



Review Article

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Budgetary tracking of food and nutrition security funding in selected Sahel and West Africa regions from 2017 to 2019

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Abstract

The longer-term trend towards decreasing foreign assistance has aroused great interest in tracking domestic funding given that more than half of the anticipated additional funding for nutrition is expected from domestic sources. Given the limited trend analysis of nutrition budgets across developing countries, this review aimed to examine trends in nutrition financing as a proxy of national commitment to nutrition. We explored the programme-based budget allocations and expenditure from 2017 to 2019 in the Chad Republic, Gambia and Ghana for food and nutrition security (FNS) activities in various sectors. The total annual allocations for FNS activities from 2017 to 2019 in the Chad Republic, Gambia and Ghana were €24,796,501, €155,416,112 and €3,299,472,194 of which 93.5%, 15.7% and 100% respectively of allocated funded were expended. The proportion of FNS allocations and expenditure was <5% of the gross domestic product across the three countries. Three-quarters (the Chad Republic and Gambia) and one-quarter (Ghana) of all FNS activities were nutrition-friendly as compared to being nutrition-specific/sensitive. Of the nutrition-specific/sensitive activities, about 9 in 10 were nutrition-sensitive. The main thematic areas of FNS activities were agriculture/food systems, health, education, water, sanitation and hygiene. There were significant resource gaps in FNS budget allocations and expenditure across the three countries making it difficult to establish a consistent domestic funding trend. Resource mobilisation plans to bridge budget implementation gaps for domestic funding are urgently needed to scale-up government commitments toward the attainment of the sustainable development goals in these countries.

Since the early 2000s, countries in the Sahel region (comprising Burkina Faso, Cameroon, Chad, The Gambia, Guinea, Mali, Mauritania, Niger, Nigeria and Senegal) and more generally the West Africa region are facing a melody of food and nutrition crises with increasing frequency and magnitude. These crises combine structural and cyclical factors and illustrate a significant deterioration in the living conditions and livelihoods of households and most often on the nutrition of populations. Despite recent improvement in socio-economic development, the Sahel and West African countries still face many nutritional problems, including undernutrition in children under five, micronutrient deficiencies among women and children and increasing rates of obesity and nutrition-related non-communicable diseases⁽¹⁾. Globally, at least 340 million children under 5 (one in two) suffer from hidden hunger or micronutrient deficiencies⁽¹⁾. In the Sahel and West African regions, chronic malnutrition still affects about 20 million children under the age of five and about one woman in two suffers from anaemia⁽²⁾.

The malnutrition situation in the Sahel and West Africa is further compounded by problems of conflicts, food insecurity and safety, poor hygiene, sanitation and health care. An estimated 13.6 million children die annually from undernutrition globally⁽¹⁾. In sub-Saharan Africa, 1 in 3 children are too short for their age⁽¹⁾. Sahelian countries account for more than 40 per cent of chronic malnutrition cases in the region. In many areas of the Sahel, acute malnutrition regularly exceeds the WHO emergency threshold of nearly 15%. In West Africa alone, 67% of children under 5 have some form of micronutrient deficiencies⁽¹⁾. The ‘triple burden of malnutrition’ is increasing and perpetuating, with alarming rates of overweight and obesity mainly in urban populations and younger people in the Sahel and West Africa regions⁽³⁾. Available evidence suggests that the average lifetime lost earnings associated with stunting is US \$1400 per child⁽¹⁾.

Faced with increasingly complex and recurrent food and nutritional challenges and to address their multiple structural and cyclical causes, policies and strategies, as well as programmes and projects have been formulated and implemented in the Sahel and West Africa over the past fifteen years. Examples include the intervention framework for the development of climate-smart agriculture under the implementation processes of the Economic Community of West African States (ECOWAS) Regional Agricultural Policy (ECOWAP/CAADP



[Comprehensive Africa Agriculture Development Programme])^(4,5), the West African Economic and Monetary Union (Union Economique et Monétaire Ouest Africaine, *UEMOA*, in French) Agricultural Policy (PAU)⁽⁶⁾ and the permanent interstate committee for drought control in the Sahel (Comite Permanent inter-etats de lutte contre la secheresse au Sahel, CILSS, in French) Strategic Framework for Food Security⁽⁷⁾. Also, as part of the Global Alliance for Resilience Initiative in the Sahel and West Africa⁽⁸⁾, country resilience priorities have been initiated by more than a dozen countries. These policies have well documented the challenges of increasing agricultural production, but significant efforts remain to be made to meet the challenges of sustainable food and nutrition security (FNS) in the Sahel and West African regions.

