

**Mapping the extent of current implementation
of comprehensive school food and nutrition
programmes at school level in Kenya**

Report

April 2024

About the Nutrition Research Facility

The Knowledge and Research for Nutrition project of the European Commission (2020-2026) aims to provide improved knowledge and evidence for policy and programme design, management and monitoring & evaluation in order to reach better nutrition outcomes.

The project is implemented by Agrinatura - the European Alliance on Agricultural Knowledge for Development – which has established a Nutrition Research Facility, pooling expertise from European academia and having the ability to mobilise internationally renowned scientific networks and research organisations from partner countries.

The Nutrition Research Facility provides expert advice to the European Commission and to the European Union (EU) Member States and Partner Countries.

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Document information

Deliverable	4.b			
Work Package				
Nature	Report			
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Date of Delivery	Contractual	12/03/2024	Actual	26/06/2024

Document history

Version	Issue date	Stage	Changes	Contribution
	18/12/2023	Draft- new format		Comments provided on written document by MH on 5/1/24
V0	05/02/2024	Draft	Reviewed after meeting with F3	Reviewed by MH and PS on 15/2/24 Quality assurance.
V1	26/04/2024	Draft	Reviewed. Revisions included	Reviewed by MH, PS and AM in May-June 2024. Quality assurance.
V2	04/07/2024	Final		Reviewed and accepted by MH.

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List of Acronyms

Acronym	Description
APHRC	African Population Health Research Centre
DQQ	Diet Quality Questionnaire
GPI	Good Practice Indicator
HGSMP	Home Grown School Meal Programme
IRD	French National Research Institute for Sustainable Development
NCD	Non-Communicable Disease
NGO	Non-Governmental Organisation
NRF	Nutrition Research Facility
SES	Socioeconomic Status
SFNP	School Food and Nutrition Programme
SIAA	School Interventions: which interventions are (or could be) implemented to promote nutritious diets of Adolescents living in urban Africa in the context of nutrition transition
SME	Small and Medium Enterprise
SMP	School Meal Programme
SSI	Semi Structured qualitative Interview
UN	United Nations
UNICEF	United Nation Children's Fund
WHO	World Health Organisation
WASH	Water, Sanitation and Hygiene

Definitions

The following definitions were developed based on the literature and adapted by the project team.

Good practice indicators: standards against which aspects of school food environments or policies can be assessed and compared with.

Comprehensive school food and nutrition programme: incorporates food and meals provided, nutrition standards for procurement (e.g. from local farmers), nutrition education, school gardens, food personnel training, food skills and literacy, and water, sanitation, and hygiene issues. It includes the whole school food environment and school community.

Food labelling: provision of nutrition information on a food product or meal, including ingredients and/or nutrient content (e.g. fat, sugar or salt).

Food promotion: in this report “food promotion” only refers to the advertising of unhealthy foods and beverages. Promotion of healthy foods through the school curriculum or extra-curricular information campaigns is addressed under “nutrition education”.

Food safety: refers to handling, storing, and preparing food in and around school to prevent infection and ensure that food retains sufficient nutrients for students (i.e. school going pupils) to have access to a healthy diet. In this report, the element “food safety” also entails hygiene practices of people handling food and safe water related to food preparation on the school premises but also the food safety of vendors outside the school. Issues related to safe water and hygiene regarding students is addressed under “Water, Sanitation and Hygiene”.

Home-grown school feeding: school feeding models that are designed to provide children in schools with safe, diverse, and nutritious food, sourced locally from smallholders. A school feeding programme can be considered as ‘home-grown’ even if only a proportion of food is purchased locally from smallholder farmers, provided that local purchases are designed to support and foster local agricultural and food markets, and that these objectives are taken into consideration during programme design and implementation and institutionalised in related policies and regulations.

Nutrition standards/guidelines for school meals/school feeding: these refer to a set of rules, principles or recommendations that make explicit the nutrients or food groups required to ensure that school meals meet the nutritional needs of school children. They can also include food safety recommendations for preparing meals at school.

Policy: law, regulation, procedure, administrative action, incentive, or voluntary practice of governments and other institutions (CDC).

Public health interventions: within the International *Classification of Health Interventions* (ICHI), public health interventions aim at improving mental or physical health at a population level and are conceptualised as being composed of three dimensions, represented by the three axes: Target, Action and Means. Action is a deed done by an actor to a target.

Programmes: Comprise a number of linked and complementary interventions, some of which are delivered at the individual level and others at the group or population level.

Activities: Interventions delivered at individual level (e.g. school health and nutrition activities and services)

Safe drinking water: Safe drinking water is water that has been improved and is regularly assessed against the ‘Guidelines for drinking-water quality’ (WHO) to ensure it is safe for drinking. Improved drinking water sources are those that, by nature of their design and construction, have the potential to deliver safe water. In schools, water services are classified as follows: Basic service: Drinking water from an improved source and water is available at the school at the time of the survey; Limited service:

Drinking water from an improved source, but water is unavailable at the school at the time of the survey; No service: Drinking water from an unimproved source or no water source at the school.

School-based food and nutrition education: a variety of educational strategies and learning activities which, accompanied by supportive food environments, aim to help school children and their communities improve their diets and dietary behaviours, and build their capacity to adapt to change and act as agents of change.

School community: refers to all agents who are part of the school system (i.e., students, parents, teachers, supporting staff and the wider school community including farmers or companies providing food to the school) with regards to healthy nutrition.

School food environment: refers to all the spaces, infrastructure, and conditions inside and around the school premises where food is available, obtained, purchased and/or consumed. The internal school food environment includes any foods and beverages sold, promoted, distributed, labelled, etc., at school cafeterias, kiosks, school events, vending machines, etc. The external school food environment includes any foods or beverages sold, promoted, distributed, labelled, etc., outside the school premises for instance tuck shops, kiosks, or food vendors.

School food procurement: refers to the entire process of purchase, subsidy, provision, distribution, preparation, service, and sale of food provided at school. This includes criteria relating to the nutritional quality, price and provenance of food provided, usually focusing on school meal provision.

School meal programmes: programmes that provide meals regularly to school children. These programmes make use of various operation models (including procurement and preparation). They can be implemented in tandem with complementary interventions, such as nutrition education, deworming or supplementation. Also, traditionally referred to as school feeding programmes.

School nutrition and health services: encompass the support services that include assessment of health and nutrition problems or that provide a channel to deliver specific nutrition and health interventions in schools.

School nutrition education: refers to the provision of nutrition education to children and adolescents attending school, either as part of the school curriculum or through extracurricular activities, and which aims to improve the nutritional quality of their diet behaviours.

School premises: entails any food and nutrition related activities within the walls of the school, including the internal food environment, availability of school gardens, water, sanitation, and hygiene facilities and services, health and nutrition services, physical education, and nutrition curriculum.

Students: refers to school going pupils, not to university students.

Unhealthy foods are typically defined as foods and beverages high in added sugar, salt and/or harmful fats, and low in nutritional value. There is also a growing body of evidence to show ultra-processed foods are associated with a range of negative health outcomes, including weight gain and obesity.

WASH: entails access to safe water and sanitation, and promotion of good hygiene practices that reduce the risk of water-related disease transmission.

