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ASSESSING REGIONAL TRENDS IN STUNTING AMID POLYCRISES

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EXECUTIVE SUMMARY

Recent progress in reducing stunting has been slow, with many countries tracking far below their national targets. As the observed stagnation in stunting reduction occurs amid multiple crises it is important to understand better at what level this slowdown originates - whether at the immediate levels where stunting drivers are well understood or in the general environment in which they occur. This analysis contextualizes the recent slowdown in regional progress and identifies possible entry points to help countries get back on track toward their national targets.

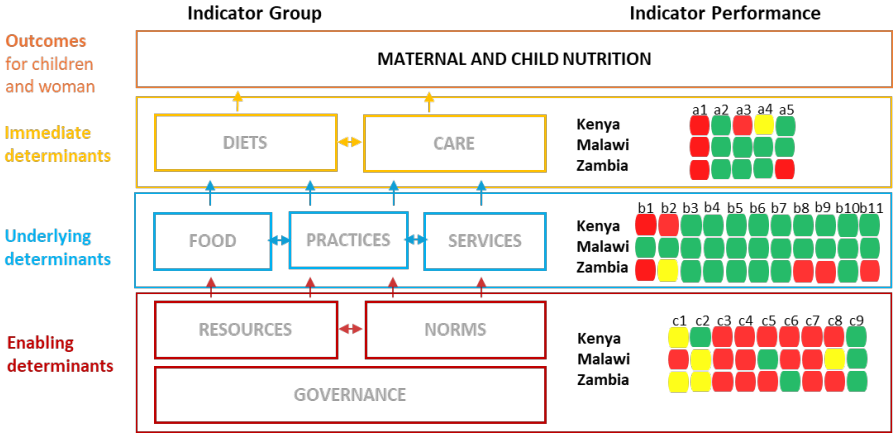
We use the UNICEF conceptual framework of malnutrition to track progress on indicators across three levels of determinants: immediate, underlying, and enabling as summarized in Figure 1. We focus on Malawi, Zambia, and Kenya, some of which have ambitious policy goals but are not always on track to meet them. Our analysis shows that **stagnation co-occurs with improvements in the immediate and underlying determinants**, while most **enabling determinants have worsened** over the same period. These gains may reflect short-term intervention success but not the structural changes needed for lasting improvement. Additionally, we find that:

- Many **national policies are focused on production**, and there is an opportunity to expand food systems thinking beyond agriculture
- **Shift on systems focus on policies comes at the cost of tangible sectoral goals** and existing demand side tools, such as food based dietary guidelines, are underleveraged
- Good practices from other case studies show that **investments at the demand-side yield high returns**, through social safety net or institutional delivery mechanisms

Stakeholder engagement, including researchers and international development partners, carried through workshops, highlights that efforts need to be directed to safeguard progress made in the immediate and underlying determinants and that enabling determinants must be better supported. Specifically,

- **Retain the progress** made on immediate determinants through continued programmatic and intervention work
- **Establish policy** work to support demand-side interventions
- **Support sectoral ministries** to engage and acknowledge their counterparts' work in dedicated coordination structures, including acknowledging up-to-date scientific evidence

Figure 1: *UNICEF Conceptual Framework of Malnutrition and indicator performance by country*. Green = improvement, yellow = stagnation, red = deterioration*



a1: Excl. breastfeeding <6 mo; a2: Intro. of foods (6-8 mo), a3: Child. breastfeeding at 2 years; a4: Min dietary divers. (6-23 mo); a5: Min. meal freq. (6-23 mo).
b1: Per capita dietary energy; b2: Protein supply; b3: Total fertility rate 15-49; b4: Age at first marriage; b5: Antenatal visits pregnancy; b6: Assistance during delivery; b7: Female sec. school attend; b8: Women who are literate; b9: Piped water at dwelling; b10: Pop. using open defecation; b11: Households with basic wash.
c1: GDP growth; c2: GDP per capita; c3: Poverty; c4: Inflation; c5: Education exp.; c6: Health exp.; c7: Out-of-pocket health exp.; c8: Unemployment; c9: Literacy rate.
**Based on the direction of change of indicators between the latest Demographic and Health Surveys (DHS) rounds for each country (Kenya 2014-2022, Malawi 2015/16 -2024, Zambia 2018-2024)*