Nutrition must be seen as a cornerstone investment if the World and in particular the Sahel and West African countries are to achieve the Sustainable Development Goals (SDGs) by 2030. According to estimates by the World Bank and others, it would cost just an additional US\$8.50 per child per year to meet global targets for under-5 child stunting⁽⁹⁾. That is equivalent to just US\$5 billion a year, an amount a little less than the combined annual spends on advertising of around US\$7.2 billion a year by three of the world's largest food and restaurant multinationals in the early 2010s⁽⁹⁾. Such an investment in nutrition has an impressive rate of return. Thus, every dollar invested in reducing stunting generates estimated economic returns equivalent to about US\$18 in high-burden countries⁽¹⁰⁾. With support from key international organisations, countries in the Sahel and West African regions have demonstrated immense commitment to addressing food security and nutritional problems. The trajectory of nutrition programmes and policies has shifted from an era of education to increase capacity in nutrition planning and action⁽¹¹⁾. However, implementation of these programmes often is plagued with either inadequate financial commitment or lack of effective budget tracking and analysis due to unavailability of specific budget line for FNS⁽¹¹⁾. As a result, allocations for nutrition-sensitive and specific programmes are absent and often assumed to be embedded in other budget lines such as health, agriculture and local and rural development. Just as the need to increase nutritional funding has heightened, review of nutrition-related intervention budgets and expenditure is a wise investment. Given the limited trend analysis of nutrition budgets across developing countries, this review aimed to examine trends in nutrition financing as a proxy of national commitment to nutrition.

Importance of tracking food and nutrition security (FNS) funding

In recent years, many countries in the ECOWAS region have mobilised domestic resources and developed sustainable nutrition financing mechanisms in line with budget laws. For this reason, several countries have created budget lines for nutrition at the level of key ministries. The involvement of ministries of finance and/or budget from the beginning of the nutrition policy-making process facilitates the creation of these budget lines. The existence of parliamentary initiatives, such as the West and Central Africa regional parliamentary network for nutrition, the parliamentary networks for nutrition in Burkina Faso and Chad, or the parliamentarians united against hunger in Ghana, seems to be a success factor. Stakeholders in FNS are also mobilising for the government to increase its budgetary allocations in several ministries and sectors. As of 2017, 36 scaling-up nutrition

(SUN) countries are leveraging the budgetary, legislative and political powers of parliamentarians to make nutrition a national priority⁽¹²⁾. Setting up a parliamentary network is particularly challenging given the high turnover rate, but these parliamentarians have expressed a desire to be better connected, supported with evidence-based tools and to share their experiences across the SUN movement. Experiences from Burkina Faso and Senegal show that parliamentarians use conditionalities of budget support from donors, such as the European Union, to increase government allocations. In Senegal, the disbursement of variable tranches of budget support is conditioned, among other things by the government's priority actions of the Multisectoral Strategic Plan for Nutrition (PSMN) in several sectors and ministries⁽¹³⁾. Mechanisms for taxing promising economic sectors (mining, telephone, etc.) can also be a sustainable source of financing.

Nowadays, several financing opportunities dedicated to nutrition exist, but the difficulty remains in the information on the volume, the distribution, the real destination of the needs and the budgetary regularity. It is from these issues that CILSS, as part of the implementation of ECOWAP, the project for Improving the Governance of Resilience and Food and Nutritional Security and Sustainable Agriculture in West Africa (PAGR-SANAD) was set out to help member states to have instruments and tools for better monitoring of funding and to increase the impacts of interventions in terms of FNS. Budget tracking can be used in any sector to assess how much government allocates to an issue. In a tight fiscal space, justifying increased funding is a challenge. It is important that the existing budget allocations and expenditure situation is empirically determined. Annual budgets are a good reference point to assess how much is being allocated to specific issues and sectors both in absolute terms and as a percentage. The use of budget tracking does provide the help for firms, governments and households to effectively and judiciously utilise resources available to make an impact on planned activities. Effective budget tracking is thus required to ensure nutrition expenditure and investment are judiciously allocated and utilised⁽¹⁴⁾. Secondly, tracking expenditure and investment in nutrition is an important way of promoting transparency which could be used for advocacy purposes. It is critical for various stakeholders and development partners to harmonise their interventions, which offers help not only in tracking expenditures but efficient delivery of services to beneficiaries. This will maintain and sustain the highest standard of nutritional requirement for economic growth and development⁽¹⁵⁾.

For the purposes of this review, we aimed to examine trends in nutrition financing in the Chad Republic, the Gambia and Ghana as a proxy of national commitment to nutrition with an overall mantra of more money for nutrition, and more nutrition for the money spent as enshrined in the Japan 2020 Nutrition for growth summit⁽¹⁵⁾. The rationale to track food and nutrition security (FNS) financing over the past 3 years (2017–2019) was based on the results of the 2019 progress report of the SUN movement for the strengthening of nutrition. The three countries were selected out of sixteen countries involved in the SUN movement process because these countries have expressed the desire to carry out actions in line with the financial tracking and resource mobilisation process (mapping system, tracking expenditures, monitoring budget and expenditures). These countries were also selected because similar studies⁽¹⁴⁾ have been conducted in Burkina Faso, Guinea, Mali, Mauritania and Togo using the SUN methodology that is utilised in this review to synthesise the FNS budget allocations and expenditures. The findings of this review

are discussed under two themes: (1) overall national-level commitment to nutrition, (2) budget implications on progress and attainment of the SDGs.

