

NUTRITION-SENSITIVE EDUCATION AND SOCIAL PROTECTION POLICIES HAVE IMPLICATIONS FOR FOOD-BASED DIETARY GUIDELINES FOR GHANA

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ABSTRACT

Ghana continues to address persistent malnutrition through political action and programme development. Government-led efforts have included the formulation of multi-sectoral policies and programmes to improve the diet and nutritional status of various at-risk population groups. Globally, an important tool for promoting healthy diets are Food-Based Dietary Guidelines (FBDGs). To achieve and sustain the desired goal of promoting healthy eating habits and lifestyles, FBDGs require, among many factors, supportive national policies and programmes. When coherently incorporated in relevant nutrition-related policies and programmes, FBDGs enhance their impact on shaping and sustaining healthier dietary habits. In this context, it is essential to understand the national policy and programme environment and its potential contribution during the formulation of FBDGs. The present review aimed to identify existing nutrition-related education and social protection policies and programmes in Ghana and their relevance to the development and implementation of FBDGs. Previously conducted scoping reviews, gap analyses, and a benchmarking report of Ghana's public health nutrition policies were used as information sources to identify relevant policies and programmes. Additionally, websites of relevant government ministries, departments and agencies were searched to retrieve applicable policies or actions that were not included in previous reviews. Nutrition-related education policies that were identified primarily support school health services, whereas social protection policies broadly target social assistance, social welfare, social equity and insurance-based policies and programmes. Specific ways these policies and programmes could support the development and implementation of Ghana's dietary guidelines include embedding FBDGs in the school nutrition curriculum to motivate healthier food choices by schoolchildren and using FBDGs to plan meals provided as part of the country's school feeding programme. Regarding social protection, existing instruments such as food transfers, social pensions and conditional cash transfers could be aligned with FBDGs to ensure vulnerable households can access foods and follow recommended guidelines. Although some nutrition actions are incorporated in existing policies and programmes, there are opportunities to improve their nutrition sensitivity.

Key words: Ghana, food-based dietary guidelines, nutrition education, social protection



INTRODUCTION

Ghana has demonstrated political commitment to addressing the problem of malnutrition — particularly food insecurity and undernutrition with clinical and community-based programmes for many decades. The country is a signatory to several international declarations endorsing the right of its citizens to adequate food and nutrition security [1, 2]. Local strategies to address malnutrition include various legislations, regulations, policies, strategies, and programmes. Ghartey broadly organises Ghana's nutrition policies adopted and implemented since the country gained independence into seven eras [3]. Laar and colleagues describe an eighth era beginning in the year 2010 — characterised mainly by efforts to scale up proven interventions for undernutrition — as part of implementing the Scaling up Nutrition actions, and some efforts to combat rising rates of overweight, obesity, and other diet-related non-communicable diseases (NCDs) [2, 4-6].

Around the world, an important tool recognised for promoting healthy diets and preventing malnutrition and other diet-related diseases are FBDGs. Broadly, FBDGs are considered an “*expression of the principles of nutrition education mostly as foods*” [7]. However, on their own, national FBDGs are not sufficient to ensure that the populace would adhere to food consumption recommendations. People's eating habits are influenced by various factors such as nutrition knowledge, food availability, food accessibility, and affordability [8, 9]. Hence, achieving and sustaining the desired goal of promoting healthy eating habits and lifestyles through FBDGs, requires among many factors, supportive national policies and programmes [10]. Of importance are nutrition-sensitive policies and programmes [11]. Nutrition sensitive programmes and policies are those containing specific nutrition actions and goals. They are effective in addressing the determinants of malnutrition — particularly underlying factors such as poverty, household food insecurity, poor care and feeding practices, poor access to health and safe sanitation services [12].

When FBDGs are coherently incorporated into national nutrition-related policies and programmes, they enhance their impact on shaping and sustaining healthier dietary habits and creating foods systems that support healthy diets [8]. Additionally, FBDGs could function as policy tools that steer the focus of national policies and programmes related to areas such as agriculture, nutrition education, health and food marketing and food advertising [8, 13]. Within this context, it is essential to understand the national policy and programme environment and its potential contribution during the formulation of FBDGs. The current review thus focuses on two sectors—education and social protection. Other policies and programmes in sectors such as agriculture and trade, among others, are examined in companion papers in this special issue on the topic area of the development of FBDGs for Ghana.

Social protection has been described as an effective means of leveraging integrated benefits for disadvantaged and vulnerable individuals and populations by alleviating poverty, improving food security, and increasing access to sanitation and health [14]. Education policies and programmes in the context of public health are multifaceted and offer important learning experiences for behaviour change to improve and promote



population health and wellbeing [15]. Increasing awareness of the need for dietary guidelines or building coalition in support of its implementation requires actors other than nutrition and health. Education policies play a crucial role in promoting healthy diets and lifestyles, while social protection policies have consequences for every health and nutrition situation. Education or social protection policies that do not recognise these may thwart the effective implementation of FBDGs. This review aimed to identify nutrition-related education and social protection policies and programmes in Ghana and their relevance to developing and implementing FBDGs.