INTRODUCTION

The most widespread type of undernutrition is stunting. In 2024, over 150.2 million children were stunted globally, which is defined as being more than two standard deviations below the median height-for-age (1,2). Stunting develops within the first 1,000 days after conception due to factors such as poor maternal nutrition, inadequate feeding, poor sanitation, infections, and limited healthcare access (3). It increases the risks of illness, mortality, impaired physical growth and brain development, and reduces future economic capacity, undermining national human capital (4). It also follows an intergenerational pattern, as women who experienced stunted growth in childhood are more likely to have stunted children, reinforcing a cycle of limited development (4).

Stunting has been highlighted as a global health priority. The World Health Assembly (WHA) set a target to reduce the number of children under five who are stunted by 40% by 2025 (relative to 2012) (5), and SDG target 2.2 reinforces this goal (6), which was extended to 2030 due to limited progress. In 2024, 30.3% of African children under five were stunted, higher than the global average of 23.2% (1). Africa is the only region where the number of stunted children increased, from 61.7 million in 2012 to 64.8 million in 2024, also reflecting the region's rapidly growing child population (1).

Causes of malnutrition are diverse. The UNICEF conceptual framework provides a hierarchical overview of determinants, structuring how enabling determinants – such as socioeconomic, political, and environmental conditions – shape underlying factors like food access, caregiver capacity, and health services, which in turn affect immediate causes such as dietary intake (7,8). Determinants of stunting are well established: Studies show that improvements in parental literacy, household income, and WASH conditions are key drivers of national reductions in stunting (9,10). However, recent crises like the COVID-19 pandemic, conflicts, and extreme weather events have worsened malnutrition and increased stunting rates, making it harder for countries to set and achieve nutrition and public health goals.

A polycrisis occurs when multiple crises happen simultaneously and intensify each other's effects, e.g., a pandemic, extreme weather, and economic shocks.

This analysis examines three countries in Sub-Saharan Africa: Kenya, Malawi, and Zambia. It provides insights to assess progress and guide realistic targets for reducing stunting.
Specifically, this document will:

1) Contextualize recent advances in stunting with global challenges.
2) Highlight progress and stagnation relative to regional benchmarks and historical trends.
3) Examine key enabling, underlying, and immediate determinants, alongside relevant policies and interventions, to understand why some countries made progress or stalled.
4) Offer policy recommendations.

