissau wheat, Seychelles maize and Liberia wheat - required heightened evidence review because their 2023 predictor records contained more missing information than was usual historically. Their probabilities were not changed; the review label travels with the warning.

7.3 Evidence support qualifies the warning; it does not rewrite it

Evidence-support level	Scored cases	Meaning
Within usual historical support	195	Missingness and non-year feature ranges were broadly familiar to the model.
Heightened evidence review	53	The probability is retained, but the input evidence deserves closer manual checking.
Limited evidence: priority manual review	1	Mauritius-Cassava had no historical pair support and three non-year values outside training ranges; it was excluded from headline country comparison.

8. Historical experience and forward warning are not the same

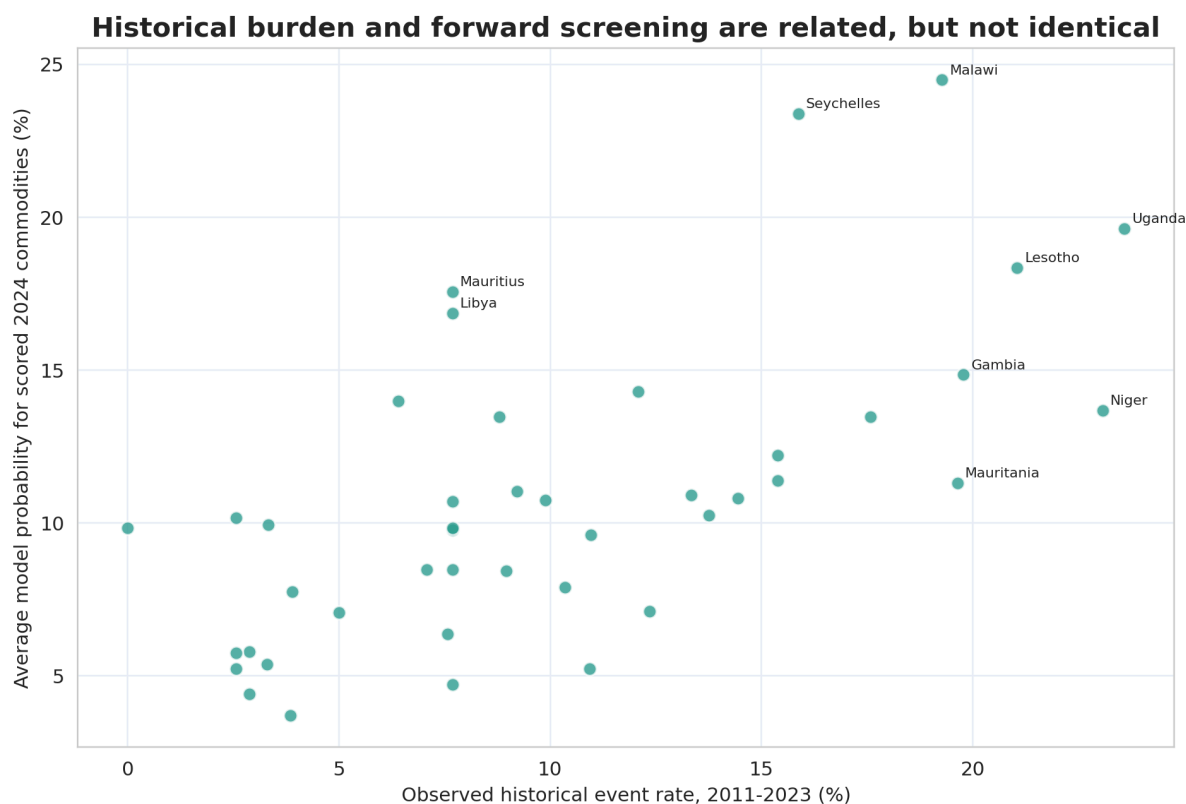


Figure 9. Country historical event rate compared with average 2024 model probability across scored commodities. Labels identify countries near the upper edges of either measure.

The two measures are related, but they do not move together perfectly. Uganda and Niger combined high historical rates with above-average forward probabilities. Congo and Mauritius had lower historical event rates but higher forward averages because one or more 2024 commodity estimates were unusually elevated. Mozambique had a relatively high historical event rate but no formal 2024 warning. These are not contradictions: history summarises realised past contractions, while forward probabilities respond to 2023 conditions.