Budget allocations and expenditure from 2017 to 2019

The tables and figures presented in this review are summaries of our evaluation of national budgets in the Chad Republic, the Gambia and Ghana from 2017 to 2019. In the Chad Republic and Gambia, we studied the budget statements from 2017 to 2019 in their entirety^(16–18). In Ghana, we reviewed the programme-based budgeting (PBB) reports published on the Ministry of Finance website⁽¹⁹⁾. To provide a better picture of the overall national-level commitment to nutrition, relevant published literature, technical and programme reports were identified, classified into sub-programme, economic item, and funding source for inclusion in this review. The sub-programme or chart of account for the programme was used to describe the exact wording of the budget lines. Budget line reference, ministry or agency executing activity, wording of budget line, source of funding (such as – central government & consolidated funds/ non-tax revenue sources retained – internally generated funds), beneficiaries, allocated budget and expenditure were summarised from the published literature, technical and programme reports. For the purposes of this review, we classified each budget line reference/activity as nutrition-specific, sensitive, or nutrition-friendly^(12,14) and by sector areas (thus health, education, agriculture/food systems, water, sanitation and hygiene (WASH), or social protection)^(13,15). Total yearly allocations or expenditure in each country was the sum of allocations or expenditures for each ministry for the year under review as represented in the yearly report for each ministry. Total allocation weighting for each activity was estimated as the sum of allocations for a specific activity divided by ministry allocation expressed as a percentage. Likewise, weighting expenditure for each activity was estimated as the sum of expenditure for each activity divided by ministry allocation expressed as a percentage. Also, we expressed the allocations and expenditure of nutrition interventions to various sectors as a per cent of the gross domestic product (GDP) and per head of population^(20,21). Lastly, modalities and relevance of annual FNS budget allocations and expenditures for target groups or areas for nutrition-related programmes were explored for this review.

Trends in national budget allocations and expenditures from 2017 to 2019

From 2017 to 2019, the allocations and expenditures a percent of the GDP was <5% for the three countries (Table 1). Our review found that there was a modest increase in allocations from 2017 to 2019 in the Chad Republic and Gambia (Figure 1). Less than 18% of the national budget in each of these three countries was allocated and expended for FNS activities (Figure 1). The total annual allocations for FNS activities from 2017 to 2019 in the Chad Republic, Gambia and Ghana were €24,796,501, €155,416,112 and €3,299,472,194 respectively. In this review, we refer to the implementation rate as the amount disbursed (expenditures) out of the amount allocated for a specific activity, expressed as a percentage. The average FNS implementation rate was highest in Ghana (100%), the Chad Republic (93.5%) and the Gambia (15.2%).

Trends in national budget allocations and expenditures from 2017 to 2019 by nutrition-specific, nutrition-sensitive and nutrition-friendly investments and sector areas

Using the SUN⁽¹²⁾ and the West African consultation on nutrition financing tracking approach⁽¹⁴⁾, we have summarised the FNS interventions into three categories: nutrition-specific, nutrition-sensitive and nutrition-friendly. Nutrition-specific interventions address the immediate causes of maternal and child undernutrition such as inadequate food and nutrient intake, poor feeding, caregiving and parenting practices and high burden of infectious diseases⁽²²⁾. Nutrition-sensitive interventions address the underlying determinants (i.e. food insecurity; inadequate caregiving resources at the maternal, household and community levels; and inadequate access to health services and a safe and hygienic environment) of maternal and child undernutrition and incorporate specific nutrition goals and actions⁽²²⁾. Nutrition-friendly interventions could be defined as a public good that can contribute to improved nutrition, but the path to this impact is uncertain and there is neither a clear information on the beneficiaries nor does it necessarily reflect direct and demonstrated nutritional goals⁽¹⁴⁾. When we expressed the allocations and expenditure by nutrition-specific and sensitive investments, we found that about 95% of the budget line items were for nutrition-sensitive investments (Table 2). There was a growing trend in budget allocations and expenditure for nutrition-friendly investments from 2017 to 2019 in the Chad Republic, and Gambia while a decreasing trend was observed in Ghana. Three-quarters of all FNS activities were nutrition-friendly in the Chad Republic and Gambia while in Ghana, one-quarter of all FNS activities were nutrition-friendly.

In the Chad Republic, budget allocations and expenditures were highest for the agriculture/food systems sector (Table 3). In the Gambia, the health and WASH sectors constituted about 70% of the budget allocations and expenditure for FNS activities. In Ghana, budget allocations and expenditures were highest and similar for both the health and education sectors followed by the agriculture/food systems sector (Table 3). For all the three countries, budget allocations and expenditures were lowest for social protection. The findings of this review are discussed under two themes: (1) budget implications on progress and attainment of the SDGs, (2) overall national-level commitment to nutrition.