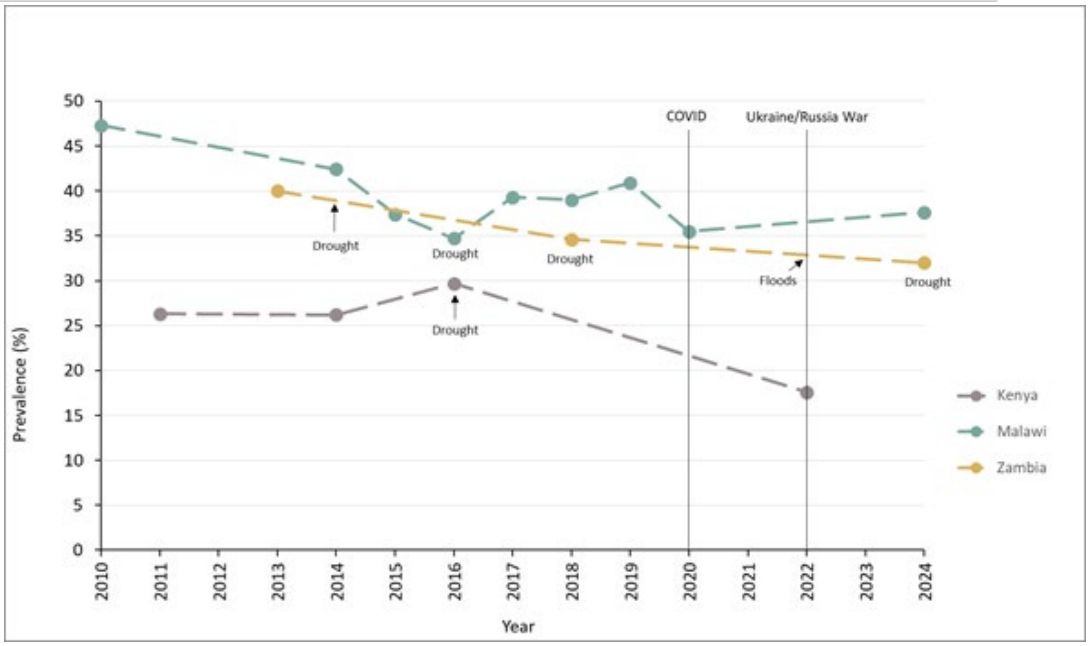
TRAJECTORIES IN STUNTING REDUCTION

The 3 countries have shown different levels of progress in stunting prevalence over the past 10 years, as illustrated in Figure 1.

Malawi

Stunting in Malawi declined from 2000 to 2015/16; however, progress slightly reversed, reaching 37.6% in 2024 (11,12). This is higher than the regional averages for Eastern and Southern Africa. Between 2010 and 2016, Malawi reduced stunting by 1.6 percentage points (pp) annually (average annual rate of change), but between 2016 and 2024, the rate increased by 0.5pp.

Figure 2: Trends in stunting prevalence



Policy goals
Between 2010 and 2024, Malawi achieved an average annual rate of reduction (AARR)[1] of about 1.54% per year in stunting. However, it missed its 2018–2022 National Nutrition Policy target of reducing stunting to 30% by 2022, and the World Health Assembly goal of a 40% reduction by 2025. The 2025–2030 National Multisector Nutrition Strategic Plan now aims to lower stunting from 38% to 33% by 2030 (a 13.2% reduction). However, with the current pace, prevalence in 2030 is projected to be about 35%. This highlights the challenge of accelerating progress to meet international and domestic commitments.

This reversal coincides with multiple shocks, including the 2015/16 El Niño-induced agricultural drought, which led to crop failure, food shortages, acute food insecurity, and disruptions in health services (13,14), followed by the COVID-19 pandemic, which affected household incomes, food access, and essential health and nutrition services (15).

Zambia

Stunting has declined over time, from 53% in 2001/02 to 32% in 2024, although the rate of reduction has slowed in recent years (16,17). [1]

The current prevalence reflects an average annual decline of 0.4 pp since 2018. This is a slower pace of reduction compared to earlier periods, such as 2013–2018. The current estimates are also higher than the regional averages for Southern Africa and the Eastern Africa. Zambia experienced El Niño droughts in 2014/15, 2018/19 and in 2024, and floods in 2022, which could have contributed to the slowdown in progress, in addition to global shocks (18).

Policy goals
The average annual rate of reduction for Zambia from 2010 to 2024 is approximately 1.99% annually. Zambia's stunting level remains too high to meet the WHA goal of reducing prevalence to 20.1% by 2025. The government's current goal is even more ambitious, aiming to reduce the stunting rate from its current level of 32% to 15% by 2030. If past AARR trends persist, the projected stunting prevalence in 2030 would be around 28.4%, which falls short of the target.

[1] This was calculated between the starting year of 2010 and the latest available period. Using a log-linear regression (exponential growth model), the current AARR is equal to 1 - exp(β), where β is the slope in the model Y=a+ β*X, Y is the natural logarithm of the prevalence and X is the survey year (X).