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Executive summary

Background

Undernutrition rates in adolescents remain high in Kenya, while overweight and obesity are increasing. The Kenya National Adolescent Survey 2019/2020 revealed that nationally, 10.7% of adolescents were overweight or obese and 11.6% were thin or wasted. Adolescents are also at risk of undernutrition and micronutrient deficiencies, girls in particular. Anaemia is a public health concern for adolescent girls as 24.2% of adolescent girls aged 10 to 14 years old are anaemic, according to the Kenya Malaria Survey 2020. This emphasizes the importance of focusing on the prevention of multiple forms of malnutrition among this population group. Schools have always been important settings for nutrition since adolescents spend a lot of time in school and are at an age when dietary habits are formed.

The overall aim of the SIAA research study is to identify which interventions are (or could be) implemented to promote healthy diets and ultimately prevent overweight/obesity and micronutrient deficiencies in adolescents aged 14-18 years old. The context of urban environments in Kenya was chosen as a case study.

The SIAA study focuses on three main objectives:

1. Map the extent of the current implementation of a comprehensive school food and nutrition programme to improve school food environments, compared to international good practice indicators.
2. Identify the challenges to implementing a comprehensive school food and nutrition programme.
3. Identify how emerging challenges can be addressed in new and/or improved interventions to improve school food environments.

In a previous phase of the project, we developed a framework based on a scoping review of benchmark or Good Practice Indicators (GPI) recommended at the global level, to assess the implementation of comprehensive school food and nutrition programmes (SFNPs). The 58 GPIs identified belonged to 5 main domains: school premises, school community, external school food environment, policy environment, and cross-cutting issues, such as gender or environmental sustainability. The present study aimed to map the extent of current implementation of comprehensive SFNPs to improve school food environments in urban and peri-urban Kenya, compared with the international GPIs.

Methods

Data were collected in Nairobi (urban) and Kiambu (peri-urban) counties. After stratification by socio-economic status (SES), three low, medium and high SES sub-counties were randomly selected in each county. At the sub-county level, lists of all secondary schools were obtained, stratified by school type (public, private), services provided (day, day and boarding, full boarding) and gender (boys only, girls only, mixed gender). Then, five schools were randomly selected in each sub-county: 3 public day schools, one private day school, and one full boarding school (either public or private) per sub-county. A total sample of 30 schools were surveyed in Nairobi and Kiambu. We used a mixed-method approach, combining quantitative and qualitative data collection in the 30 schools. We conducted semi-structured individual interviews with policy makers (n=2) and programme implementers (n=2), as well as head teachers (n=30), caterers (n=27), an administrator (n=1) and health and nutrition-focal persons (n=2) in schools. We also conducted structured observations in the 30 schools. Permission was obtained to observe school kitchens (n=28), school meal services (n=27), and sport infrastructures (n=29). The composition of meals and menus was assessed through 5 day-recalls by caterers of meals served at school (n=27).

A two-level rating system was developed to assess the level of implementation of comprehensive SFNPs, according to 58 GPIs identified within 23 components and 5 domains (Figure 1)¹.

The first rate for the GPIs was defined as follows:

- **No:** indicator was not implemented in most schools;
- **Partial:** indicator was implemented in some schools;
- **Yes:** indicator was implemented in most/all schools.

Then, within each of the components of a comprehensive SFNP, a second rating was defined as:

- **No:** few indicators from the component were implemented;
- **Partial:** some indicators from the component were implemented;
- **Yes:** most indicators from the component were implemented.
- In case of not documented (N/D) indicators, components were given the most conservative ratings.

Main findings

Evidence of current implementation of GPIs of a comprehensive SFNP in 30 schools surveyed are presented in Figure 1 and Table 1. At the level of GPIs, we found that:

- 12/58 indicators were implemented fully;
- 21/58 indicators were partially implemented;
- 11/58 indicators were not implemented at all;
- 14/58 indicators were not assessed in our study.

We did not document the current implementation for 14/58 indicators during our study due to: i) the need to prioritize components to investigate in relation to our main research objectives (e.g. safety and violence prevention and trusting climate at school were less central); ii) several indicators would have required interviewing parents, students, food suppliers or farmers, private sector, which was not feasible in the timescale/resources provided; and iii) some indicators were found to be not completely relevant to the local context (e.g. promote sustainable diets through limiting number of servings). They are identified as Non-Documented (N/D) in Table 1.

At the level of components of a comprehensive SFNPs, we found that:

- 1/23 component was implemented fully, namely "Nutrition education";
- 15/23 components were partially implemented;
- 4/23 components were not implemented at all.
- 3/23 components were not investigated during our study.

Three external school food environment components (namely food prices, food labelling, and food safety) had no global level indicator identified during the step of GPI identification. They are identified by * in the framework in Figure 1 and Non-Applicable (N/A) in Table 1.

¹ Nutrition Research Facility. *Identifying good practice indicators to assess comprehensive school food and nutrition programmes - A scoping review*. https://www.nutrition-research-facility.eu/IMG/pdf/nrf_siaa_review_final_report_april2023.pdf (2023).