METHODOLOGY

The exercise draws heavily on previously conducted scoping exercises and gap analyses [16-18] and the first benchmarking of Ghana's public health nutrition-related policies, herein referred to as the Ghana Public Sector Healthy Food Environment Policy Index (Food-EPI) exercise [19, 20]. Each of the reports reviewed applied a two-stage approach to generate evidence – a scoping desk review exercise complemented by interviews with key stakeholders. The evidence generation approach used in benchmarking Ghana's public health nutrition-related policies is summarised in the following paragraph [19, 20].

Using the Food-EPI process, the researchers assessed government of Ghana's policies, action, implementation gaps, and priorities intended to improve public health nutrition and food environment in Ghana. There were mainly six steps – reproduced below from Laar *et al.* [20].

- *“Step One - Use the stakeholder mapping to identify key public/government organisations involved in the various Food-EPI policy and infrastructure support domains; also identify key organisational websites.*
- *Step Two - Where organisational websites are identified, trawl each website to identify evidence on relevant policies and/or infrastructure support – capturing these using a Google form and coding the evidence to the relevant Food-EPI domains/indicators.*
- *Step Three - Where no organisational websites are identified and/or once websites have been mined for information, follow up with key identified organisations to discuss what evidence exists in relation to the different policy and support domains.*
- *Step Four – When key policies and/or initiatives have been identified, conduct additional but focused searches of academic databases using key terms associated with any identified policies/initiatives.*
- *Step Five – Submit Official Information Requests to relevant government ministries, departments, and agencies to retrieve information on budgets or other aspects of policies, actions or infrastructure support that may not be publicly available.*
- *Step Six – Follow up with particular stakeholders to discuss the emerging evidence in order to validate the emerging evidence and/or to collect further evidence/fill any identified gaps”.*



To identify applicable policies or actions that were not included in the outlined reviews, additional searches were conducted on websites of government ministries, departments and agencies (Ministry of Food and Agriculture; Ministry of Health; Ministry for Finance; Ministry of Education; Ministry of Gender, Children & Social Protection; Ministry of Local Government and Rural Development; National Disaster Management Organization (Ghana); Ghana Health Service; Ghana Education Service; Department of Social Welfare and Development). The data extracted were synthesised and organised to describe the type of programme/policy, programme objectives, amount or type of social transfer (for social protection programmes only), targeting/eligibility criteria, and the policy actions' sensitivity to FBDGs.

RESULTS

Nutrition-related education policies and programmes

Nutrition-related education policies and programmes identified in the current review are summarised in Table 1. Also presented are the strengths and weaknesses of these policies and programmes and their possible implications for Ghana's FBDGs. Many of these policies have been formulated to support school health services. For example, health-related school policies, provision of safe water and sanitation, skills-based health and education and school-based nutrition services. Alongside are various programmes implemented to support the mandate of these policies. Some of these programmes are described below:

School Health and Education Programme

The School Health and Education Programme (SHEP), established in 1992, provides guidelines that ensure harmony in implementing all school health and related services. The programme provides comprehensive health, nutrition education, and associated support services to ensure effective school health delivery among school children. Further, it envisions school children will be enabled to live healthy, leading to improvements in their survival and educational outcomes, including school enrolment, retention and academic performance. Presently, SHEP is delivered under four main thematic areas: a) skills-based health education (aims to equip school children with basic life skills through behavioural change approaches), b) disease prevention and control (includes interventions such as preventive, promotive and curative measures for early prevention, detection and management of diseases, defects and disability among school children to improve their health), c) safe and healthy school environment (ensures schools have conducive and health-promoting school environment with the requisite physical amenities like toilet and water facilities that are friendly to all including the disabled for good hygiene and sanitation practices), and d) food safety and nutrition education (promotes healthy eating among school children, micronutrient supplementation, food hygiene and nutrition education, and regular assessment of children's nutritional status).

The Ghana School Feeding Programme (GSFP)

The objective of the GSFP is to deliver a well-organised, decentralised intervention providing disadvantaged school children with nutritionally adequate, locally produced



food, thereby reducing poverty through improved household incomes and effective local economic development. The government uses approaches such as the Home-Grown School Feeding Programme to provide children in Public Basic Schools with one hot, nutritious meal on every school-going day. This strategy was geared towards reducing hunger and malnutrition, improving school enrolment, attendance and retention, and boosting local agriculture. This programme also intends to promote community-level wealth generation by providing ready markets and increased household incomes, improving nutritional status and breaking household and community poverty cycles. Presently, the programme runs in selected Basic Schools nationwide and is overseen by the Ministry of Gender, Children and Social Protection in collaboration with other government ministries and non-governmental organisations and support from bilateral agencies. In 2015, about 1.3 million pupils were estimated to have benefitted from the programme across 3,000 schools. The GSFP has increased enrolment, attendance and retention in school.

Aside from the school feeding programme that is targeted to selected districts, snacks and other foods for education seem to be attractive options for children in school. However, their acceptance and effects are not yet proven. The feasibility and acceptability of nutritious snacks for schools should be pursued. There is also an opportunity to pass on lessons learned from the school feeding programme to food vendors in and around the school environment. Food vendors provide a valuable service to schools; hence regulating their work and setting standards for them to follow is urgently needed. At present, the Food and Drugs Authority (FDA) has a policy related to food safety; the Ghana Standards Authority has guidelines for traditional caterers, and in most districts, and there are bylaws for food hygiene and safety. However, these are not specific to schools but the general population. There is a need to develop a food quality and safety policy specific to vendor foods sold in schools.

