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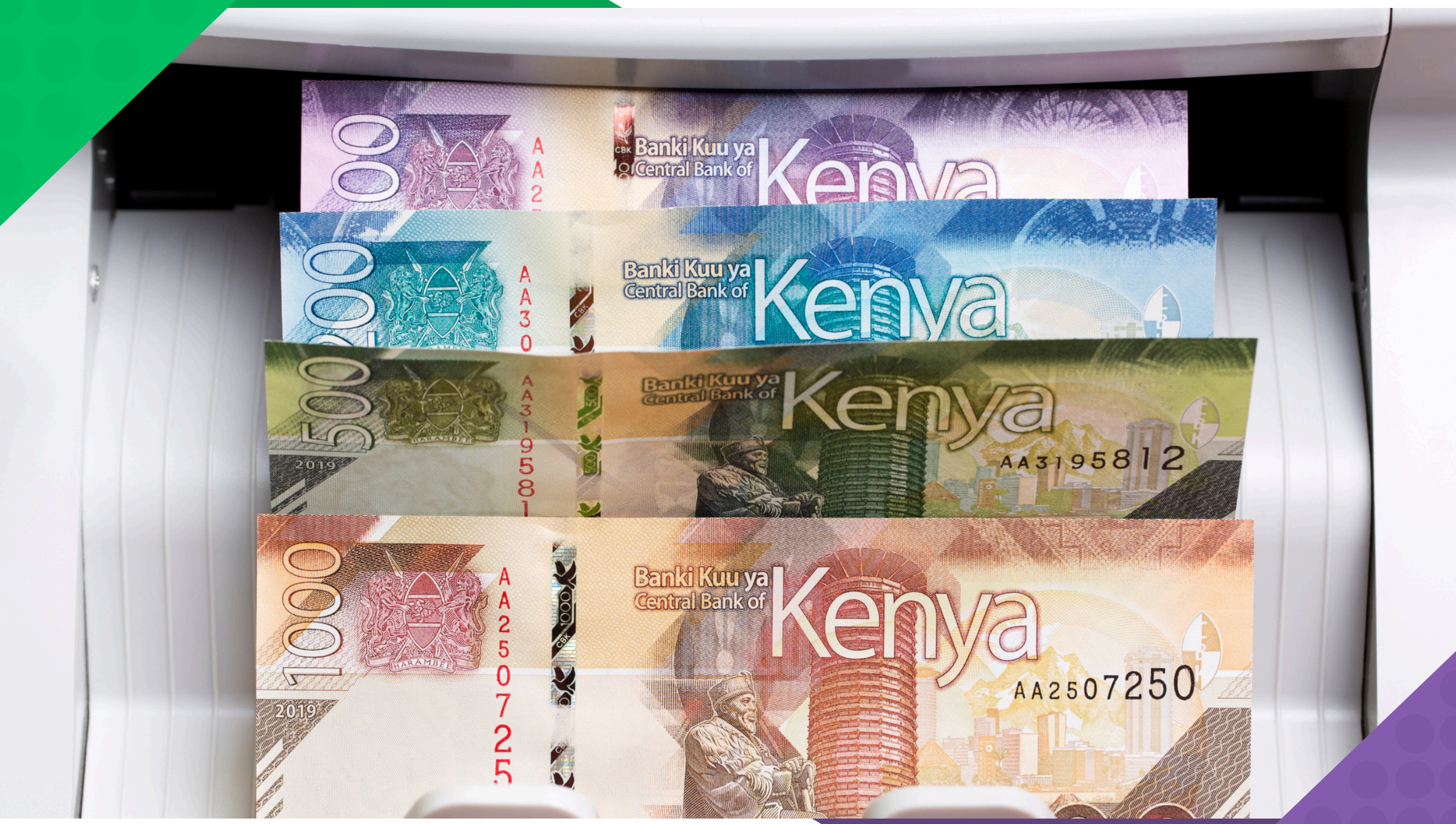