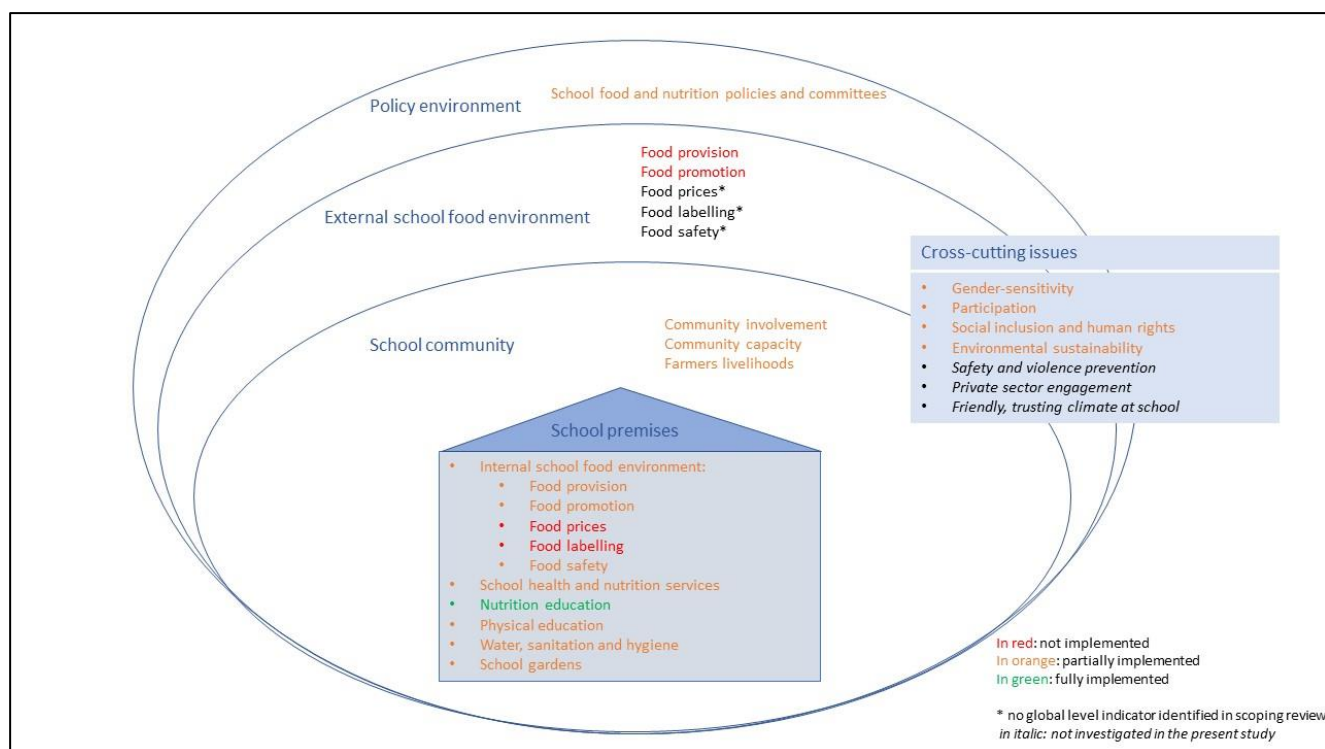


Figure 1. A framework for comprehensive school food and nutrition programmes

Overall, there is substantial policy guidance and implementation of interventions and activities within the **school premises domain**, except for two elements that require attention: food prices and food labelling. Although food provision was rated as “Partial”, important efforts are made by school communities to deliver healthy meals (or any meals) through School Meal Programmes (SMP) and local food procurement, planning for balanced meals and menus, and food diversity. High prices for fresh foods and financial constraints were mentioned as the main challenges faced by schools in ensuring that adolescents have nutritious and balanced diets. The situation is made worse by the poor socioeconomic conditions of most parents, who face challenges paying SMP fees, which in turn leads to schools having credit with school food suppliers and having to work with limited budget/amount, translating to smaller quantities, diversity and number of meals provided in the SMP. The others 6 elements rated as “Partial” within the school premises domains including food safety, school health and nutrition services, nutrition and physical education, Water, Sanitation, and Hygiene (WASH) and school gardens, show consistently that schools are making strong efforts despite the need for investments in school infrastructure, e.g. kitchens, storage and dining areas and physical activity equipment.

Within the **school community domain**, all components were partially implemented. The wider community seemed involved mainly through school food procurement. However, engagement of students and parents, as well as other school community members would benefit comprehensive SFNP implementation (or improvement). The **external school food environment** was explored partially in our study, as we limited data collection to observations on food provision and food promotion conducted at the school gate due to resource limitation to conduct a larger survey. The **school policy environment** was rated as partially implemented. Facilitating engagement from the government, ministries, and counties (through supporting existing multisectoral platforms) would benefit SFNPs with a special focus on adolescents, at the school level.

Some of the challenges highlighted to effectively implement comprehensive SFNPs by the policy makers/programme implementers and school community members interviewed, included: limited policy guidance specific to adolescent nutrition, particularly within the school context; limited

dissemination of existing policies and inadequate resources to implement/adopt the existing policies at the county level; inadequate multi-sectorial collaboration platforms and linkages by the relevant departments, such as health, education, and agriculture for implementation of adolescent nutrition programmes at school level; minimal autonomy at the subnational level to design and implement independent programmes; minimal involvement of the nutrition department in school nutrition menu planning and supervision within the Ministry of Education.

Finally, the **cross-cutting issues** domain was only partially documented in our study. However, gender equity, participation and social inclusion, while elements that exist at the level of national policy, merit expansion, and appear to be implemented only to a limited extent.

Recommendations

Several recommendations **to policy makers and implementers** at national, county, school, and community level emerged from the structured individual interviews conducted during this phase of data collection in 30 schools and from the total evidence gathered (qualitative and quantitative findings), to strengthen implementation of comprehensive SFNPs in urban and peri-urban settings in Kenya. These recommendations will be useful to conduct Step 3 of the SIAA project, to orientate workshops implementation. They are presented in Table 1.

Table 1. Synthesis of international GPIs identified from literature review, policy evidence, implementation levels in 30 schools in Kenya, and recommendations to key actors to strengthen implementation of comprehensive SFNPs.

Domains and components used to structure GPIs for a comprehensive SFNP	Evidence from Kenyan policy documents	Level of implementation in 30 schools	Recommendations/way forward	Key actors/ Level 1. National 2. County 3. School 4. Community
1. School premises				
Food provision	Partial	Partial	1. Increase investment for school infrastructures (kitchens, cooking, dining and storage facilities).	1, 2
			2. Improve diversity of food groups in SMP and limit access to unhealthy snacks and sweets within the school premises to improve student's diets.	1, 2, 3, 4
Food promotion	Partial	Partial	3. Create or reinforce regulations on advertising for unhealthy foods and beverages on school premises. Limit the involvement of private food companies in schools	1, 2, 3
Food prices	No	No	4. Provide subsidies to schools to provide healthy food through SMPs (and for limited resources settings, subsidies to support SMPs) and to improve student's diets.	1, 2
			5. Provide subsidies for parents that cannot afford SMPs or implement universal provision.	1, 2
Food labelling	No	No	6. Make menus on display mandatory.	1, 2
			7. Sensitization and enforcement of front of pack nutrition labelling within the school environment.	1, 2
Food safety	Yes	Partial	8. Reinforce food safety knowledge and procedures in schools, through trainings, reinforcing awareness and disseminating guidelines.	1,2, 3
			9. Facilitate or reinforce regular food safety monitoring and inspections in schools.	1, 2
School health and nutrition services	Yes	Partial	10. Reinforce implementation of services in schools (e.g. regular deworming, height and weight monitoring and micronutrients supplementation).	1, 2, 3
Nutrition education	Yes	Yes	11. Use innovative approaches and platforms to raise awareness on nutrition, health, and environmental issues in adolescents in schools e.g. school health clubs, 4k/young farmers clubs, music, and drama clubs/festivals.	2, 3, 4
Physical education	Partial	Partial	12. Reinforce implementation of physical activities by students in school and increase investments in physical activity infrastructure in the schools.	1,2, 3
Water, sanitation and hygiene	Yes	Partial	13. Reinforce implementation in schools that still face difficulties in consistent supply of clean and safe water.	1, 2, 3
School gardens	Partial	Partial	14. Reinforce implementation in schools, for example through scaling up of the 4K clubs/young farmers club, as relaunched by the government in 2021, to serve as a nutrition education tool and to improve SMPs and student's diets.	2, 3, 4
2. School community				
Community involvement	Yes	Partial	15. Include more systematically caterers, parents and students in the school food committees.	3, 4
Capacity development and training of the school community	Partial	Partial	16. Strengthen nutrition awareness and capacity building for teachers, caterers, parents, and the wider community.	1,2, 3, 4
Livelihood of suppliers	Partial	Partial	17. Incentivize smallholders or food suppliers to strengthen nutritious food value chains, from farm to schools.	1, 2, 3, 4
3. External food environment				