WASH in Schools Guidelines and Programme

With the aim of implementing the Child Friendly Schools initiative by UNICEF, the Ghana Education Service (GES) developed guidelines for Water, sanitation and hygiene in schools – WASH in Schools (WinS). The WASH framework encompasses strategies of the second, third and fourth core components of the Focus Resources on Effective School Health (FRESH) framework. The WASH guide targets school children in Kindergarten, Primary, and Junior High School (JHS) levels. It allows for the inclusion of handwashing, basic sanitation, food hygiene and cleanliness of the school environment as part of the curriculum, which aims to, among others, improve the provision of safe drinking water, build good sanitary facilities and establish appropriate hygiene habits. It is envisaged that improving WASH in schools will lead to positive hygiene behaviour in school children and enhance primary school attendance, health and cognitive development.

Ghana Education Strategic Plan (ESP) 2018-2030

The ESP 2018-2030 recognises the vital role the health of school children plays in their educational achievements. The plan's core objective is to increase enrolment in Basic Schools, especially in the rural areas of Ghana. The strategic plan recognises challenges



in the school health delivery system that can hinder the achievement of its objectives. Some of these challenges include inadequate resources to meet and support school health facilities and inadequate screening of school pupils to detect health problems, including nutrition-related issues such as underweight and stunting. At all levels, the strategic plan aims to improve the quality of teaching and learning under an improved environment, including health and sanitation in all Basic and Senior Secondary Schools.

Nutrition Friendly Schools Initiative (NFSI) Programme

The NFSI is spearheaded by the Ghana Health Service (GHS) and the GES with support from UNICEF. The initiative is to support school-aged children aged between 4 and 15 years who are malnourished or have other nutrition-related health conditions. The programme has modalities covering healthy dietary practices, physical activity, safe environments, water and sanitation. The objectives of the NFSI are to prevent child undernutrition (stunting, wasting, micronutrient deficiencies); reduce or prevent childhood overweight or obesity; foster healthy diet and lifestyle habits, educate children, improve knowledge of school-aged children about healthy diet and lifestyle habits.

Other Nutrition Education Related Interventions

Fruit Day

In 2015, SHEP implemented a fruit education intervention known as “Fruit Day” to promote fruit consumption amongst primary school-aged children. The most recent national Demographic and Health Survey conducted in 2014 reported a low intake of fruit and vegetables within Ghanaian households. As part of the “Fruit Day” intervention, schoolchildren take different fruits to school on specific days for a class discussion, after which they are encouraged to eat any fruit of their choice.

Nutrition Curriculum for Basic Schools

Currently, nutrition is not found in the curriculum of Ghanaian Basic Schools as a dedicated subject but integrated into relevant subject areas in the curriculum. Teachers are required to include food and nutrition issues in their regular lesson plans from Kindergarten to Senior High School (SHS). There are food and nutrition issues integrated into the lesson plans from Kindergarten to JHS 3.

At the JHS level, a portion of the teaching curriculum for the subject, “Basic Design and Technology”, highlights some nutrition topics such as food spoilage and preservation, the major food groups, nutrients and a balanced diet. Although nutrition education is part of the school curriculum, teaching and learning are mostly optional and largely unsupported by teaching aids. A content analysis of the curriculum shows how nutrition issues are included in the syllabus (*see Appendix 1*).

Social Protection Policies and Programmes

Social-protection policies and programmes identified in this review are summarised in Table 2.

In Ghana, several social protection programmes derive guidance from the National Social Protection Strategy (NSPS) and National Social Protection Policy (NSPP). The NSPS is primarily designed to provide two key sets of actions, including a) responding



to risks and shocks rapidly to provide the relief that is needed and b) ensuring access to basic services such as health, education, water, and energy by all sections of the population. These two sets of actions constitute the Social Protection framework for Ghana. Programmes currently implemented from this framework include Cash Transfer Programmes, Energy and Utility Subsidies, Child Rights and Child Protection and Development, Labour-Intensive Public Works (LIPW), Expansion of Skills Training and Training Centres, Pensions and other Contributory Social Insurance Schemes and Social Welfare Services, Public Health Programmes, Personal Safety and Security among others. These policies and programmes are described below:

National Social Protection Strategy and Ghana Poverty Reduction Strategy

The main focus of this strategy is the provision of social services and wealth creation. This is aimed at ensuring that all Ghanaians, irrespective of their socio-economic status or area of residence, have access to basic social services such as health care, quality education, potable drinking water, decent housing, security from crime and violence, and the ability to participate in decisions that affect their lives. The government planned to provide special programmes for vulnerable segments of the population by 1) providing resources to improve conditions of extreme poverty and social deprivation, 2) focusing on gender inequities, 3) preventing disasters as well as responding rapidly to meet the needs of those who are affected by natural and man-made disasters, 4) expanding coverage of social security and introducing mutual health insurance, and 5) enforcing rights protection for the vulnerable, especially the rights of children and women. On education, the programme is implemented to bridge gender gaps in access to education, promote girls' participation in science and technology, the promulgation of the Disability Bill, and empower the vulnerable through skills training.