DEBT-FOOD SECURITY LINKAGE:

Basic Integrated Analysis of the Structural Food Security and Macroeconomic Vulnerabilities in Kenya

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Summary

This blog presents an integrated analysis of the structural linkages between food security and macroeconomic vulnerabilities in Kenya. Using data from the Economic Survey 2025 Food Balance Sheet (FBS) and the 2025/26 Debt Sustainability Analysis (DSA) published in the Budget Policy Statement (2026), it highlights how Kenya's food availability, nutritional adequacy, and import reliance intersect with sovereign debt dynamics and external sector constraints.

In brief, Kenya's per capita daily caloric supply ranges narrowly around 2,100 kcal, slightly above the FAO minimum threshold, with protein and fat intake generally adequate but dietary patterns heavily reliant on cereals and vegetal products. Self-Sufficiency Ratios (SSR) have improved, exceeding 105% in aggregate in 2024, while Import Dependency Ratios (IDR) for cereals and other plant staples remain above 20% sometimes, signalling moderate structural vulnerability to global commodity markets.

On debt dynamics, the DSA provided in the 2026 BPS indicates that although Kenya's debt-to-GDP ratios remain within solvency thresholds, liquidity pressures, particularly high debt service-to-exports and debt service-to-revenue ratios, absorb significant foreign exchange resources. This constrains the country's capacity to finance essential food imports, especially under volatile exchange rates or global price shocks, creating a direct feedback loop between sovereign debt obligations and food system resilience.

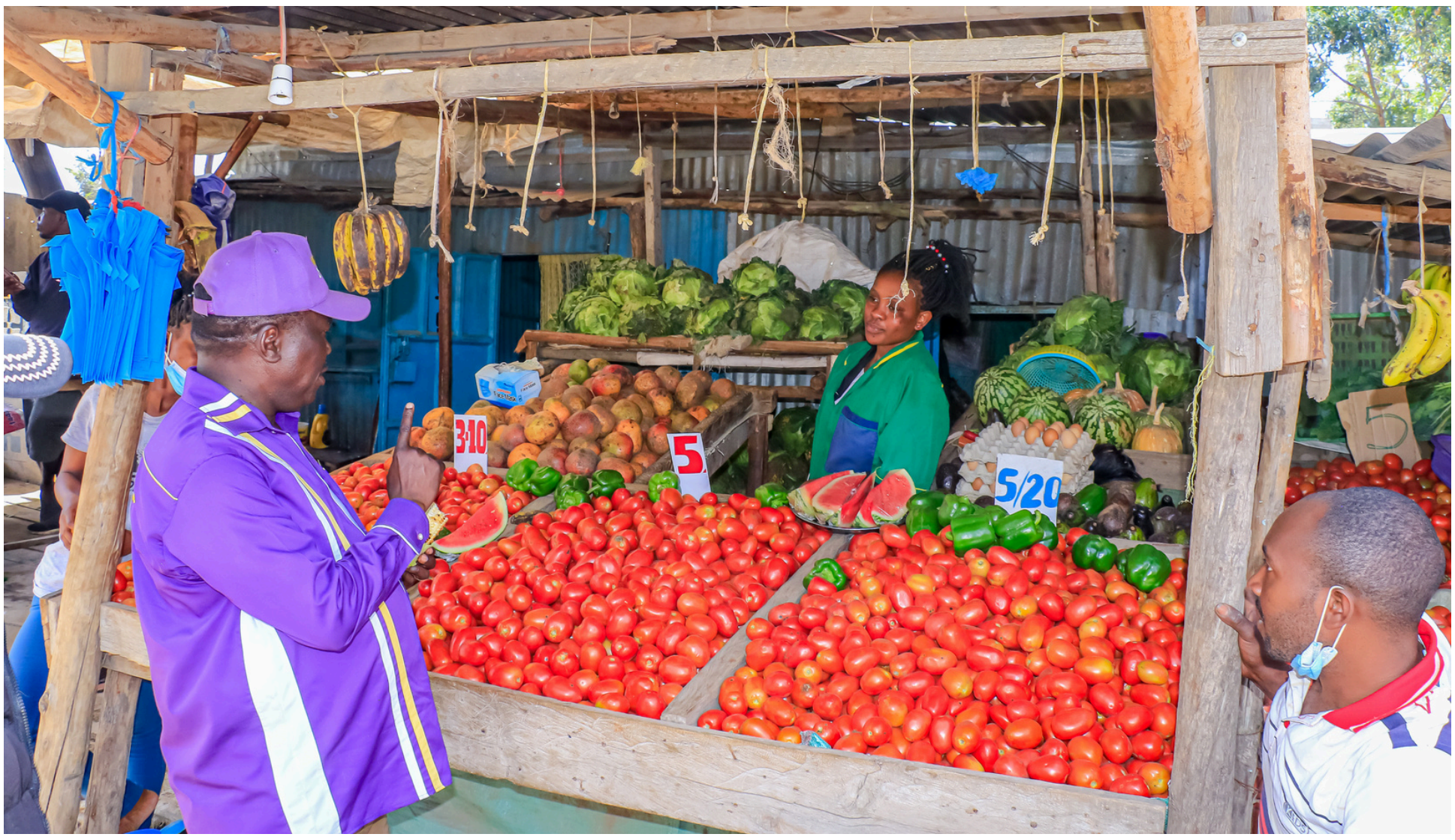
The analysis underscores that Kenya's food security is not solely determined by domestic production but is also structurally contingent on macroeconomic stability, foreign exchange availability, and debt management. Strengthening resilience requires an integrated policy approach encompassing debt portfolio rebalancing, export diversification, dietary and crop diversification, and targeted foreign exchange buffer strategies to safeguard food systems against external and fiscal shocks.