Food provision	No	No	18. Regulate food environment outside schools, banning unhealthy food vendors in a perimeter around schools.	1, 2
Food promotion	No	No	19. Restrict marketing of unhealthy foods to children and adolescent.	1, 2
Food prices	No	N/A	20. Increase taxes on unhealthy foods to reduce easy access around the school environment.	1, 2
Food labelling	No	N/A	21. Develop front of pack nutrition labelling and enforce its implementation within and around the school environment.	1, 2
Food safety	No	N/A	22. Raise awareness and sensitize the food vendors around the school on food safety.	1, 2,3
4. School policy environment				
School food and nutrition policy or institutional framework	Partial	Partial	23. Identify existing multi-sectoral platforms and strengthen activities facilitating engagement between the relevant ministries involved in school nutrition (health, education, and any other sector that is relevant), including county executives.	1, 2
			24. Provide clear policy guidance at the National or County level, on the implementation (operationalization of the policies) and coordination of SFNPs with clear allocation of roles and responsibilities. This could be done through new policies, revision of existing policies and extensive dissemination of these policies.	1, 2
			25. Give more focused attention on comprehensive SFNP and adolescent nutrition at the county level (county nutrition action plans).	1, 2
			26. Deliver higher level advocacy on adolescent nutrition and school feeding programs among key decision makers at all levels including school principals, board of governors and parent teacher associations.	1, 2, 3, 4
5. Cross-cutting issues				
Gender sensitivity	Partial	Partial	27. Encourage implementation of gender equality and equity programmes.	1, 2, 3
Participation	Partial	Partial	28. Involve students in the design, development, and/or implementation of school food and nutrition projects in schools.	1, 2, 3
Social inclusion and human rights	Partial	Partial	29. Promote that “all students have access to full, healthy, free, or subsidized meals and education for all”, as recommended internationally, including for students who have special diets	1,2,3, 4
Environmental sustainability	Partial	N/D		N/A
Safety and violence prevention	Yes	N/D		N/A
Private sector engagement	No	N/D		N/A
Friendly, trusting climate at school	Partial	N/D		N/A

Notes: Acronyms: Non-documented (N/D); Non-Applicable (N/A)

Recommendations for future research can also be made, including:

- Develop GPs to assess food prices, food labelling and food safety in the external school food environment.
- Use the list of GPs in specific contexts, revise indicators that are not context relevant (e.g. GPI on schools promoting sustainable diets by setting limits on the number of servings or by requiring a set number of plant-based meals, or GPI on schools setting criteria for reducing food loss and waste, in contexts of food insecurity).

Conclusion

This report describes the findings of the survey conducted in 30 schools to assess the current implementation of comprehensive SFNPs in two urban and peri-urban settings in Kenya. Overall, components of comprehensive SFNPs were found to be partially implemented in the 30 schools of the study.

Therefore, this report proposes key recommendations that either governments and local authorities, or schools and local communities, should consider to improve in-school adolescents' diet and nutrition. However, transitioning from recommendations to actions that are adapted, acceptable, sustainable and truly transformative requires a participatory approach in which the local community is actively involved as an integral part of the implementation. The following step of the SIAA research project is to conduct participatory workshops with the school community to identify and reflect upon the challenges and solutions faced in implementing comprehensive SFNPs in urban and peri-urban settings in Kenya.

This report was prepared as part of the research study *"School Interventions: which Interventions are (or could be) implemented to promote nutritious diets of Adolescents living in urban Africa in the context of nutrition transition (SIAA)"*. This research study has been framed by the Nutrition Research Facility (NRF) as part of the Knowledge and Research for Nutrition project of the European Commission, following a consultation of decision-makers in East and West Africa, from which emerged priority research questions. The SIAA research study is implemented by the French National Research Institute for Sustainable Development (IRD) and the African Population Health Research Centre (APHRC).

Introduction

Adolescence, defined as the phase of life between childhood and adulthood, from ages 10 to 19, is a critical stage of physical, cognitive, and psychosocial growth and development and a fundamental period of definition of eating behaviours and lifestyle ¹. The changing lifestyles of adolescents, their desire for autonomy and their need to belong to their peers, coupled with exposure to modern food environments, facilitate unhealthy food choices ². Particularly around schools, aggressive marketing and increased availability and access to unhealthy foods can influence adolescents' food choices, constituting obesogenic food environments ³.

During the past decade, a drastic increase of overweight has been observed globally in adolescent girls and boys and was only followed by a limited decrease in underweight ⁴. In 2016, the global prevalence of overweight reached 5.6% and 7.8% in adolescent girls and boys, respectively, while 8.4% and 12.4% were still suffering from moderate to severe underweight ⁵.

In Kenya, the situation is also of concern, with adolescents being 10.7% overweight or obese and 11.6% thin or wasted in 2019/2020⁶. In addition, adolescents are at high risk of micronutrient deficiencies, girls in particular. According to the Kenya Malaria Survey 2020, 24.2% of adolescent girls aged 10 to 14 years old were anaemic⁷. This emphasizes the importance of focusing on the prevention of multiple forms of malnutrition among this population group.

Evidence shows that the double burden of malnutrition has serious and long-term developmental, health, and medical consequences, including for future generations ⁸⁻¹⁰. At national level, malnutrition increases healthcare costs, reduces productivity, and slows economic growth, which can perpetuate a cycle of poverty and poor health, especially in resource-constrained, low- and middle-income countries ¹¹.

Comprehensive school nutrition programs

Ten double-duty actions have been proposed to simultaneously tackle both undernutrition and problems of overweight, obesity, and diet-related non-communicable diseases (NCDs). Among them, is the promotion of healthy diets and snacks, physical activity and preventive use of health services specifically targeting children and adolescents ¹². Schools also have the potential to improve adolescent nutrition through school meal programmes and nutrition education ¹³.

Schools have therefore become important settings for nutrition programmes. However, until recently the focus of school interventions in Africa (and LMICs in general) has mainly focused on school feeding to increase enrolment or prevent acute or chronic undernutrition, rather than on comprehensive approaches that include the whole school food environment and community ¹⁴ that address multiple burdens of malnutrition. Comprehensive school food and nutrition programmes can promote healthy food consumption in several ways: i) *controlling the availability of foods/beverages* sold or provided-type/portion size; ii) *introducing nutrition standards* for school meals or other foods sold in school; iii) *applying price interventions*, such as free or subsidised fruit and vegetables, or higher prices of energy-dense, nutrient-poor foods; iv) *engaging with family and the school community*; and v) *providing school nutrition/health services* that include water and sanitation, as well as micronutrient supplementation ^{14,15}. A comprehensive school policy can therefore aim to reduce access to unhealthy foods, as well as encourage provision of healthier food ¹⁵.

Background on schools in Kenya

In 2019, Kenya's population was estimated at 47.6 million people, of which 36% are children of school going age (4 to 17 years)¹⁶. By 2022, the country had roughly 31,200 and 1,250 public primary and secondary schools respectively¹⁷. The school enrolment rate (number of boys and girls of the age of a

particular level of education that are enrolled in that level, expressed as a percentage of the total population in that age group) is higher for primary education compared with secondary education (81% vs 69%)¹⁸. In comparison, average enrolment rates in SSA are 99% for primary and 36% for secondary education¹⁹. Although there is roughly equal enrolment of girls and boys in primary schools in Kenya, there is a wider gender gap in secondary school (54% boys vs 46% girls)¹⁸. Very low enrolment and completion rates have been reported among the poorest quintile group, especially in the arid and semi-arid lands areas and informal urban settlements.

School food and nutrition programmes in Kenya

The Government of Kenya initiated the School Meal Programme in 1980 in collaboration with development partners and, since then, school meals have remained an important development intervention in the country. Initially, the programme was providing a mid-day meal to public primary school children in Arid and Semi-Arid Sub-Counties and the informal settlements of Nairobi. Since 2009, Kenya has introduced a more sustainable and nationally-owned Home-Grown School Meals Programme (HGSMP), prioritizing the local food supply to schools²⁰. Under the HGSMP, the Government disburses funds directly to schools and provides guidelines in key aspects of school meals, such as the nutritional composition of food baskets, adequate procurement processes and monitoring/evaluation.