Livelihood Empowerment Against Poverty (LEAP)

Ghana's LEAP programme is a social cash transfer programme that provides cash and health insurance, among others, to indigent households to alleviate short-term poverty and encourage long-term human capital development. Since its inception in 2008, about 1.5 million individuals in 332,000 households have benefited from the programme. In 2016, the LEAP 1000 was launched to target pregnant women and children aged below one year in the Northern and Upper West Region because of the high prevalence of stunting and malnutrition in these two regions. Presently, LEAP provides cash benefits ranging between US\$12 and US\$20 bimonthly. As part of the long-term aims of this programme, every beneficiary is entitled to free registration on Ghana's National Health Insurance Scheme (NHIS) to provide indefinite access to healthcare. Free enrolment on the NHIS is a condition for the continued receipt of benefits from LEAP. Implementing LEAP together with the NHIS programme has benefited poor households by providing greater access to health services and improving their overall wellbeing. Through LEAP, households have experienced enhanced food security, especially among households with female heads. There has also been increased food security and dietary diversity among LEAP 1000 households. The programme, however, has not had an impact on reducing child stunting and other determinants of nutrition. While this social protection strategy could be an effective tool for nutrition promotion, there are irregularities in its implementation and disbursement, resulting in poor predictability of cash receipt by beneficiaries.



Labour Intensive Public Work (LIPW) programme

The LIPW launched in 2010 is implemented in 60 districts across the country, focusing on poor rural households in the Northern region of Ghana. This social intervention aims to provide beneficiaries with employment and income-generating opportunities during seasonal shortfalls in labour demand. The Ministry of Employment and Labour Relations, assisted by the Ministry of Local Government and Rural Development in 2016, launched a policy aimed at institutionalising the LIPW as a tool for employment creation in Ghana. The Ghana Social Opportunities Project, implemented by the Ministries of Gender, Children and Social Protection and Ministry of Local Government and Rural Development, has so far provided short-term employment to 165,860 people living in extreme poverty (61% of whom are women). This programme holds the potential to improve the beneficiaries' socio-economic status and, consequently, their nutritional status. However, just like many social protection programmes, there are weak linkages between these interventions and nutrition and a lack of any or robust national systems for monitoring and evaluating delivery and nutrition-related impacts of these programmes.

Ghana Social Opportunities Programme (GSOP)

The GSOP currently strengthens two other social protection interventions, namely, LEAP & LIPW. This is in addition to strengthening the social protection system in Ghana through supporting gender to prepare a policy on social protection and improving the capacity of the Ministry of Finance to deal with social protection issues. As part of the long and short term aims, GSOP seeks to have nationwide coverage and institutionalise it to boost its delivery system and make it a permanent feature to cater for the poor and vulnerable countrywide.

National Health Insurance Scheme (NHIS)

Ghana's NHIS was implemented in 2004 to provide equitable access to quality essential healthcare services for all residents through mutual and private health insurance schemes services without paying money at the point of delivery of the service. This replaced the then cash-and-carry system and includes a benefits package covering about 95% of diseases in Ghana. The programme exempts the elderly (≥ 70 years), pensioners under the national social security scheme, indigents, LEAP beneficiaries, and pregnant women from paying out-of-pocket premiums. The free maternal health policy was also introduced under the NHIS in 2008 to provide women free services during pregnancy, childbirth and three months postpartum. The primary goal of this policy was to reduce maternal and child mortality. Currently available nationwide through public and private healthcare providers, the scheme has been identified as an effective tool for improving access to healthcare services and health outcomes. The NHIS could improve nutrition outcomes if this initiative and other health policy interventions are linked with nutrition.

Social Security and National Insurance Trust (SSNIT)

The scheme initially provided money for lump-sum payments for old age, invalidity and survivor's benefits until 1991, when the scheme became a Pension Scheme. Currently, SSNIT is based on contributions of 17.5% of the workers' monthly salaries;



the employee pays 5%, and the employer pays 12.5%. The self-employed make the total contribution of 17.5% by themselves. The benefits, as originally conceived, are unchanged. In 2010, the scheme was revised to include a voluntary third-tier scheme in addition to the mandatory first and second tiers. Introducing the tier three scheme paved the way for Ghanaians in the informal sector of employment to contribute 16.5% of their monthly salaries. The SSNIT scheme has provided economic support to contributors who have lost incomes due to old age or disabilities.

COVID-19 related social protection actions

The government of Ghana put several measures to lessen the social and economic impacts of the COVID-19 pandemic on citizens. Whilst some COVID-19 related social protection actions have a direct bearing on education and nutrition (for example, the provision of daily hot, nutritious meals to all final year JHS students in both public and private schools and the distribution of dry food packages and hot meals to ensure vulnerable people had enough food during the partial lockdown period), many others which were not education or nutrition-sensitive may have some positive externalities on nutrition and education. These include COVID-19 Alleviation Fund to raise funds for the response, including supporting businesses and other social interventions. Frontline health workers received tax waivers and a 50% salary top-up for some months. Water and electricity bills for the population (100% for the very poor and 50% for all others, including businesses) were covered, and several Small and Medium Scale Enterprises (SMEs) were supported.