Kenya

Kenya has made substantial progress in reducing stunting, with prevalence steadily declining from 36% in 2003 to 17.6% in 2022 (19,20). In 2022, the national stunting rate was lower than both the Eastern Africa and the Africa-wide average. Stunting declined by 1.31 pp per year on average between 2008/9 and 2022. Despite this progress, Kenya continues to face geographic inequalities. Arid and semi-arid lands have stunting rates above the national and regional averages. For example, stunting rates were 37% in Kilifi, and 34% in West Pokot (19). Droughts worsen food insecurity in arid counties such as Turkana, Mandera, and Marsabit.

Policy goals
For Kenya, the average annual rate of reduction from 2011 to 2022 was 3.75%. The country surpassed its national Big 4 Agenda target of 19% by 2022. Based on this AARR, the predicted stunting rate for 2025 is approximately 15.4%, suggesting that Kenya is among one of the few countries on track to meet the 2025 WHA stunting reduction target.

DETERMINANTS OF NUTRITION AND DIET

Kenya, Malawi, and Zambia reflect distinct structural, environmental, and policy contexts that shape nutrition outcomes. Enabling determinants vary across countries (cf. Figure 1).

Kenya has made progress in several areas; however, some enabling determinants have deteriorated. After the 2016/17 drought and global shocks, unemployment, inflation, and poverty rose. In 2021, 36.1% of the population was living below the poverty line (21). Also, inflation and GDP growth were volatile. Spending on health and education has been declining. Nevertheless, Kenya's fertility and maternal health indicators improved between 2014 and 2022, with fertility declining, antenatal visits rising, and skilled deliveries reaching nearly 90%. Essential health service coverage also increased, while infant and young child feeding practices showed mixed results. For instance, dietary diversity and meal frequency improved, but breastfeeding indicators declined. Access to water and sanitation improved, and women's education and literacy expanded.

Malawi has faced severe shocks, leading to weak growth, high inflation, and poverty rates reaching 72% in 2022 (21). Health spending fluctuated but recovered to 7.6% of GDP. Fertility and maternal health outcomes improved, with more women having access to antenatal care and skilled deliveries, though coverage of essential health services has stagnated. Infant and young child feeding practices remain weak, and dietary diversity is among the lowest in the region. Access to water and sanitation improved but remains limited, and women's education and literacy levels, while improving, are still low.

Zambia also experienced economic challenges after droughts and global shocks, with poverty rising to over 70% (21). Despite this, health spending and coverage of essential services have increased. Fertility and maternal health indicators also improved, with higher antenatal care and skilled birth attendance. Some infant and young child feeding indicators improved, although dietary diversity remains low. Water and sanitation outcomes were mixed, with progress in reducing open defecation but setbacks in access to handwashing facilities. Education and literacy among women improved gradually.

POLICY LANDSCAPE

The analysis of food systems and nutrition policies shows that all three countries recognize the importance of nutrition within their development agendas. Each has adopted multisectoral strategies—spanning agriculture, education, nutrition, health, and other sectors—and has allocated resources to support interventions. However, policies remain strongly production-oriented, both in terms of the number of policies and the resources allocated. While this approach has

contributed to productivity gains and production stimulation, it also reflects an imbalance: production-focused strategies are not yet complemented by demand-oriented interventions, which are necessary for agricultural progress to translate into improved nutritional outcomes. Tools that could strengthen demand, such as food-based dietary guidelines or consumer education, remain underutilized.

Production-focused strategies are not yet complemented by demand-oriented interventions.

An in-depth policy review (available in the accompanying discussion paper) has highlighted that agricultural production is represented strongly in the policy landscape, but that corresponding policies from other sectors are often scarce and sidelined. Policies also indicate that systems thinking is frequently mentioned. However, in many cases, it comes at the expense of clear sectoral objectives, such as explicit nutrition targets and dedicated budget lines.