Procurement of food for school meals in Kenya can take place through direct supply of internationally or locally procured food to schools either through the government or a delegated institution (centralised modality). Schools can also receive funds to organise purchases themselves, often through local smallholder farmers (decentralised modality). The decentralised modality is widely used in Kenya²¹. Procurement can also be outsourced to catering services, contracted by the school or the government or food could be procured through community-based initiatives. In the latter case, parents contribute food or money to purchase food²¹.

Although, changes in the school food environment have the potential to improve children's dietary behaviour and prevent malnutrition, policy actions are also needed to improve food environments around the school in order to facilitate healthy and sustainable diets²². Several policy documents, such as the Kenya School Health Policy (2018)²³, the National School Health Strategy Implementation Plan²⁴, and the National School Meals and Nutrition Strategy (2017-2022)²¹, have been developed to provide guidance on implementing the school health and nutrition programmes in Kenya. However, the extent of their implementation in Kenya is not well documented.

Previous steps of the SIAA research project

A framework was developed based on a scoping review of GPIs recommended at the global level, to assess the implementation of comprehensive SFNPs. The 58 GPIs identified were divided into five main domains (school premises; school community; external school food environment; policy environment; and cross-cutting issues such as gender or environmental sustainability) of SFNPs²⁶. A brief was made available for easier use by policy makers and implementers²⁷. Then, a policy review was conducted in Kenya to examine the existence of policy documents addressing the 5 domains, 26 components, and 58 recommendations to assess or improve implementation of comprehensive SFNPs²⁸.

The next steps of the research project aim at answering the following research questions:

RQ1. Are comprehensive SFNPs currently being implemented in urban Kenya?

RQ2. What are the challenges to implementation of comprehensive SFNPs?

RQ3. How can the challenges to develop or improve implementation of comprehensive SFNPs be addressed?

The present report focuses on RQ1, while RQ2 and RQ3 will be addressed in the next phase, through scoping and solution workshops organized in targeted schools.

Objectives

The present study aims to map the extent of current implementation of comprehensive SFNPs to improve school food environments in urban and peri-urban Kenya, compared to international GPIs. The study will also explore if national policies align with these indicators, in order to recommend possible actions.

Methodology

Study area

Data were collected in Nairobi county (urban) and Kiambu county (peri-urban). The two counties were further stratified by socioeconomic levels based on the Kenya National Bureau of Statistics (KNBS) poverty index report. Tertiles of the headcount index (% of individuals living below the poverty line) were computed to determine high, middle and low-income sub-counties among the 11 sub-counties in Kiambu County and 17 sub-counties in Nairobi County. The first tertile included the sub-counties with the lowest percentage of individuals living under the poverty line, hence categorised as high Socio-Economic Status (SES) sub-counties. Those in the third tertile had the highest percentage of individuals living under the poverty line, hence categorised as low SES sub-counties.

Finally, after excluding non-eligible sub-counties (semi-rural sub-counties), a list of 7 eligible sub-counties in Kiambu and 12 eligible sub-counties in Nairobi was used to randomly select three sub-counties from the high, medium and low SES categories in each county, as summarised in Table 1.

Table 1. Sub-counties included in the study

SES level	Kiambu county	Nairobi county
High	Ruiru	Kasarani
Medium	Kiambu	Dagoretti
Low	Kikuyu	Kamukunji

Note: Determined according to tertiles of the headcount index (% individuals living below the poverty line) provided by the KNBS poverty index report.

Study sample

At the sub-county level, lists of all secondary schools were obtained from the county/sub-county offices, stratified by school type (public, private), services offered (day, day and boarding, boarding exclusive) and gender (boys only, girls only, mixed gender). We applied proportionate sampling criteria to randomly select 3 public day schools, one private day school, and one exclusive boarding school (either public or private) per sub-county, i.e. 5 schools per sub-county. A total of 30 schools, 15 in each county (Nairobi and Kiambu), were selected to participate in the assessment of current implementation of a comprehensive school food and nutrition programme.

Data collection

Data collection tools were designed to cover a large panel of the school food environment domains (Figure 1), as defined in a previous phase of the project ²⁶.

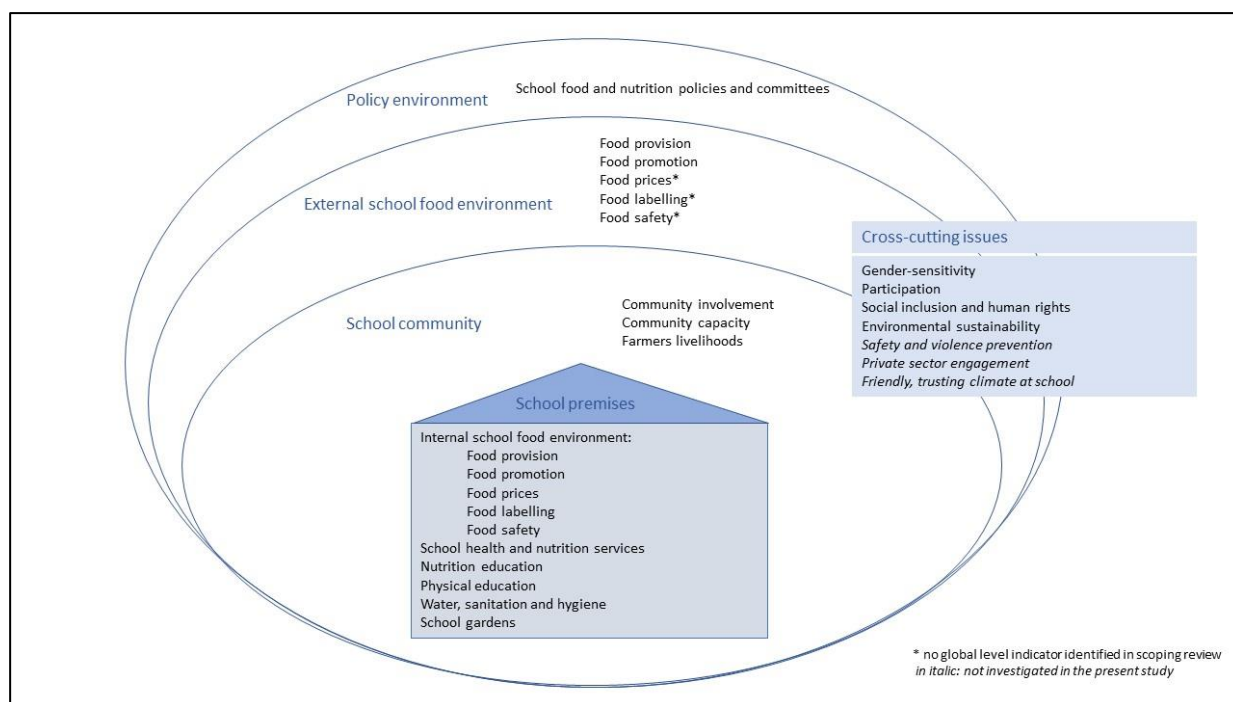


Figure 1. A framework for comprehensive school food and nutrition programmes

In order to investigate school food environments and the implementation of a comprehensive SFNP, we used a mixed-method approach, combining quantitative and qualitative data collection. We used the following research methods: 1) quantitative questionnaires, 2) school observations, and 3) semi-structured qualitative interviews (SSI).