Overall national-level commitment to FNS

FNS must be seen as a cornerstone investment in the world and in particular the Sahel and West African countries is to achieve the SDGs by 2030. Thus, tracking financial resources for nutrition interventions is fundamental for improved nutrition accountability to governments and donor agencies. As highlighted in this review, there was no consistent trend in FNS financing across the three countries. The share of the FNS interventions budget in the national budget remained consistently low. Although funding is an integral part of the enabling environment for FNS and a fundamental measure of the extent of nutrition political commitment^(23,24), government commitments in these countries are not evident from their investments in FNS activities. Previous studies have reported that commitment in the form of formulation of policies abounds in Africa, but the implementation of these policies lacks financial assurance⁽²⁵⁾. Commitment to nutrition across Chad, the Gambia and Ghana using as a proxy the allocations and expenditures given to FNS within the national budget and the GDP was considered significantly low. Additionally, there is limited

Table 1. Proportion of total food and nutrition security budget allocations and expenditures to nominal gross domestic product and per head of population in the Chad Republic, Gambia and Ghana from 2017 to 2019

	Year 2017	Year 2018	Year 2019
The Chad Republic			
Allocation (€) [†]	7,896,835	7,660,255	9,239,411
Expenditure (€) [†]	6,722,836	7,440,630	9,029,185
GDP (€) ^a	8,737,745,339	9,820,109,817	9,886,325,586
Allocation (% of GDP) ^b	0.09	0.08	0.09
Expenditure (% of GDP) ^c	0.08	0.08	0.09
Population ^d	15,085,884	15,604,210	16,126,866
Allocation/capita ^e	0.52	0.49	0.57
Expenditure/capita ^f	0.45	0.48	0.56
The Gambia			
Allocation (€) [†]	30,925,619	46,158,123	78,332,370
Expenditure (€) [†]	7,920,519	12,279,709	4,256,270
GDP (€) ^a	1,314,899,848	1,459,731,790	1,595,513,669
Allocation (% of GDP) ^b	2.35	3.16	4.91
Expenditure (% of GDP) ^c	0.60	0.84	0.27
Population ^d	2,381,182	2,444,916	2,508,883
Allocation/capita ^e	12.99	18.88	31.22
Expenditure/capita ^f	3.33	5.02	1.70
Ghana			
Allocation (€) [†]	1,911,668,198	642,813,182	744,990,814
Expenses (€) [†]	1,913,185,813	645,644,910	785,487,283
GDP (€) ^a	51,415,415,531	57,069,162,629	58,745,290,801
Allocation (% of GDP) ^b	3.72	1.13	1.27
Expenditure (% of GDP) ^c	3.72	1.13	1.34
Population ^d	30,222,262	30,870,641	31,522,290
Allocation/capita ^e	63.25	20.82	23.63
Expenditure/capita ^f	63.30	20.91	24.92

GDP: Gross domestic product; ^aWorld Bank⁽²¹⁾; ^bAllocation/GDP*100%; ^cExpenditure/GDP*100%; ^dWorld Bank⁽²²⁾; ^eAllocation/population; ^fExpenditure/population; [†]Allocations and expenditure are total budget line items for nutrition-specific and sensitive interventions and does not include nutrition-friendly activities⁽¹⁷⁻²⁰⁾. Nutrition-specific interventions address the immediate causes (ie. inadequate food and nutrient intake, poor feeding, caregiving and parenting practices and high burden of infectious diseases) of maternal and child undernutrition⁽²³⁾. Nutrition-sensitive interventions address the underlying determinants (ie. food insecurity; inadequate caregiving resources at the maternal, household and community levels; and inadequate access to health services and a safe and hygienic environment) of maternal and child undernutrition⁽²³⁾. Nutrition-friendly interventions could be defined as a public good that can contribute to improved nutrition, but the path to this impact is uncertain⁽¹⁵⁾.

evidence about the enabling environment for FNS activities in these countries. Previous studies in Ethiopia, Kenya, Uganda, Bangladesh, India and Pakistan have reported limited knowledge

about nutrition, inadequate institutional mechanisms and accountability structures for nutrition, including limited indicators, data availability with insufficient financial resources as key barriers to creating an enabling environment for nutrition-sensitive agriculture activities^(26,27).

The 2021, Nutrition Accountability Framework (NAF) aimed among others to ensure all new commitments on nutrition translate to impact. As evidenced by the NAF commitment tracker, there is a high financial commitment to increase nutrition in the national budget from \$9,775,171 in 2021 to \$15,640,274 by 2030 in the Gambia⁽²⁸⁾. As of 2021, the Gambia also had a policy commitment whereas the Chad and Ghana neither had a policy or financial commitment to nutrition. It is therefore unclear how either the Chad Republic will finance its low-moderate commitment to SMART nutrition goal or Ghana would achieve its high commitment for SMART nutrition goals. The 2019 edition of the Hunger and Nutrition Commitment Index (HANCI) ranks governments based on 22 indicators on their political commitment to tackling hunger (10 indicators) and undernutrition (12 indicators)⁽²⁹⁾. The 10 hunger commitment indicators are: public spending on agriculture as share of total public spending, public spending on health as share of total public spending, access to land, access to agricultural research and extension services, coverage of live births, functioning of social protection systems, level of constitutional protection of the right to food, equality of women's access to agricultural land, equality of women's economic rights and constitutional right to social security⁽²⁶⁾. The 12 undernutrition commitment indicators are separate budget for nutrition, vitamin A supplementation coverage for children, government promotes complementary feeding, population with access to an improved water source, population with access to improved sanitation, health care visits for pregnant women, nutrition features in national development policy, national nutrition policy/strategy, multisector and multistakeholder policy coordination, time-bound nutrition targets and national nutrition survey in the last 3 years⁽²⁶⁾.