Why no combined country score is shown

Combining history, recent events, average risk and peak risk into one number would conceal the reason a country attracted attention. The report keeps them separate so a reader can distinguish persistent historical burden, recent deterioration, broad forward concern and one concentrated commodity warning.

9. Country comparison: observed history and model-generated 2024 warnings

Country	Historical eligible	Historical events	Historical rate	Recent events / rate	Commodities ever affected	2024 scored	Formal warnings	High warnings	Maximum probability	Evidence support
Algeria	40	0	0.0%	0 / 0.0%	0	3	1	0	17.2%	3 usual
Angola	77	3	3.9%	1 / 3.3%	3	6	1	0	23.9%	6 usual
Botswana	73	8	11.0%	3 / 11.1%	3	5	1	0	26.4%	4 usual; 1 review
Burkina Faso	87	9	10.3%	4 / 12.5%	6	6	1	0	21.7%	6 usual
Cabo Verde	64	7	10.9%	2 / 8.0%	3	5	0	0	11.9%	2 usual; 3 review
Cameroon	104	3	2.9%	2 / 5.0%	1	8	0	0	10.2%	8 usual
Comoros	78	2	2.6%	2 / 6.7%	2	6	2	0	16.7%	3 usual; 3 review
Congo	78	5	6.4%	1 / 3.3%	2	6	2	1	61.9%	4 usual; 2 review
Côte d'Ivoire	104	3	2.9%	2 / 5.0%	2	8	1	0	22.0%	7 usual; 1 review
Democratic Republic of the Congo	65	5	7.7%	3 / 12.0%	2	5	2	0	21.0%	4 usual; 1 review
Djibouti	45	6	13.3%	4 / 22.2%	3	5	1	0	27.2%	1 usual; 4 review
Egypt	65	5	7.7%	3 / 12.0%	2	5	1	0	16.9%	5 usual
Eswatini	65	10	15.4%	2 / 8.0%	4	5	2	0	24.1%	5 usual
Ethiopia	80	4	5.0%	3 / 10.3%	3	6	0	0	12.6%	6 usual
Gabon	78	2	2.6%	1 / 3.3%	1	6	1	0	15.9%	5 usual; 1 review
Gambia	91	18	19.8%	5 / 14.3%	5	7	3	2	36.0%	6 usual; 1 review
Ghana	104	8	7.7%	4 / 10.0%	4	8	2	0	27.1%	6 usual; 2 review
Guinea	91	3	3.3%	1 / 2.9%	2	7	1	0	15.3%	6 usual; 1 review
Guinea-Bissau	91	8	8.8%	3 / 8.6%	6	7	2	1	41.3%	4 usual; 3 review
Kenya	90	13	14.4%	4 / 11.4%	6	7	3	0	19.0%	7 usual
Lesotho	57	12	21.1%	4 / 16.7%	3	4	3	1	32.4%	3 usual; 1 review
Liberia	67	6	9.0%	4 / 16.0%	1	5	1	1	36.4%	3 usual; 2 review
Libya	52	4	7.7%	3 / 15.0%	3	4	3	0	21.9%	3 usual; 1 review
Madagascar	52	2	3.8%	0 / 0.0%	2	4	0	0	5.9%	4 usual
Malawi	83	16	19.3%	5 / 15.6%	5	7	4	2	61.1%	6 usual; 1 review
Mauritania	56	11	19.6%	5 / 23.8%	3	5	2	0	24.3%	4 usual; 1 review
Mauritius	52	4	7.7%	1 / 5.0%	2	4	2	1	44.5%	3 usual; 1 review; 1 limited
Morocco	39	3	7.7%	1 / 6.7%	2	3	0	0	10.8%	3 usual
Mozambique	89	11	12.4%	4 / 11.8%	6	5	0	0	12.8%	5 usual
Namibia	76	7	9.2%	5 / 16.7%	4	6	2	0	25.3%	5 usual; 1 review
Niger	91	21	23.1%	10 / 28.6%	7	7	3	0	19.3%	7 usual
Nigeria	104	8	7.7%	3 / 7.5%	4	8	2	0	25.0%	0 usual; 8 review
Rwanda	91	11	12.1%	5 / 14.3%	4	7	2	1	50.3%	6 usual; 1 review
Sao Tome and Principe	66	5	7.6%	3 / 11.5%	3	5	1	0	13.4%	1 usual; 4 review
Senegal	99	7	7.1%	0 / 0.0%	4	8	2	0	24.0%	8 usual
Seychelles	63	10	15.9%	4 / 17.4%	4	4	3	1	39.8%	0 usual; 4 review
Sierra Leone	91	16	17.6%	7 / 20.0%	6	7	4	0	29.1%	6 usual; 1 review
South Africa	60	2	3.3%	1 / 4.3%	2	5	1	0	22.2%	3 usual; 2 review
Tunisia	39	1	2.6%	1 / 6.7%	1	2	0	0	6.1%	1 usual; 1 review
Uganda	89	21	23.6%	11 / 32.4%	7	7	5	1	31.8%	7 usual
United Republic of Tanzania	91	9	9.9%	3 / 8.6%	5	7	3	0	22.4%	6 usual; 1 review
Zambia	80	11	13.8%	4 / 13.3%	4	6	2	0	16.1%	6 usual
Zimbabwe	91	14	15.4%	3 / 8.6%	5	7	4	0	20.0%	7 usual