1. Introduction

Food security is inherently multidimensional, encompassing not only the biological availability of food but also its economic and financial sustainability within a national macroeconomic framework. In Kenya, the structural stability of food systems cannot be evaluated in isolation from the country's fiscal position, external sector performance, and sovereign debt dynamics.

This blog integrates evidence from the Food Balance Sheet (FBS) reported in the Economic Survey 2025 by the Kenya National Bureau of Statistics (KNBS) and situates it within the broader macro-fiscal context presented in the 2025/26 Debt Sustainability Analysis (DSA) by the National Treasury through the Budget Policy Statement published this February, 2026.

By analytically merging food system indicators and sovereign debt metrics, this blog demonstrates that Kenya's food security outcomes are not purely agricultural phenomena; rather, they are also structurally related to balance of payments (BOP) pressures, foreign exchange constraints, and debt servicing obligations.



2. The Food Sheet Balance

The Food Balance Sheet (FBS) provides a macro-accounting framework reconciling domestic production, imports, exports, stock changes, and non-food uses to derive food available for human consumption. From this accounting structure, three structural indicators emerge:

Ø Per Capita Daily Calorie Supply that measures nutritional adequacy

Ø Self-Sufficiency Ratio (SSR), measures domestic production capacity relative to supply

Ø Import Dependency Ratio (IDR), depicts the country's structural reliance on international markets.

When benchmarked against international thresholds, they offer insight into food resilience and external vulnerability. Below is Kenya, food balance reported in the economic survey of 2025.