These 22 indicators are classified under three domains: policies and programmes (i.e. the extent to which nutrition features in national development policies/strategies), legal frameworks (i.e. the level of constitutional protection of the right to food) and public expenditures (i.e. the percentage of government budgets spent on agriculture) and are scored on a Likert scale. Based on these 22 indicators, the HANCI measures what governments achieve and where they fail in addressing hunger and undernutrition; and to praise governments where appropriate by ranking government commitment as high, moderate, low or very low⁽²⁹⁾. Based on this scoring criteria, the 2019 HANCI-Africa report tags Chad as having very low political commitment to tackling hunger and undernutrition whilst the Gambia and Ghana have low political commitment to tackling hunger and undernutrition. The HANCI-Africa 2019 report ranked the Chad Republic 41 for hunger reduction commitment: 38 for nutrition commitment and 39 for both hunger and nutrition commitment out of 45 countries. Similarly, out of 45 countries, the report ranked the Gambia 32 for hunger reduction commitment, 8 for nutrition commitment and 20 for both hunger and nutrition commitment⁽²⁹⁾. In this 2019 Africa edition of the report, Ghana ranked 23 for hunger reduction commitment: 10 for nutrition commitment and 18 for both hunger and nutrition commitment out of 45 countries. Comparing the 2017 HANCI-Africa overall hunger and nutrition commitment for Chad (38/45 countries), the Gambia (20/45 countries) and Ghana (20/45 countries) to the 2019 estimates indicate that political

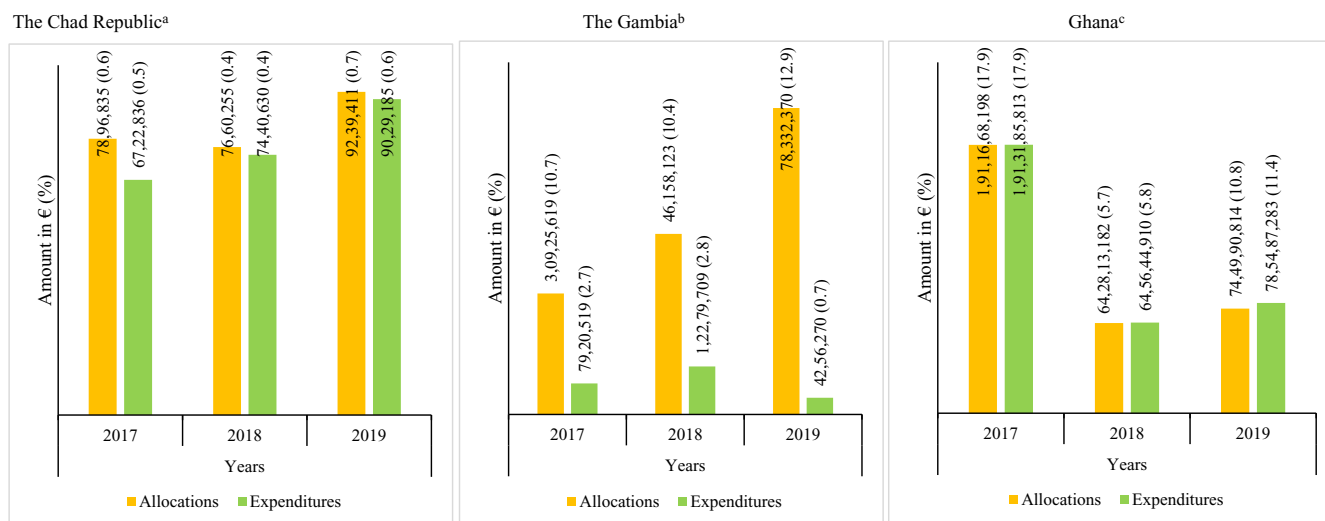


Fig. 1. Comparison of the total volume of annual food and nutrition budget allocations and expenditures against national budgets (€) in the Chad Republic, Gambia and Ghana from 2017 to 2019. ^aNational budget (€): 2017 (1,228,135,381), 2018 (1,755,778,199), 2019 (1,389,694,751)^(17,18); ^bNational budget (€): 2017 (288,123,714), 2018 (442,721,568), 2019 (605,304,310)⁽¹⁹⁾; ^cNational budget (€): 2017 (10,696,816,961), 2018 (11,225,419,046), 2019 (6,887,318,547)⁽²⁰⁾. Percentage (%) in graphs are allocation/national budget*100% or expenditure/national budget*100%. ¹Allocations and expenditure are total budget line items for nutrition-specific and sensitive interventions and do not include nutrition-friendly activities⁽¹⁷⁻²⁰⁾. Nutrition-specific interventions address the immediate causes (i.e. inadequate food and nutrient intake, poor feeding, caregiving and parenting practices and high burden of infectious diseases) of maternal and child undernutrition⁽²³⁾. Nutrition-sensitive interventions address the underlying determinants (i.e. food insecurity; inadequate caregiving resources at the maternal, household and community levels; and inadequate access to health services and a safe and hygienic environment) of maternal and child undernutrition⁽²³⁾. Nutrition-friendly interventions could be defined as a public good that can contribute to improved nutrition, but the path to this impact is uncertain⁽¹⁵⁾.

commitments have remained constant from 2017 to 2019. Although, there has not been any changes in political commitments in the Chad Republic since 2014, the Gambia and Ghana’s political commitment to tackling hunger and nutrition decreased from moderate commitment in 2014 to low commitment in 2019⁽²⁹⁾.