Mixed-methods interviews in schools

In schools, individual interviews were conducted with head teachers and other relevant school staff – caterers and nutrition and health focal persons - to document the service delivered/received as part of a comprehensive SFNP and to further understand school actors' perspectives and practices on catering, school meals, and other comprehensive SFNP components. Ten trained enumerators used a combination of quantitative questionnaires and SSI in English or Swahili, depending on participants' preferences. The use of Computer Assistant Programme Interview using Survey CTO® allowed direct data entry with automatic controls, taking pictures, as well as audio recording for the qualitative components.

School observations

Semi-structured, direct and non-participant observations were conducted in schools during a few hours in one day, at the time of meal preparation and lunch served to students. Types of food served, sold and advertised in and outside the schools were reported, to describe the proportions of healthy and unhealthy foods within and outside the school gate. Enumerators walked in school and at the school gate to identify and record food advertisements and food outlets available. Other components, such as the presence of a garden, kitchen and serving places in schools, were also observed.

Semi-structured qualitative interviews

In addition, in-depth qualitative interviews were conducted with school nutrition policy and programme implementers at national and subnational levels to further understand the extent of school nutrition policy and programme implementation at the national and county levels. A semi-structured guide and audio recording were used.

Data collection was conducted in 30 schools between June 13th- July 3th, 2023, in the sub-counties of Kamukunji, Dagoretti and Kasarani for Nairobi county and Kikuyu, Kiambu and Ruiru for Kiambu county.

Data management and analysis

All quantitative data were transferred into STATA (v.16). Data were cleaned, recoded if necessary and checked for further processing and analysis. Descriptive statistics – frequencies for categorical variables, means for continuous variables, distributions, cross-tabulations, and graphs - were performed for all 30 schools. No statistical tests were performed due to low sample size.

School meals and menus were analysed through a caterer 5 days-recall of food and meals provided to students. The 5 days-recall relied on a list of 29 food groups from the Diet Quality Questionnaire (DQQ), which is a standardized tool to enable population-level diet quality monitoring²⁹. In the present study, the list of 29 food groups were used in data collection tools, to characterise the quality of the food provided (not consumed). It was also used to calculate an indicator inspired from the All-5 indicator, which is used to assess the consumption of all five recommended food groups (at least 1 vegetable, 1 fruit, 1 pulse, nut or seed, 1 animal source food, and 1 starchy staple)³⁰. These five food groups are recommended across national and global dietary guidelines and the indicator usually represents the proportion of the population consuming all five recommended food groups the previous day or night. In the present study, it would represent the proportion of schools serving at least five food groups.

For qualitative data analysis, the audio files were transcribed verbatim, anonymised and stored in digital format (Microsoft Word compatible). Coding and interpretation of the transcripts were conducted by a professional coder using NVivo software (v.11) and checked by a research team member (MW) to ensure reliability and consistency of the coding. Development of the coding scheme and subsequent thematic analysis was both theory driven, using *a priori* list of themes (or topics of interest) and data-driven based on additional themes emerging from the data. Comparisons were made to compare themes between urban and peri-urban contexts and different levels of SES (high, middle, low).

A two-level rating system was developed to assess the level of implementation of a comprehensive nutrition programme in the 30 schools surveyed, according to 58 indicators identified within 5 domains of comprehensive SFNPs.

The first rating for the GPIs was defined as follows:

- **No:** indicator was not implemented in most schools;
- **Partial:** indicator was implemented in some schools;
- **Yes:** indicator was implemented in most/all schools.

Then, within each of the components of a comprehensive SFNP, a second rating was defined as:

- **No:** few indicators from the component were implemented;
- **Partial:** some indicators from the component were implemented;
- **Yes:** most indicators from the component were implemented.
- In case of not documented (N/D) indicators, components were given the most conservative rates.

Strengths and limitations

Our study has some limitations and strengths. Firstly, the small sample of schools (n=30) limits the external validity of our findings. The sample size had to be limited considering the wide range of topics to cover when assessing so comprehensively the school food environment (5 domains, 23 components, 58 GPIs). Secondly, assessing programmes or activities implemented in schools from school observations lasting 1.5 hours could depend on the time of observation during the day. Nevertheless,

the quantitative data collected allowed the gathering of precise information and the richness of the qualitative data allowed in-depth understanding and triangulation between data sources (and robustness of the analysis). Furthermore, having interviewed stakeholders from all levels, i.e. stakeholders and programme implementers, head teachers and caterers, and following an evidence informed conceptual framework finally helped map our findings across the whole spectrum of components of a comprehensive SFNP. Thirdly, regarding the rating system and analysis conducted, some global recommendations were difficult to adapt to limited resources settings where the main issue is food insecurity and extremely low food diversity; for example, the “Environmental sustainability” recommendations were difficult to assess in the Kenyan context. Careful contextual adaptation of GPs therefore needs to be conducted during the conception phase for other research studies.

Findings

General characteristics of surveyed schools

In total, 30 schools were surveyed: 23 public and 7 private schools; 19 mixed-genders, 7 girls-only and 4 boys-only; 22-day schools, 2 day and boarding schools and 6 exclusive boarding schools (Table 2). Quantitative and qualitative interviews were conducted with 30 head teachers and 27 caterers (including 10 head cooks). Qualitative interviews were also conducted with 1 school administrator and 2 nutrition and health focal persons (in the 3 schools where no caterer was available). Four interviews were conducted with 2 policy makers and 2 programme implementers. School observations were conducted in 30 schools, kitchen observations in 28 schools (2 schools had no kitchen but a dedicated place for food preparation which was not a kitchen), meal preparation in 27 schools (2 schools served food not prepared in the kitchen and observation was not allowed in 1 kitchen), and observations of meal serving point, WASH infrastructure and playgrounds were not allowed in 1 school.

Table 2. Characteristics of schools surveyed and research methods used

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
Type of school							
Private	30	7	2	5	3	1	3
Public	30	23	13	10	7	9	7
Type of boarding							
Day school	30	22	11	11	8	7	7
Boarding school	30	6	3	3	2	2	2
Day and Boarding school	30	2	1	1	0	1	1
School gender							
Mixed gender	30	19	11	8	7	6	6
Girls only	30	7	3	4	1	2	4
Boys only	30	4	1	3	2	2	0
Observations							
School infrastructures	30	30	15	15	10	10	10
Kitchen	30	28	15	13	9	9	10
Food preparation	30	27	15	12	8	9	10
Serving eating points	30	29	15	14	9	10	10
WASH and playground	30	29	15	14	9	10	10
Quantitative followed by qualitative SSI							
Head teachers	30	30	15	15	10	10	10
Caterers	30	27	15	12	8	9	10
SSI only							
School administrator	30	1	0	1	1	0	0

Nutrition and health focal person	30	2	0	2	1	1	0
Policy makers and programme implementers	4	4					

Note: Acronyms: Semi-Structured qualitative Interview (SSI); Water, Sanitation and Hygiene (WASH)

Comprehensive nutrition programmes currently implemented in schools

Before conducting in-depth SSI, head teachers of the 30 schools were asked to identify the nutrition-related programmes or activities implemented in their schools, from a pre-defined list, developed from the earlier global and national policy review conducted by the project team ²⁶.