	Indicator	2020*	2021*	2022*	2023	2024*
Per Caput Daily Supply	Calories - '000	2,231.6	2,107.0	2,114.6	2,143.6	2,152.7
	Proteins - Grams	71.1	61.9	64.0	63.0	64.0
	Fats - Grams	29.3	30.2	34.2	34.0	34.0
Self Sufficiency Ratio (SSR) - Per Cent	**Total**	**88.6**	**89.7**	**87.5**	**94.8**	**105.5**
	Vegetal Products	87.2	88.2	85.8	94.3	107.2
	Animal Products[1]	97.3	97.9	97.4	96.7	97.9
	Fishery Products	90.3	87.8	87.0	85.9	86.5
Import Dependency Ratio (IDR) - Per Cent	**Total**	**14.5**	**13.3**	**14.5**	**19.3**	**17.3**
	Vegetal Products	16.1	15.2	16.2	22.6	20.6
	Animal Products[1]	4.0	3.3	4.1	4.4	2.3
	Fishery Products	12.9	17.5	16.8	15.7	15.2
Per Caput Caloric Daily Supply	Vegetal Products - '000 calories	2,021.4	1,889.3	1,906.0	1,917.9	1,924.9
	Of which Cereals - '000 calories	1,031.3	1,054.6	1,000.5	937.5	942.8
	Animal Products - '000 calories	210.2	217.7	208.6	225.7	227.8

3. Food Availability and Nutritional Adequacy

3.1 Caloric intake analysis

The above KNBS Table is explained as follows in greater detail in relation to global standards:

Table 1: Kenya Food Balance Sheet Indicators (Recent Five-Year Period)

Indicator	2020	2021	2022	2023	2024
Per Caput Daily Supply (Calories)	2,231.60	2,107.00	2,114.60	2,143.60	2,152.70
Proteins (grams/day)	71.1	61.9	64	63	64
Fats (grams/day)	29.3	30.2	34.2	34	34

The FAO minimum dietary energy requirement for a moderately active adult is approximately 2,100 kcal/day. Kenya's caloric supply fluctuates narrowly around this threshold, with year 2021 value (2,107 kcal) hovering marginally above the minimum.

This implies:

- Aggregate national sufficiency,
- Limited buffer against production shocks,
- High vulnerability to climatic or import disruptions like the Ukraine-Russia war and any other geopolitical crisis.

The narrow margin above subsistence thresholds suggests structural fragility rather than abundance.

3.2 Macronutrient Composition

Protein intake ranges between 61–71 grams per capita per day, remaining above the WHO minimum requirement (~50 g/day). Fat intake remains moderate and nutritionally adequate.
However, compositional analysis reveals dietary concentration in plant-based staples.

Table 2:Per Capita Caloric Supply by Source ('000 kcal)

Indicator	2020	2021	2022	2023	2024
Vegetal Products	2,021.40	1,889.30	1,906.00	1,917.90	1,924.90
— Of which Cereals	1,031.30	1,054.60	1,000.50	937.5	942.8
Animal Products	210.2	217.7	208.6	225.7	227.8

Approximately 90% of total caloric supply originates from vegetal products, with cereals alone contributing nearly half of total caloric intake. This concentration introduces production and price risk around staple grains.

4. Structural Self-Sufficiency and Trade Exposure

4.1 Self-Sufficiency Ratios (SSR)

Table 3: Self-Sufficiency Ratio (%)

Indicator	2020	2021	2022	2023	2024
Per Caput Daily Supply (Calories)	2,231.60	2,107.00	2,114.60	2,143.60	2,152.70
Proteins (grams/day)	71.1	61.9	64	63	64
Fats (grams/day)	29.3	30.2	34.2	34	34

Interpretation

An SSR above 100% indicates net exporter status. The recent rise above of 105% suggests short-term structural improvement in domestic production capacity, especially for vegetal products.

However, this must be interpreted cautiously:

- Gains may reflect favorable climatic cycles.
- SSR does not measure stability or distribution.
- Cereals remain structurally sensitive to drought risk.