EXAMPLES FROM OTHER LMICS

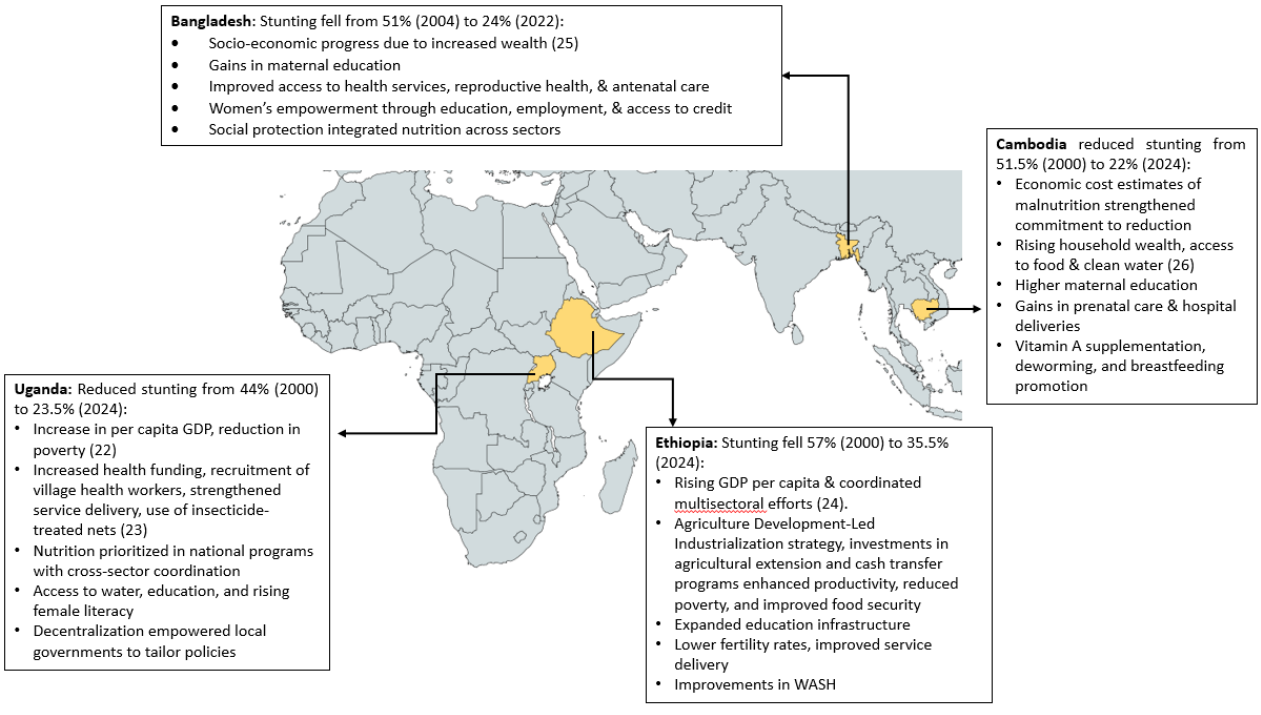
In Africa, regional trends are mixed: stunting prevalence has increased in Central and Southern Africa, while it has declined in Eastern and Western Africa.

Southern Asia and countries like Uganda and Ethiopia have made substantial progress in reducing stunting. Common factors include investment in economic growth for the poorest, improvements in GDP and labor prospects, alongside demand-side support through social safety nets and multisectoral Nutrition Action Plans. Examples of good practices from other countries are shown in Figure 3. These experiences suggest that a one percentage point annual reduction remains achievable even in times of polycrises

CONCLUSIONS

Kenya, Malawi, and Zambia all have made progress in reducing stunting. Kenya has shown steady progress since 2016, and the stunting rate is now below regional averages, but recent progress has slowed in Malawi and Zambia. This occurs despite strong policy frameworks addressing multiple drivers of malnutrition.

Figure 3: *LMICs examples from positive deviants*



Overall, underlying and immediate determinants have improved, but enabling factors have worsened, likely due to multiple crises, from weather shocks to economic slowdowns. Worsening enabling determinants indicate fragility in the gains made with the underlying and immediate determinants.