DISCUSSION

An overarching recommendation to facilitate a maximum impact of FBDGs on promoting healthy diets is their integration into nutrition and health-related policies and programmes [8]. This review identified strategies, policies, programmes and guidelines in the education and social protection sectors in Ghana. Such include the SHEP Policy Guidelines; Guidelines for Provision of School Health Service in Ghana; School Feeding Programme and Policy; WASH Programme and Guidelines, National Social Protection Policy, Strategy, and Programmes. The existence of these actions speak to the commitment and desire of the Ghanaian government to assure population health, nutrition, food security, improve livelihoods and socio-economic conditions through school-age nutrition and social protection interventions.

Globally, schools are recognised as a valuable setting for implementing nutrition programmes and would thus offer the opportunity to implement FBDGs through platforms like the school curriculum and school feeding programmes [21]. The findings of this review suggest that Ghana's school feeding programme has great potential to improve children's nutrition literacy and status, aside from increasing school enrolment numbers, which is presently emphasised as its core mandate. Given the high level of enrolment, schools in Ghana are an appropriate delivery channel for boosting health and nutrition, and there is "fertile ground" to spread messages developed as part of national FBDGs. Furthermore, FBDGs could guide nutritional standards for school meals. Here, meal plans could comprise foods recommended in national FBDGs and limit foods not recommended for consumption by school-aged children [9, 11]. In Cape



Verde, a multi-pronged school nutrition programme ensures that not only do school meals provide a diversity of foods such as fruits, vegetables, fish and beans, the food and nutrition curriculum focuses on dietary diversity, the importance of physical activity, prevention of NCDs and training teachers and school staff in nutrition and food hygiene among other topics [14]. This review indicates that the nutrition sensitivity of the nutrition curriculum in Basic Schools could be improved. Introducing a sequential and comprehensive health education curriculum that includes nutrition as a core component could be beneficial. Messages contained in Ghana's FBDGs could be designed to meet this need. A study in South Africa that assessed the feasibility of implementing FBDGs in the country's primary school curriculum concluded that FBDGs could be used as an educational tool to fill gaps about healthy dietary habits in the existing curriculum [22]. Other important factors required for a successful implementation of FBDGs in the school curriculum were sufficient educational materials, adequate time allocation for teaching, and adequate training of teachers [22]. School-age children in Ghana need more guidance and motivation to make healthy food choices and form lifelong healthy dietary habits [23, 24]. Given that parents give children money to purchase food in some school settings, schools need to control competitive foods available for sale in the school food environment and provide information about their value for health and nutrition. Both parents and teachers could contribute to developing guidelines for foods purchased from vendors in the school and on the street.

For FBDGs to have a more significant impact on diets, supporting policy and programme measures that could incentivize the uptake of the recommended guidelines are required [25]. The cost and affordability of healthy diets remain a pressing global concern, with the average price of healthy diets above the mean income of many [26]. Given the intrinsic value of social protection for alleviating poverty, policies such as cash transfers could be beneficial to improve household access to healthy and nutritious food in the most vulnerable and needy populations [27]. Findings from this review show that linking existing social protection programmes with nutrition, agriculture and health policies would not only increase the synergy between social protection and nutrition but would promote increased policy coherence and integrated actions. Additionally, including nutrition and health education interventions as an explicit objective of social protection programmes would help determine the nutritional impact of these programmes [28]. Although at present, nutrition-related objectives are not central in the design of social protection programmes, programmes such as LEAP, combined with other measures such as nutritional assistance and nutrition education, could offer the opportunity to implement FBDGs to improve diets, particularly for indigent households. Other instruments, such as food transfers, social pensions, and conditional cash transfers could also be aligned with national FBDGs to ensure that vulnerable households have money to access diverse nutrient-dense foods consistent with FBDGs.

CONCLUSION

In summary, findings from this review suggest that existing nutrition-related education and social protection policies and programmes in Ghana hold important implications



for the development and implementation of national FBDGs. Further, there are windows of opportunity to strengthen the nutrition sensitivity of some existing policies and programmes during the development and implementation of FBDGs.

COMPETING INTERESTS

The authors declare that they have no competing interests

AUTHOR CONTRIBUTIONS

AL led the review and writing of the manuscript. AT, GSA and PA contributed to drafting and finalizing the manuscript. All authors reviewed the manuscript and approved the final version for submission.