4.2 Import Dependency Ratios (IDR)

Table 4: Import Dependency Ratio (%)

Indicator	2020	2021	2022	2023	2024
Total	14.5	13.3	14.5	19.3	17.3
Vegetal Products	16.1	15.2	16.2	22.6	20.6
Animal Products	4	3.3	4.1	4.4	2.3
Fishery Products	12.9	17.5	16.8	15.7	15.2

International vulnerability classifications often treat IDRs above 20% as moderate-to-high exposure. Kenya's vegetal products surpass this threshold in certain years (22.6% in 2023 for vegetal products), indicating meaningful reliance on global cereal markets.

Thus, structural exposure is concentrated in:

- Wheat
- Rice
- Edible oils

These are commodities highly sensitive to global price volatility.

5. Debt Sustainability & Macroeconomic Constraints

The 2025/26 Debt Sustainability Analysis categorizes Kenya as at high risk of debt distress, though debt is assessed as sustainable under baseline projections.

Indicators	Threshold	2024	2025	2026	2027	2028	2029	2030
		Actual	Projection					
PV of PPG external debt-to-GDP ratio	40.0	30.8	28.3	27.5	26.8	25.5	24.4	24.6
PV of PPG external debt-to-exports ratio	180.0	180.3	182.2	167.5	158.7	147.9	141.6	145.1
PPG debt service-to-exports ratio	15.0	26.3	22.5	18.3	15.9	18.3	15.9	15.9
PPG debt service-to-revenue ratio	18.0	27.0	20.6	17.6	15.5	18.3	16.1	16.2

Figure 1: Kenya's Public Debt Sustainability Analysis

What does the above Table mean?

Table 5: Debt thresholds

Indicator	Status Relative to Threshold
PV of Public Debt-to-GDP	Above 55% benchmark
External Debt-to-GDP	Within threshold
Debt Service-to-Revenue	Breached threshold
Debt Service-to-Exports	Projected to exceed threshold through 2030

The debt service-to-exports ratio is particularly critical for food security because exports generate the foreign exchange required for:

1. External debt repayment,
2. Essential food imports.

When debt service absorbs a large share of export earnings, foreign exchange liquidity tightens.

6. Food Security Within the Balance of Payments Framework

The balance of payments identity implies:

Current Account = Exports − Imports + Net Transfers

Food imports contribute directly to:

01

Merchandise import bill

02

Current account deficit

03

Foreign exchange demand

Given vegetal IDRs exceeding 20% in certain years, cereal imports become structurally embedded in the BOP.

Simultaneously:

01

Debt service payments increase foreign exchange outflows.

02

Exchange rate depreciation raises food import costs.

03

Higher food prices elevate inflation and fiscal subsidy pressures.

Thus, Kenya faces a dual external constraint:

- Financing sovereign debt,
- Financing structural food imports.

This interaction generates macro-financial-food system feedback loops.

7. Structural Vulnerability Synthesis

Kenya exhibits:

1. Caloric adequacy slightly above minimum thresholds.
2. Concentrated dependence on cereal-based caloric supply.
3. Moderate import dependency for vegetal staples.
4. Elevated debt service burdens constraining foreign exchange.

The convergence of these variables implies:

1. Food security is macro-financially contingent
2. External shocks (commodity prices, exchange rate depreciation, global tightening) transmit directly into domestic food systems.
3. Debt servicing pressures may crowd out food system investments.

8. Policy Implications

An integrated resilience framework requires:

1. **Debt Portfolio Rebalancing**
   Reducing foreign currency exposure and extending maturities to lower rollover risk.

2. **Export Diversification**
   Enhancing non-traditional exports to increase FX buffers.

3. **Food System Diversification**
   Reducing cereal dominance to mitigate climatic and trade risk.

4. **Foreign Exchange Buffer Accumulation**
   Maintaining adequate reserves to smooth food import financing.

9. Conclusion

Kenya's Food Balance Sheet presents a narrative of near-threshold caloric adequacy and improving self-sufficiency. However, when embedded within the macroeconomic context of high debt service obligations and external sector pressures, structural fragility becomes apparent.

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