These gains may reflect the success of short-term stunting interventions without the structural changes needed to ensure long-term, sustained improvements, leaving the population vulnerable to major shocks, including the withdrawal of external support.

The three countries have robust policy frameworks across sectors, supported by multisectoral structures that ensure coordination at the national level. However, challenges remain, particularly in government funding for education and nutrition. Implementation has been fragmented, and stronger coordination across sectors and government levels is needed to improve stunting outcomes.

Kenya has made steady progress in reducing stunting, supported by better performance on enabling determinants such as higher GDP per capita, lower inflation, and investments in education especially for girls. The country has improved access to sanitation, reduced fertility rates, and enhanced child feeding practices. Decentralized governance has strengthened local planning and financing for health and nutrition, while multisectoral coordination and expanded social protection programs have further supported nutrition outcomes.
In addition to lessons from the best-performing countries, other opportunities to improve stunting outcomes are highlighted. While strengthening systems and cross-sectoral coordination is essential, this must not come at the cost of sector-specific efforts, which still need appropriate focus and funding. There is also a need to expand demand-side investments, such as nutrition education, social protection, and women's empowerment, that will lead to sustained improvements.

POLICY RECOMMENDATIONS

Based on findings from countries that have successfully met their targets, stakeholder engagement has led to the following recommendations for countries aiming to achieve their stunting reduction goals:

Stabilize enabling determinants: Combat rising poverty, target unemployment and inflation that limits food affordability and accessibility. Scale up social protection services to cushion vulnerable populations.

Retain progress on underlying and immediate determinants through programmatic interventions; especially in infant and young child feeding practices (promoting exclusive breastfeeding (0-5 months), continued breastfeeding (12-23 months), minimum dietary diversity (5+ food groups), and WASH activities).

Implement tools, such as Food Based Dietary Guidelines that bridge production and demand-side sectors.

Advocate for the economic case of financing for nutrition, which yields large returns on investment. Demand-side support is needed alongside agricultural investments
- Allocate sufficient emergency funds for rapid nutrition support to ensure continuity and effectiveness of nutrition interventions during emergencies and shocks.
- Domestic funding needs to be improved to reduce reliance on donor funding for nutrition interventions.

Strengthen government ownership and coordination: Clarify roles, align policies, and ensure coherent and effective implementation across different actors at the community level.

REFERENCES

Levels and trends in child malnutrition [Internet]. [cited 2025 July 30]. Available from: https://iris.who.int/bitstream/handle/10665/381846/9789240112308-eng.pdf?sequence=1

de Onis M, Garza C, Onyango A, Rolland-Cachera M. WHO growth standards for infants and young children. Arch Pediatr Organe Off Soc Francaise Pediatr. 2008;16(1):47–53.

Prendergast AJ, Humphrey JH. The stunting syndrome in developing countries. Paediatr Int Child Health. 2014 Apr;34(4):250–65.

Black MM, Walker SP, Fernald LCH, Andersen CT, DiGirolamo AM, Lu C, et al. Early childhood development coming of age: science through the life course. Lancet Lond Engl. 2017 Jan 7;389(10064):77–90.

Global targets 2025 [Internet]. [cited 2025 July 30]. Available from: https://www.who.int/teams/nutrition-and-food-safety/global-targets-2025

United Nations. THE 17 GOALS | Sustainable Development [Internet]. 2015 [cited 2025 Sept 3]. Available from: https://sdgs.un.org/goals

Unicef. UNICEF conceptual framework on maternal and child nutrition. Accessed May. 2021;18:2022.

Gödecke T, Stein AJ, Qaim M. The global burden of chronic and hidden hunger: Trends and determinants. Glob Food Secur. 2018 June 1;17:21–9.

Vaivada T, Akseer N, Akseer S, Somaskandan A, Stefopulos M, Bhutta ZA. Stunting in childhood: an overview of global burden, trends, determinants, and drivers of decline. Am J Clin Nutr. 2020 Sept 14;112(Suppl 2):777S-791S.