In addition to insufficient allocations, the efficient use of financial and other existing resources is a challenge. Governments in each of these countries spend most of their funds for payment of salaries. Despite decentralisation, central government in many cases remain responsible for the largest part of government spending. As such financial resources for the actual implementation of the FNS activities are limited, and activities often do not reach the desired target group. Contrary to the findings presented in this review, a previous study reported that procurement remained the biggest component in the ‘anaemia free strategy’ PBB analysis carried out across 12 states in India⁽³⁰⁾. This is probably because this single programme was tracked across 12 different states in India as compared to tracking several programmes as evident from this review. Although coverage of these programmes is stated in the PBB reports, effective coverage is not documented. Activity/programme coverage is defined as the proportion of people in need of an activity/programme that receive it, regardless of quality, whilst effective activity coverage is the proportion of people in need of an activity who receive that activity in sufficient quality to obtain potential health gains⁽³¹⁾. Although effective activity coverage is the preferred indicator for monitoring the activity coverage dimension of universal health coverage, determining the quality of care received is more challenging, hence, activity coverage is commonly measured especially as part of nutrition-sensitive interventions because it is relatively convenient to measure.

Governments in these countries have all adopted the PBB as part of their planning and budgeting process. According to the PBB guidelines, public sector budgets should be organised around

programmes (minimum of 3 and maximum of 5) with each programme having clear priorities, activities (services or goods offered within it), measurable indicators and budgetary allocation⁽³²⁾. Respective planning units are required to carry out quarterly reviews of the budget and at the end of the financial year to inform the subsequent budget. However, this process seems to be heavily influenced by the central government as medium-term development plans (MTDPs) developed by Metropolitan, Municipal and District Assemblies (MMDAs) are to align with government priorities. The PBB has therefore shifted from a bottom-up approach to a top-down approach influenced by respective government priorities. This finding resonates with those of other studies on health planning and budgeting undertaken in Kenya and the nutrition-sensitive agriculture budget tracking undertaken in Nigeria^(33,34). Failure to decentralise the various financial management functions to the respective MMDAs across countries could be a serious hindrance to PBB implementation, performance accountability and budget tracking.

Despite decentralisation, central government in many cases remain responsible for consolidation of the PBB leading to loss of information when data is aggregated making it difficult to track expenditure at the MMDAs levels to various communities and target groups. Besides difficulties in budget tracking, the transition from activity-based budgeting to PBB although fully optimised in these countries is still faced with political influence in financial planning and budgeting that are challenging to manage. In brief, PBB is being completed in advance to inform budget allocation as opposed to after budget approval, which has been observed in the Kenya health sector in earlier studies^(33,35). This milestone in adaptation of the PBB can be attributed in part to the USAID Advancing Nutrition project. In Ghana, the USAID Advancing Nutrition project has been working with government partners at the national level and in 17 districts in the Northern, Upper East, Upper West and Northeast regions to strengthen multi-sectoral planning, financing and coordination of

Table 2. Food and nutrition security budget allocations and expenditure in the Chad Republic, Gambia and Ghana from 2017 to 2019 based on nutrition intervention categories[†]

	2017 Allocations (€)	2017 Expenditure (€)	2018 Allocations (€)	2018 Expenditure (€)	2019 Allocations (€)	2019 Expenditure (€)
The Chad Republic						
Nutrition-specific ¹	73,176	73,176	150,051	150,051	152,449	152,449
Nutrition-sensitive ²	7,823,659	6,649,660	6,772,658	7,290,579	9,086,962	8,876,736
Highly sensitive ³	1,123,773	1,123,773	2,210,974	2,210,974	4,357,263	4,357,263
Moderately Sensitive ⁴	4,127,735	3,703,927	3,210,974	3,881,344	3,060,664	2,850,446
Weakly sensitive ⁵	2,572,151	1,821,960	1,350,710	1,198,261	1,669,035	1,669,027
Nutrition-friendly ⁶	30,735,244	15,709,988	29,580,422	27,525,562	38,149,134	33,271,995
The Gambia						
Nutrition-specific ¹	366,643	0	1,797,144	0	2,645,011	0
Nutrition-sensitive ²	30,558,975	7,920,520	44,360,978	12,279,709	75,687,359	425,6270
Highly sensitive ³	1,446,452	262,124	13,093,837	608,061	15,656,304	376,904
Moderately Sensitive ⁴	24,470,299	3,967,721	26,089,112	7,548,784	49,498,200	3,607,966
Weakly sensitive ⁵	4,642,224	3,690,675	5,178,030	4,122,864	10,532,855	271,400
Nutrition-friendly ⁶	50,933,666	24,632,474	135,901,963	26,192,732	157,032,055	712,158
Ghana						
Nutrition-specific ¹	234,831,983	234,831,983	42,352,073	42,352,073	44,854,052	44,854,052
Nutrition-sensitive ²	1,676,836,215	1,678,353,830	600,461,109	603,292,837	700,136,762	740,633,231
Highly sensitive ³	4,317,780	43,178,780	33,511,680	33,595,013	6,459,590	6,380,048
Moderately Sensitive ⁴	1,571,362,619	1,571,362,619	277,394,953	28,014,3347	502,547,792	551,781,101
Weakly sensitive ⁵	62,294,815	63,812,431	289,554,477	289,554,477	191,129,380	182,472,082
Nutrition-friendly ⁶	484,199,730	474,545,033	306,980,742	363,046,058	310,155,467	343,982,044