Table 1: Summary of existing nutrition-related education policies and programmes

Title of document	Document Type (Policy/programme/guideline/strategy)	Goal/Objectives	Nutrition-related action/interventions	Target group/eligibility	Strengths relevant to FBDG development and implementation	Gaps/weaknesses that could potentially militate against FBDG development and implementation
School Health and Education Programme (SHEP)	Policy	To provide the institutional framework to coordinate different stakeholders' effort for efficient, effective and sustainable implementation in the provision of school health services	Food hygiene and nutrition education Training and monitoring of school food vendors Food safety and quality assessment Promotion of healthy eating habits	Children in Public Schools	Food hygiene and nutrition education provided to school children can promote lifelong healthy eating and behavioural habits consistent with the national FBDGs Nutrition education and food monitoring/assessment activities targeting food vendors can	Teaching on nutrition is mostly not supported with teaching aids Inadequate training of educators on health and nutrition matters at school

	Programme	<p>To ensure the provision of comprehensive health and nutrition education and related support services in schools</p> <p>To equip children with basic life skills for healthy living</p> <p>To contribute to improvements in child survival and educational outcomes, including school enrolment, retention and academic performance</p>	<p>Promotion of the use of iodised salt in schools</p> <p>Micronutrient supplementation</p> <p>Regular assessment of children's nutritional status</p>		<p>enhance understanding and adherence to FBDG implementation</p> <p>Food fortification and micronutrient supplementation in schools can improve children's nutritional status and enhance their physiological and intellectual development</p>	
School Health Policy	Policy	To ensure the provision of comprehensive health and nutrition education and related support services in schools	<p>Inclusion of nutrition education in the school curriculum</p> <p>Micronutrient supplementation in schools</p>	All schools' levels	Presents schools as an ideal setting for provision and implementation of comprehensive health and nutrition-related	Uncoordinated and fragmented programmes by stakeholders

<p>Guidelines for Provision of School Health Service in Ghana</p>	<p>Guideline</p>	<p>To provide policy guidelines for the provision and promotion of health education in schools</p>	<p>Extracurricular nutrition education Deworming School-aged children</p>	<p>intervention consistent with FBDGS Health promotion personnel's responsible for food and nutrition-related matters in schools can supervise the implementation of FBDGs within the school setting School-based nutrition education can improve the eating behaviour of young person's consistent with FBDGs</p>	
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<p>School Feeding Policy</p>	<p>Policy</p>	<p>To provide school feeding support to children in deprived Ghanaian communities</p> <p>Strengthen coordination among programme implementation actors</p> <p>To foster local economic development through capacity support for local enterprises involved in food production, marketing and processing</p> <p>Promote local collaboration and joint ownership of child nutrition and health</p>	<p>Provision of one hot, nutritious meal per school-going day for school children in primary school using locally grown foods</p>	<p>Selected Public Primary School Children</p>	<p>School food service personnel can serve healthy, well-balanced meals consistent with the FBDGs during their implementation</p> <p>Outcomes from implementation and evaluation of the programme's food provisions menu could serve as possible guidance towards implementation of FBDGs</p> <p>Provides opportunities for practising healthy eating habits among beneficiary school children</p>	<p>Lack of nutrition-specific objectives and indicators is a challenge to effective monitoring and evaluation of nutrition outcomes</p>
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School Feeding Programme	Programme	To reduce hunger and malnutrition Increase enrolment, attention and retention in school To boost domestic food production in deprived communities To reduce poverty and enhance food security				
Water Sanitation and Hygiene (WASH) Education for Schools Guidelines	Guideline	To ensure that all school children have access to dignified sanitation, hygienic practices and safe water supply	Clean water supply point for hand washing Providing schools with safe drinking water	All school levels	Existence of safe drinking water and good build sanitary facilities ensures enabling environment to adhere to water and food safety measures	Logistical constraints with scaling up the programme to include Private and Senior High Schools

<p>Water Sanitation and Hygiene (WASH) in Schools (WinS)Programme</p>	<p>Programme</p>	<p>To ensure that all school children, especially the most vulnerable and their families, have access to dignified sanitation, hygienic practices and safe water supply</p>	<p>Providing and improving sanitation facilities Life skills education, focusing on key hygiene habits</p>		<p>in the implementation of FBDGs School children are equipped with proper health and hygiene information and practices, which can be passed on to family and community members Schools can form an ideal setting for skills-based hygiene education, where children can learn and sustain life-long hygiene practices</p>	
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<p>Education Strategic Plan (ESP) 2018-2030</p>	<p>Strategic plan</p>	<p>Improved equitable access to and participation in inclusive education at all levels.</p> <p>Improved quality of teaching and learning and science, technology, engineering and mathematics at all levels</p> <p>Sustainable and efficient management, financing and accountability of education service delivery</p>	<p>Includes sections on School Feeding Programme and WASH in Schools programme</p>	<p>All educational levels</p>		<p>Logistical constraints with scaling up the programme to include Private and Senior High Schools</p> <p>Lack of nutrition-specific objectives and indicators is a challenge to effective monitoring and evaluation of nutrition outcomes</p>
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<p>Nutrition-Friendly Schools Initiative (NFSI)</p>	<p>Programme</p>	<p>To reduce child undernutrition (stunting, wasting, micronutrient deficiencies)</p> <p>To reduce/prevent childhood overweight/obesity.</p> <p>To improve knowledge about healthy lifestyle diet and lifestyle habits.</p> <p>To foster healthy dietary and lifestyle habits</p>	<p>Eating routines</p> <p>Physical activities</p> <p>Safe environments</p> <p>Water and Sanitation</p>	<p>Preschool-age children and School-age children</p>	<p>Encourages enabling environment that promotes nutritional wellbeing of school-age children</p> <p>Initiative strengthens the capacity of schools in addressing the nutritional problems of children</p> <p>Positions the school settings as a system to improve nutrition among children through nutrition education campaigns</p>	
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Table 2: Summary of existing social protection policies and programmes