Table 3. Programmes and activities implemented in schools

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
	30	30	15	15	10	10	10
Topic-related programmes or activities implemented in schools, according to head teachers							
Food and meal provision	30	28	14	14	9	9	10
Food prices, subsidies, cash	30	6	2	4	2	2	2
Food and menu labelling, nutrition information	30	17	12	5	5	7	5
Food safety	30	30	15	15	10	10	10
Nutrition standards for procurement	30	25	13	12	9	9	7
HGSMP	30	12	7	5	3	5	4
Food skills, literacy, nutrition education	30	16	6	10	5	4	7
WASH	30	30	15	15	10	10	10
Community involvement	30	24	13	11	7	10	7
Other domains covered by programmes or activities implemented in their schools							
Gender equality / equity	30	19	12	7	6	9	4
Environmental sustainability	30	29	15	14	10	10	9
Sexual and reproductive health and rights	30	27	15	12	10	9	8
Teenage pregnancy or adolescents with children	30	20	10	10	7	6	7
Adolescents with disabilities (blindness, deafness...)	30	11	8	3	3	5	3
Other nutrition and health services	30	5	4	1	0	3	2

Note: Data collected from head teacher interviews (n=30). Acronyms: Home-Grown School Meal Programme (HGSMP); Water, Sanitation and Hygiene (WASH)

Head teachers indicated 5 key domains/activities implemented almost universally in their school: food safety, nutrition standards for procurement, food and meal provision, WASH, and community involvement. In contrast, implementation of activities related to food prices/subsidies/cash transfers was noted by head teachers in only six schools.

Half of the head teachers reported implementing school activities related to food skills/nutrition education, food and menu labelling, and health and nutrition services. The Home-Grown School Meal Programme (HGSMP) was implemented in only 12 out of 30 schools according to head teachers. However, the majority of respondents reported - later in the interviews- procuring most of their foods from local food vendors and small businesses for short-term supplies (vegetables, fruits, eggs, meat) and using local suppliers for longer-term food supplies, such as cereals (see GP35 on school food procurement). This practice aligned with the concept of the HGSMP, even if head teachers did not interpret it that way.

Food and menu labelling and nutrition information activities were more often reported to be implemented in schools by head teachers in Kiambu than Nairobi, as well as gender equity and adolescents with disabilities related programmes.

Finally, findings from the survey conducted in 30 schools in Kiambu and Nairobi are presented below, following the 5 domains, 23 components and 58 GPs identified in our previous work to assess or improve implementation of comprehensive SNFPs targeting adolescents ²⁶.

1. School premises

1.1. Food provision (GP1-GP3)

GP1. Promote healthy diets by increasing availability and access to a diverse range of minimally processed foods provided on the entire school premises while limiting access to unhealthy foods or beverages defined by (meal-, food- and/or nutrient-based) standards or guidelines.

The promotion of healthy diets and the availability and access to a diverse range of minimally processed foods was informed by documenting the food and meals offered at schools, through the SMPs and/or canteens (i.e. cafeterias) and external food vendors allowed in the school premises. The diverse range of minimally processed foods provided on the entire school premises was analysed by assessing the diversity of food groups proposed in meals and snacks during a one-day observation and by analysing meals and menus recalled by caterers over 5 days preceding the survey.

Type of meals available within school premises

All head teachers reported that their schools were implementing a SMP (30/30), 14 schools had a canteen in their premises and external food vendors were allowed to sell their food items in 6 schools. SMPs routinely provided lunch and/or breakfast (27/30 schools) to students. Half of the schools provided evening snacks, e.g. 4 o'clock tea (8 day schools) or evening meals or snacks (5 boarding, 2 day and boarding schools), but none of them provided take-home rations.

Table 4. Type of meals available within the school premises

			County name		Socioeconomic areas		
	N	All	Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
School meal programmes	30	30	15	15	10	10	10
1. Breakfast	30	27	15	12	9	9	9
2. Lunch	30	30	15	15	10	10	10
3. Snacks	30	12	3	9	5	2	5
4. Evening meals/snacks	30	15	7	8	4	5	6
School canteens (cafeterias)	30	14	5	9	4	6	4
1. Breakfast	14	3	2	1	1	2	0
2. Lunch	14	1	1	0	1	0	0
3. Snacks	14	13	4	9	4	5	4
4. Evening meals/snacks	14	1	1	0	1	0	0
External food vendors within the school premises	30	6	3	3	2	2	2
1. Breakfast	6	0	0	0	0	0	0
2. Lunch	6	1	0	1	1	0	0
3. Snacks	6	6	3	3	2	2	2
4. Evening meals/snacks	6	0	0	0	0	0	0

Note: Data collected from head teacher interviews (n=30).

Snacks were available for purchase by students mainly in school canteens or from external food vendors allowed within the school premises (Figure 2). Generally, snacks appeared to be more accessible in Nairobi than in Kiambu, irrespective of SES level (Table 4).

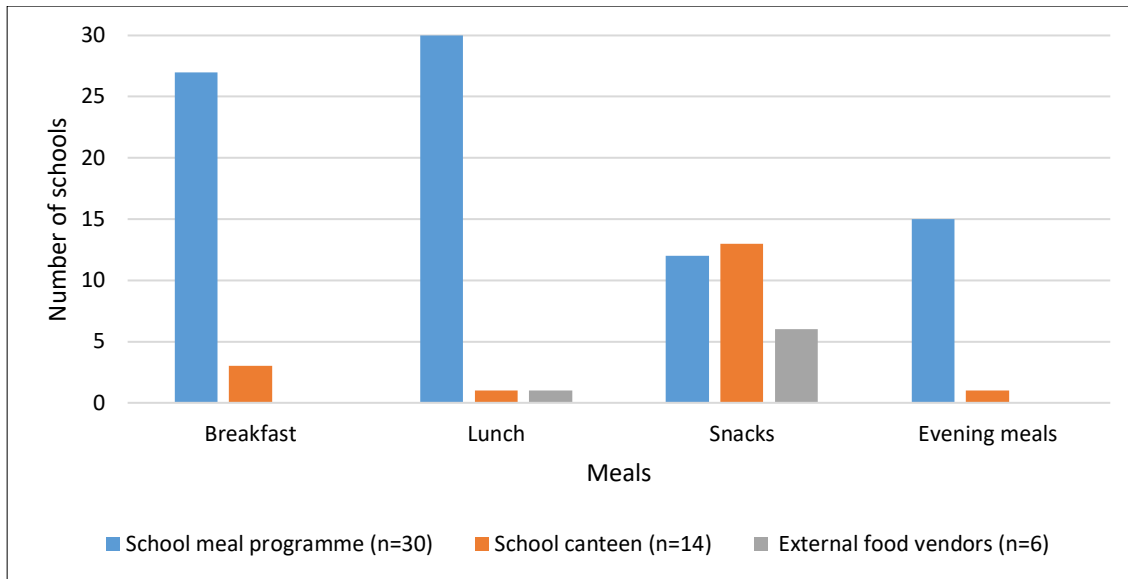


Figure 2. Type of meals provided by the school meal programme, canteen and external food vendors

School meals composition

School meal-, food- and/or nutrient-based standards or guidelines exist and are used, in particular in schools inspected.

“It’s within the ministry’s guidelines. We have had people from the ministry coming to establish the kind of meals that are given to students, whether these meals are balanced or not and then they give advice on what should be included like last time they came. Some four weeks ago, they were establishing if in the meals we have fruits and we told them that we provide fruits” (Deputy school head, public, boys, day school, medium SES area, Nairobi).