†Allocations and expenditure are total budget line items for nutrition-specific, nutrition-sensitive and nutrition-friendly activities^(17–20). ¹Nutrition-specific interventions address the immediate causes (i.e. inadequate food and nutrient intake, poor feeding, caregiving and parenting practices and high burden of infectious diseases) of maternal and child undernutrition⁽²³⁾. ²Nutrition-sensitive interventions address the underlying determinants (i.e. food insecurity; inadequate caregiving resources at the maternal, household and community levels; and inadequate access to health services and a safe and hygienic environment) of maternal and child undernutrition⁽²³⁾. ³Interventions recognised as strongly sensitive to nutrition⁽¹⁵⁾. ⁴Interventions recognised as fairly sensitive to nutrition (i.e. development and promotion of the production of highly nutritious vegetable products, promotion of improved, small-scale livestock farming, promotion of the fortification and processing of foodstuffs and infant meals, promotion of community-led total sanitation approach and access to sanitation infrastructure, promotion of handwashing with soap at critical/key times, improving equitable access to safe water sources, cash/food for work, vouchers (free distribution of food and cash), financing income generating activities, family planning)⁽¹⁵⁾. ⁵Interventions recognised as poorly sensitive to nutrition (i.e. promotion of the use of seeds of improved varieties with high nutritional value (including orange-fleshed sweet potato, yellow maize and cowpea), sale of food at social prices, universal health insurance and exemption free healthcare for children under 5 years)⁽¹⁵⁾. ⁶Nutrition-friendly interventions could be defined as a public good that can contribute to improved nutrition, but the path to this impact is uncertain⁽¹⁵⁾.

interventions to improve FNS⁽³⁶⁾. The National Development Planning Commission with support from USAID developed the Ghana Multi-Sector Food and Nutrition Security Guidelines to guide MMDAs on how the various sectors in a district can work together to mainstream FNS issues and strategies in their MTDPs, which are being developed every four years⁽³⁶⁾. Careful investigation and engagement at multiple levels might be useful in the beginning, especially for advocacy purposes. However, tracking of budget allocations and expenditures at national and sub-national level might require a focus on a priority set of MMDAs and budget items to be tenable in the long term.

Budget implications on progress and achievement of the SDGs in the Sahel and West African countries

Achieving the needed budget for attaining the SDGs will require a progressive step towards a more performance-based approach. The

need to build linkages between strategic planning and budget process will be paramount. Of the \$5.4–\$6.4 trillion needed per year until 2030 to meet the SDGs, developing countries alone will require \$4 trillion⁽³⁷⁾. The challenge Africa faces in achieving the SDGs by 2030 largely relates to economic constraints where Africa's economies are largely dependent on the export of primary commodities making the continent vulnerable to commodity price fluctuations. Across African countries inequality has deepened, environmental degradation has increased and migration challenges coupled with youth unemployment have been on the rise. In Ghana, efforts were made by the government in 2022 to bring about a surge in funding with \$515,306,122 allocated for essential government programmes, compared to 2021 allocation of \$463,414,634⁽³⁸⁾. A 2017 study in Ghana employing the Lancet series of six key nutrition tracer interventions (community-based management of acute malnutrition, complementary feeding, early initiation to breastfeeding, exclusive breastfeeding, vitamin A

Table 3. Food and nutrition security budget allocations and expenditure in the Chad Republic, Gambia and Ghana from 2017 to 2019 based on thematic sector areas[†]