Title of document	Type of Social Protection	Goal/Objectives	Programme package	Target group/eligibility	Strengths relevant to FBDG development and implementation	Gaps/Weakness that could potentially militate FBDG development and implementation
Livelihood Empowerment Against Poverty (LEAP)	Unconditional cash transfer	To provide social grants support to supplement subsistence needs of extremely poor	A graduated type of transfer based on the number of qualified beneficiaries in a household	Extremely poor aged above 65 years. Severely disabled persons	Improve household nutrition and food security Coordinated implementation with other sectors/essential services, e.g., NHIS	Undue delay in cash payments to beneficiaries Cash transfer not linked directly with nutrition may lead to spending on non-essential supplies
	Conditional cash transfer for human development	To link beneficiaries to complementary services (e.g., NHIS) that would enhance their wellbeing To promote integrated social development through public-private partnerships	Amount ranges from 8 to 15 Ghana Cedis for a maximum of five beneficiaries per household	Orphans and Vulnerable Children		
Take-Home Ration Programme	Food transfers	To provide a take-home ration for children scoring 85% attendance per month. To reduce the level of malnutrition among schoolgirls in the Northern part of Ghana		Primary school and pre-school children who make 85% attendance a month. Girls in upper primary, JHS and SHS	Market linkages for smallholder farmers, a way of improving livelihoods by increasing incomes Enhance access to nutritious foods and improve nutrition	Lack of indicators for measuring quality and quantity of food in terms of how diverse, safe or acceptable the food is for consumption

Free compulsory universal basic education	Universal education	<p>To expand access to good quality basic education</p> <p>To promote efficient teaching and learning To improve teacher morale and motivation through incentive programmes</p> <p>To ensure an adequate and timely supply of teaching and learning to schools</p> <p>To improve teacher community relations</p>	Fee waiver	All children in basic education enrol in public schools	<p>Increase in enrolment and retention in school may increase pupil's exposure to nutrition education, including national FBDGs</p> <p>Coordinated implementation with other sectors/essential services, e.g., the Ghana School Feeding Programme (GSFP) and WASH In Schools (WinS) Programme</p>	Lack of intended universal access due to deficiencies in infrastructure, staff and teaching aids, especially in rural settings
Education Capitation Grant	Fee waivers	To provide access to basic education in all parts of the country	3 Ghana Cedis per child per academic year			
Free SHS	Free Senior High School (SHS) Programme	<p>Remove cost barrier through absorption of fees Expand physical school infrastructure</p> <p>Improve quality through the provision of teaching/learning aids</p> <p>Improve equity through the implementation of 30% placement in elite schools for public school JHS students</p>	Fee waiver	Every Ghanaian child in a public second cycle institution		

		Prioritise and support technical and vocational education and training programmes and institutions				
Village Infrastructure Programme	Public works	The primary objective is to improve Ghana's rural poor quality of life by increasing the transfer of technical and financial resources to improve basic village-level infrastructure	Employ workers with no income or meagre incomes to under community infrastructure project	Most deprived rural communities in Ghana	These programmes hold the potential to improve beneficiaries' income, increase food production and consequently enhance food security	Programmes are fragmented and lack specific nutrition or food security objectives There appear to be weak targeting of potential beneficiaries Possible lack of rigorous monitoring and evaluation processes
Labour Intensive Public Works (LIPW) Programme		To increase access to employment and cash-earning opportunities for the rural poor during off-season farming activities. To improve the social and economic infrastructure in targeted districts	Provide jobs and income security to the poor	Currently being implemented in 40 food-insecure districts in Ghana		
Block Farming Initiative Programme		To provide credit to farmers in terms of inputs supply in the form of improved varieties of seeds, fertiliser, and technical assistance at subsidised prices, all on credit and at interest-free	Provide farmers with technical support Supply them improved varieties of seeds and fertilisers at subsidised prices on interest-free credit	Groups of farmers having agreed to farm their land uniformly Farmers allocated land by the Ministry of Agriculture		
Fertilizer Subsidies Programme		To enhance agricultural productivity/production to ensure food security and improve the living standards of Ghanaian farmers.	Fertiliser at subsidised prices.	All farmers in Ghana		