Historical and recent columns contain observed events. The 2024 columns contain model-generated screening estimates. They must not be added together or described as the same kind of evidence.

Table 6. First 22 countries alphabetically. Recent observed period = 2019-2023. Maximum probability is the highest scored commodity probability for 2024.

10. Cross-country findings that emerge only from the combined view

1. **Continental importance and country dominance are different.** Maize had the highest population-weighted calorie value, yet it was the leading selected commodity in only 12 of 43 countries. Wheat also led in 12, rice in 10 and cassava in 8.
2. **Calorie importance and physical volume can reverse the order.** Cassava ranked third by calories but first by kilograms per person and by recorded food tonnage. This reflects physical and calorie-density differences, not inconsistent data.
3. **Food and feed functions can coexist within one staple.** Maize was the largest calorie contributor and had the largest comparable feed share, showing that a commodity can simultaneously anchor food availability and animal-feed systems.
4. **An oilseed behaves differently from cereals and roots.** Groundnut processing tonnage was nearly as large as its food tonnage. Its inclusion reveals a supply-use pattern that would disappear in a cereal-only analysis.
5. **Large loss tonnage is not the same as a high loss rate.** Cassava and yams had large recorded physical losses, partly in the context of very large physical volumes. Rates and tonnes should be read separately.
6. **Historical frequency does not determine the forward order.** Sorghum led the historical event rate, but groundnuts produced the most 2024 formal warnings; wheat and maize produced the most high warnings.
7. **One severe signal can change a country's forward picture.** Congo's historical event rate was 6.41%, but its maize estimate reached 61.95%. A portfolio average and a peak warning answer different questions.
8. **No warning and no score mean different things.** A scored observation below 13% produced no formal warning. An unscored observation lacked the conditions needed for a probability. The latter must not be presented as low risk.
9. **Data support is part of the result.** Three of the twelve high warnings required heightened review. Reporting the probability without the evidence label would overstate confidence.
10. **The eight-food total is informative but not a complete diet.** Countries differ in how much of national food availability is represented by the selected commodities. The comparison must remain within the eight-food scope.

11. Appropriate use and important limitations

11.1 Appropriate uses

- Compare the roles of the same eight commodities across the covered countries using consistent definitions.

- Identify where food, feed, processing, losses, production or imports deserve closer investigation.
- Separate persistent historical contraction patterns from current model-generated warning signals.
- Prioritise manual review, additional data collection and country-specific analysis.

11.2 Uses the evidence does not support

- Declaring that one country has a better or worse food system than another.
- Treating national food availability as household consumption, affordability, hunger or acute food insecurity.
- Interpreting a model probability as an observed 2024 event or certainty that an event will occur.
- Treating missing utilisation values as zero or low recording coverage as proof that an activity did not occur.
- Inferring causes from descriptive or predictive associations without additional causal evidence.