	2017 Allocations (%)	2017 Expenditure (%)	2018 Allocations (%)	2018 Expenditure (%)	2019 Allocations (%)	2019 Expenditure (%)
The Chad Republic						
Agriculture/food systems ¹	50.8	50.1	42.8	41.3	31.8	36.2
Education ²	16.5	26.0	12.3	12.9	12.9	14.2
Health ³	3.6	5.3	7.4	7.8	11.0	12.5
Social protection ⁴	0.1	0.1	0.7	0.6	0.1	0.0
Water, sanitation and hygiene ⁵	29.0	18.5	36.8	37.4	44.2	37.2
The Gambia						
Agriculture/food systems ¹	27.4	12.9	6.3	11.8	8.3	25.5
Education ²	21.3	29.8	4.2	22.2	3.8	1.0
Health ³	29.2	32.2	5.9	30.8	7.2	73.5
Social protection ⁴	4.2	2.6	0.5	1.9	0.4	0.0
Water, sanitation and hygiene ⁵	18.0	22.5	83.1	33.4	80.3	0.0
Ghana						
Agriculture/food systems ¹	10.3	10.5	21.1	20.2	19.2	22.4
Education ²	45.9	46.1	31.7	35.4	29.8	28.6
Health ³	33.7	33.8	38.4	36.2	38.5	37.2
Social protection ⁴	8.2	7.7	3.2	3.0	9.0	8.4
Water, sanitation and hygiene ⁵	1.9	1.9	5.6	5.2	3.5	3.3

[†]Allocations and expenditure are total budget line items for nutrition-specific, nutrition-sensitive and nutrition-friendly activities^(17–20). Keywords and potential interventions for thematic sector areas: ¹Women, non-staple foods (seeds, roots, cereals), vegetables, legumes, nuts, fruits and vegetables, animal/livestock foods, fishery resources, extension services, cooperatives, smallholders, food aid, aid, family farming, food, food security, hunger, agricultural production, rural development, bio fortification, food security, food quality, aflatoxin, trade, food fortification, markets⁽¹³⁾. ²Women's education, rural education, secondary education for girls, school feeding/canteens, early childhood education/development, water, sanitation and hygiene, hygiene, hand washing, adult literacy and educational equity⁽¹³⁾. ³Maternal, neonatal, child and adolescent health, overweight, obesity, non-communicable diseases, hygiene, micronutrients, feeding practices, malnutrition, family planning or reproductive health, HIV/AIDS and tuberculosis, sanitation, childhood immunisation, education, food security, baby-friendly hospital initiative⁽¹³⁾. ⁴Women, children, social safety net programmes, cash and voucher transfers, orphans and vulnerable children, retirement, insurance, social assistance services, emergency, humanitarian aid, aid, maternity leave, pro-poor actions⁽¹³⁾. ⁵Drinking water supply, environment, sanitation, liquid manure, rural/urban areas, hygiene, latrines, community-led total sanitation⁽¹³⁾.

supplementation and iron-folic acid supplementation) has evidently shown very little progress in Ghana in relation to these interventions⁽³⁹⁾. Such evidence and Ghana's quest to achieve the SDGs may have fuelled the government's proactive approach in this post-pandemic era of economic recovery.

Strengths and limitations of this review

For this review, we were able to classify the budget line items under nutrition-specific, nutrition-sensitive and nutrition-friendly investments. A key strength of our review is that we were able to compare three years of budget allocations and expenditures across three countries based on the total government budgets and GDP. Other reports of budget analyses have focused on a single country and either a nutrition-specific/nutrition-sensitive intervention or both⁽⁴⁰⁾. Our review had a few limitations. First, budget allocations and expenditures that are not in national government finance documents referred to as 'off-budget' finance data were sparingly captured in this review. It is possible that our review underestimates the budget for FNS investments because of the non-inclusion of cost from development/donor partners and

civil society organisations. Nonetheless, reports guiding our review^(12,14) underscore the importance of erring on the side of caution rather than over-inflating budget allocations and expenditures. A nutrition sensitivity analysis of the 2014 budget statement of the republic of Ghana reported fewer number of line items and lower budgets than in this current review⁽¹¹⁾. Overall, this review provides direction to policymakers at levels of financial planning and budgeting to improve the design and reporting of budget allocation and expenditure in the PBB by critically thinking through planned activities during budgeting and ensuring that they incorporate necessary nutrition budget line items and are aligned with the MTDP goals of MMDAs.

Conclusion

This review highlights the importance of performing a FNS budget analysis at least once a year allows for in-depth benchmarking. To do this, governments need to put in place a resource mobilisation plan for nutrition based on domestic funds as a priority for at least the next five years. This review has also highlighted the importance of integrating nutrition into planned activities by asking each

ministry and MMDAs to identify these activities, their costs and provide accurate reports to better measure resource utilisation. This would improve yearly budget analysis in all African countries in order to generalise the budget allocations and expenditure trends across Africa. Better ownership of budget implementation procedures is needed, including the involvement of national and international civil society organisations/non-governmental organisations in the budget preparations and the development cycles if nutrition funding is to increase and budget tracking is to be sustainable. This review has also highlighted the significant funding gap that exists and as such it would be important to discuss such funding gap with donors and development partners to arrive at an agreed estimate to achieve nutrition goals. The need to strengthen the capacity of actors in nutrition budget analysis and stakeholder monitoring as well as focus on programmes that drive spending in key areas is needful over time. Finally, mobilising resources and building the capacity of stakeholders to advocate for nutrition financing would be key to addressing budgetary needs for nutrition as a prerequisite for achievement of the SDGs.

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