National Health Insurance Scheme (NHIS)	Health insurance	To enable residents in Ghana to obtain at least basic health care services without paying money at the service point	Annual Premium is 90 Ghana Cedis, including admin and registration costs of 2 Ghana Cedis	All adults who pay stipulated premium and exempted groups such as SSNIT pensioners, children under 18, persons aged 70 and above and indigents	Improved access to and utilisation of formal health care facilities and services (including nutrition information/ counselling) Improved health outcomes	Financial (e.g., late repayment of service providers) and operation challenges (poorly resourced facilities), likely to hinder the intended universal coverage and sustainability
Free maternal and child health care	Maternal health policy under the NHIS	To provide all pregnant women access to free NHIS registration and access to complete NHIS benefit package throughout antenatal care, delivery services, post-natal care and neonatal care	Women entitled to free health care services throughout pregnancy and at childbirth	All pregnant women in Ghana		
Social Security and National Insurance Trust (SSNIT)	Social pensions	SSNIT seeks to give income replacement to Ghanaian workers and their dependents in old age, permanent disability or death	5% contribution of worker's salary and 12.5% contribution of employer	All formal workers in Ghana. Recently, informal sector workers	Provides economic support to contributors who may have lost income through old age or disabilities	Designed as standalone services, implemented independently of each other and lacks linkages with nutrition
Microfinance and Small Loans Centre	Microcredit	To administer, coordinate and monitor microcredit and small loan schemes and promote a decentralised microfinance system	100 to 500 Ghana Cedis and above per beneficiary	Poor men and women in Ghana.		
Community-based rehabilitation programme for the disabled		To improve the quality of life of babies, children, young people and adults with disabilities		People with disabilities.		



Persons with Disability Law (2006)	Regulatory frameworks to protect vulnerable groups	Law to secure the rights of persons with disabilities, provide employment, education, transportation and health care services	The act provides for incentives such as tools but no specific amounts	All persons With disabilities		
Care Reform Initiative (2006-2011)		The multi-sectoral 5-year initiative focuses on de-institutionalising and reintegrating orphans and vulnerable children and providing minimum standards by the Department of Social Welfare to run an orphanage				
Domestic Violence Act (2007)			Domestic Violence Act is intended to protect the rights of people who suffer domestic abuse or violence			
Children's Act 1998 (Act 560)			Children's Act of 1998 is a reform seeking legislation that consolidates laws relating to children's rights provisions, maintenance and adoption. It also regulates child labour and apprenticeships			



COVID-19 tax incentives	Tax incentives and pension relief	To waive tax on personal emoluments of health workers To waive tax on additional allowances paid to frontline workers To waive tax on withdrawal from provident funds and personal pension schemes		All health workers (Staff of public, quasi-government health facilities, and private sector health facilities)	
	Additional allowance	To encourage healthcare workers caring for those infected with the COVID-19 and the sick in general	50% of allowance added to basic salary	Health workers designated as “frontline” by the Ministry of Health	
Electricity subsidy Free water	Utility subsidies	To cushion the public, especially the vulnerable, from the adverse economic effects of the COVID-19 pandemic	Free water for six months Free electricity for lifeline consumers and a 50% reduction for all other consumers for three months	All citizens and public utility customers	
Food assistance	Food distribution	To ensure poor and vulnerable populations meet their daily consumption of food and address their nutritional needs	US\$40 million dry food packages and hot meals distributed Another US\$40 million given to the Ghana National Buffer Stock Company to control	Four hundred thousand vulnerable individuals and households living in the partial lockdown areas	



			food shortages and hikes in food prices			
	Insurance package	To insure healthcare workers caring for those with the COVID-19	Assured sum of GHS350,000 (approx. US\$60,345)	Health workers designated as “frontline” by the Ministry of Health		
Coronavirus Alleviation Programme Business Support Scheme	Financial support Scheme	To provide relief to SMEs facing challenges owing to COVID-19	GH¢600 million stimulus packages for SMEs	All Ghanaian owned small and medium-scale enterprises		
COVID-19 National Trust Fund		To receive contributions and donations from the public to help the government meet the welfare needs of the vulnerable and needy, especially during COVID-19 imposed restriction/partial lockdown		Vulnerable and needy in the country		

Appendix 1: Nutrition issues included in Ghana Education Service School Curriculum

Grade	Subject	Topic	Issue
Primary 1-3	Natural Science	Water	Drinking water; how to keep water clean
		Food safety	Food preservation and spoilage
Primary 4-6	Integrated Science	Food as energy	Food as energy for growth and development
		Fruits and seeds	Fresh and dried fruits and seeds – their nutritional and economic value
		Food processing and preservation	Reasons for processing and preservation. Types of foods and different methods, i.e. cassava to gari.
		Food poisoning	Recognise and prevent food poisoning. Signs of someone who has food poisoning



Junior High School	Integrated Science	Vegetable crop production	Identify vegetables, their nutritional properties and uses
		Food and nutrition	Nutrients and food classification Nutrients and their importance to human nutrition and health
Junior High School	Basic Life Skills	Nutrition	Food groups and their nutrients, deficiencies and related complications, balanced diet
		Maintaining good health	Food spoilage and causes. Food preservation and methods
		Cooking foods	Types of foods and preparation. Basic methods of cooking
		Meal service	Meal management, table laying, table etiquette
Junior High School	Optional Home Economics	Health and hygiene	Catering: personal hygiene, cleanliness of utensils, food contamination and spoilage and causes, food preservation and nutritive values
		Food and nutrition	Food classification
		Food and nutrients	Nutrients and their functions, deficiencies and their symptoms, balanced diet, portion size
		Food preparation	Effects of cooking on food, basic methods of cooking different types of foods
		Food commodities	How to choose foods for cooking, qualities, quantities
Senior High School	Integrated Science	Food and Nutrition	Classes of food and their functions. Balanced diet.
			Types of malnutrition and their prevention
			Food fortification and enrichment



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