Bhutta ZA, Akseer N, Keats EC, Vaivada T, Baker S, Horton SE, et al. How countries can reduce child stunting at scale: lessons from exemplar countries. Am J Clin Nutr. 2020 Sept 14;112(Suppl 2):894S-904S.

National Statistical Office [Malawi], ICF. Malawi Demographic and Health Survey 2024: Key Indicators Report [Internet]. National Statistical Office and ICF; 2024 [cited 2025 July 30]. Available from: https://www.jointdatacenter.org/2024-malawi-demographic-and-health-survey-mdhs-key-indicators-report/

Office/Malawi NS, ICF. Malawi Demographic and Health Survey 2015-16. 2017 Feb 1 [cited 2025 July 30]; Available from: https://www.dhsprogram.com/publications/publication-FR319-DHS-Final-Reports.cfm

Kenamu E, Colen L. Estimating the short-term effects and seasonal dynamics of Malawi's 2015/16 drought on household food insecurity and child malnutrition. SustainableFood Discussion Paper; 2025.

FAO. 2015–2016 El Niño Early action and response for agriculture, food security and nutrition. 2016;

Malawi U. Scope of food crises as COVID-19 poses new risks to nutrition needs of children of Malawi. Technical Report; 2021.

Zambia Statistics Agency, Ministry of Health (MoH) [Zambia], ICF. Zambia Demographic and Health Survey 2024: Key Indicators Report. Zamb Stat Agency MoH ICF. 2024;

Zsa ZSA, Moh M of H, Uth-Vl UTHVL, ICF. Zambia Demographic and Health Survey 2018. 2020 Jan 1 [cited 2025 July 30]; Available from: https://www.dhsprogram.com/publications/publication-FR361-DHS-Final-Reports.cfm

Ghosh S, Kour S, Taron A, Kaywala K, Rajakaruna P. Assessing El Niño-induced drought in Zambia and its effects using earth observation data. Nat Hazards. 2025 Mar 1;121(4):4505–30.

KNBS, ICF. Kenya Demographic and Health Survey 2022: Volume 1. 2023 June 15 [cited 2025 July 30]; Available from: https://www.dhsprogram.com/publications/publication-FR380-DHS-Final-Reports.cfm

Statistics KNB of, Health/Kenya M of, Council/Kenya NAC, Institute KMR, Development/Kenya NC for P and. Kenya Demographic and Health Survey 2014. 2015 Dec 1 [cited 2025 July 30]; Available from: https://www.dhsprogram.com/publications/publication-FR308-DHS-Final-Reports.cfm

World Development Indicators | DataBank [Internet]. [cited 2025 July 30]. Available from: https://databank.worldbank.org/source/world-development-indicators

How did Uganda implement? [Internet]. [cited 2025 Aug 18]. Available from: https://www.exemplars.health/topics/stunting/uganda/how-did-uganda-implement

Keats EC, Kajjura RB, Ataullahjan A, Islam M, Cheng B, Somaskandan A, et al. Malaria reduction drives childhood stunting decline in Uganda: a mixed-methods country case study. Am J Clin Nutr. 2022 June 1;115(6):1559–68.

How did Ethiopia implement? [Internet]. [cited 2025 Aug 18]. Available from: https://www.exemplars.health/topics/stunting/ethiopia/how-did-ethiopia-implement

Nisbett N, Davis P, Yosef S, Akhtar N. Bangladesh's story of change in nutrition: Strong improvements in basic and underlying determinants with an unfinished agenda for direct community level support. Glob Food Secur. 2017 June 1;13:21–9.

Zanello G, Srinivasan CS, Shankar B. What Explains Cambodia's Success in Reducing Child Stunting-2000-2014? PLOS ONE. 2016 Sept 20;11(9):e0162668. S

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For full list of references, methods and detailed discussion, please refer to the forthcoming discussion paper "Assessing progress in malnutrition amid crises in Zambia, Malawi, and Kenya: Regional and country-level insights", available at zef.de.

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