11.3 Coverage limitations

The report covers the 43 African countries represented in the specific FAOSTAT Food Balance Sheet release used by the project, not every African state. It covers eight selected commodities, not the full diet or agricultural economy. Food Balance Sheets are annual national accounts; they do not reveal within-year seasonality, household inequality or local market conditions. Some utilisation elements are more completely recorded than others, and this is especially important for feed, processing, seed and other non-food uses.

Appendix A. Definitions

Term	Meaning in this report
Apparent food availability	The national quantity recorded as available for human consumption after the Food Balance Sheet accounting process. It is not a household survey of what people ate.
Population-weighted average	An average in which countries with larger populations contribute more to the continental value than countries with smaller populations.
Domestic supply	The commodity quantity available within the country after production, imports, exports and stock variation are reconciled.
Food	The recorded quantity directed to human food availability.
Feed	The recorded quantity used to feed animals.
Processing	The recorded quantity transformed into another product, such as oil extraction from groundnuts.
Seed	The recorded quantity reserved for planting future crops.
Losses	Recorded losses within the national commodity balance, such as losses during storage, handling or distribution. They are not a direct household-waste measure.
Other non-food uses	Recorded uses outside food, feed, seed and the separately listed processing categories.
Residuals	Balancing values used in the Food Balance Sheet when recorded supply and use components do not reconcile exactly.
Recorded	The source contained a numeric value, including positive values, explicit zeros and valid negative accounting values.
Source-present missing	The source row existed, but its numeric value for that year was blank.
Source-absent	No source row existed for the expected country-commodity-measure combination. This was preserved as unknown rather than automatically changed to zero.
Comparable-row ratio	A ratio calculated only where the use or source quantity and domestic supply were both recorded.
Observed shortage event	A historical year-to-year calorie fall meeting the project's fixed 15%, 5-kcal and minimum-starting-value conditions.
Formal warning	A model-generated 2024 probability of at least 13%. It requests review; it is not a confirmed shortage.
High warning	A model-generated probability of at least 30%.
Unscored	A case for which the model did not issue a probability because the current calorie value was missing or below the event-definition minimum.
Evidence review level	A label describing how familiar and complete the predictor evidence was relative to the model's historical data.
Historical event rate	Observed shortage events divided by eligible historical transitions.
Forward average probability	The average 2024 model probability across a country's scored commodities; it is not the probability that the country as a whole will experience a food crisis.
Peak probability	The largest single 2024 commodity probability within a country.

Appendix B. Evidence and calculation notes

All values in this report were generated from the supplied analytical evidence package and reconciled before writing. The analytical panel contained exactly 4,816 unique country-commodity-year rows. The historical register contained 3,248 eligible outcomes and 334 events. The 2024 register contained 344 cases, of which 249 were scored, 77 produced formal warnings and 12 produced high warnings.

Recent availability and utilisation measures were calculated over 2021-2023. Population-weighted averages used the population recorded for each country-year. National tonnes were summed across recorded values within each year and averaged across the three years. Comparable-row utilisation and supply ratios used only rows where both the numerator and domestic supply were recorded.

Historical and forward measures were taken from the validated country and commodity evidence tables.

Primary source and complementary context

FAOSTAT Food Balances data portal — fao.org/faostat/en/#data/FBS

FAO, Food Balance Sheets: A Handbook — fao.org/4/x9892e/x9892e00.htm

United Nations Statistics Division, M49 geographic regions — unstats.un.org/unsd/methodology/m49/

FAO Global Information and Early Warning System — fao.org/giews/

FEWS NET — fews.net/

Final interpretation

This report is a comparative evidence layer between the methodology and the country profiles. It shows what becomes visible when the same eight commodities, historical event definition and forward-warning model are examined across all 43 countries at once. The country profiles remain necessary for detailed interpretation of the individual national histories and warnings.

Suggested citation

Adelanwa, A. (2026). Eight Staple Food Systems Across 43 African Countries: Food availability, supply utilisation, historical shortage events and 2024 early-warning estimates. Talence Research.

Data and responsibility

This report uses project-processed FAOSTAT Food Balance Sheet data. Talence Research is responsible for the analysis and interpretation. This is not an FAO publication and does not imply FAO endorsement.

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