Food diversity was documented through the 1-time observation of food and meals available within the school premises and the categorization of food and meals in 9 food groups (Figure 3). Within the school premises, the SMP was the main provider of cereals and grains (observed in all schools), as well as legumes and vegetables (22 out of 29 schools) on the day the observation was conducted. Animal-source food was observed in only 7 out of 29 schools. Snacks and beverages were mainly provided by canteens and food vendors (in 15 and 8 schools respectively). Beverages offered in SMPs were tea, while canteen/food vendors mainly offered other types of beverages, e.g. sugar sweetened beverages/soft drinks. Only 4 SMPs and 4 canteens or food vendors provided fruit on the day of the observation.

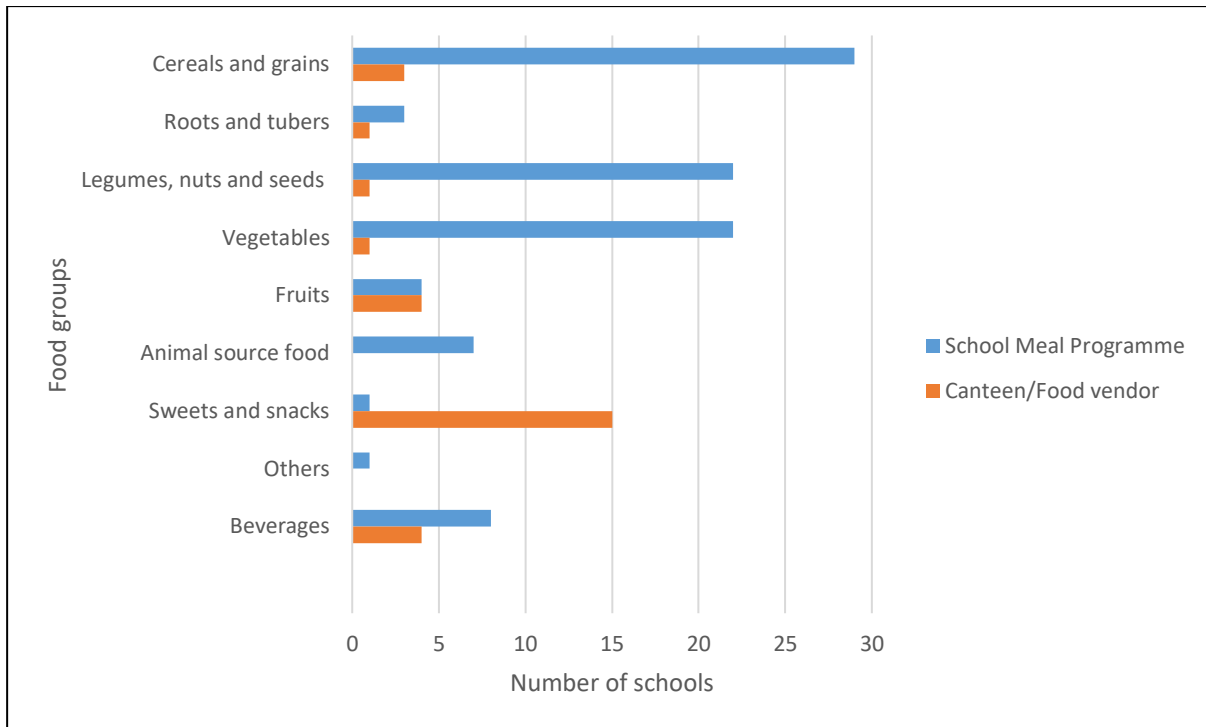


Figure 3. Meals and snacks food groups observed within school premises

Unhealthy food

Among the 16 schools with canteens or allowing external food vendors to enter school premises, 15 offered sweets and snacks. The type of sweets and snacks observed are presented in Figure 4. These were mainly cakes (15/16 schools) and deep-fried snacks (13/16 schools).

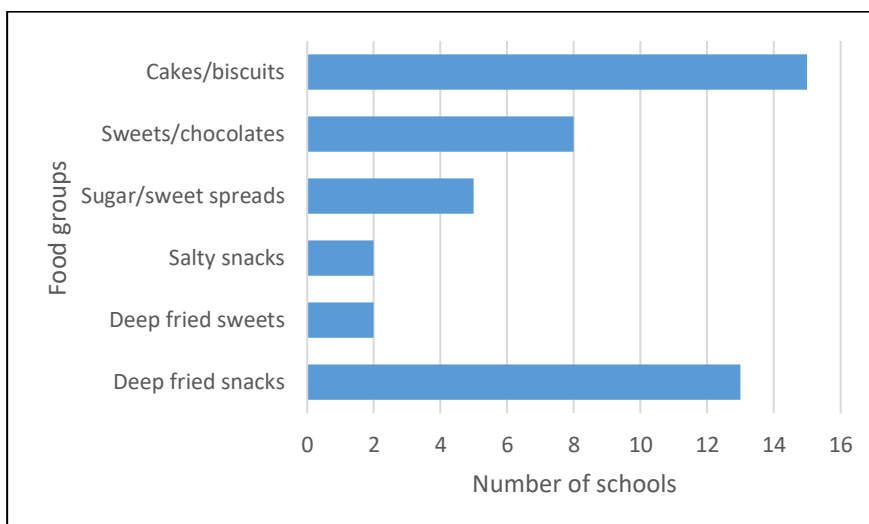


Figure 4. Sweets and snacks available through canteens and food vendors within the school premises

Regarding beverages, only 4 schools had canteens and food vendors offering beverages at the time of the observation (4 schools offered soft drinks, 2 schools sold milk or tea with milk, and 1 school sold tea with sugar or *Milo*).

School canteens were mentioned by one school head as offering less healthy options and could prevent students from benefiting from healthier meals provided in the SMP.

“I would say that sometimes due to foods at the school canteen, we realize that some students are shying away from main healthier meals for the school – for the canteen meals which are mainly snacks. So sometimes you find this might cause a major nutritional problem but as an institution we are coming up with ways to ensure that as much as they take snacks from the canteen, they also do not run away from the main meals which are more healthier” (School head, private, mixed, day school, low SES area, Kiambu).

Some school heads mentioned that local food vendors were allowed to sell foods directly to students, mainly in Nairobi, with permission from the school leadership. Some of the foods directly sold to students include snacks and fruit. In such cases, the caterer and student clubs (4K farmer club) would oversee and manage the food-selling business.

“We have a vendor who brings fresh fruits and supplies from the market and it is the 4K club which manages the supplying and the selling to the students ...we also have a club that normally makes juice once a week. For example for those ones who didn’t manage to get a fruit at home, they can easily buy the juice at ten shillings which is very affordable and subsidised” (School head, public, girls, day school, high SES area, Nairobi).

SMP menus

Head teachers found SMPs to be useful since they were able to fulfil the needs of adolescents for food (not letting them go hungry), especially for those from poor and vulnerable families who may not have other meals/foods at home. SMPs were also described by a head teacher as a way to protect students from buying unhealthy food.

“I would say that there is no turning back. The implementation [of the SMP] is complete and it is working in our favour and in the favour of the students and the parents and it has circumvented the hassle of the students looking for food out there and looking for garbage food. So, it’s a programme that I will not relent on and is working so well for us” (School head, public, mixed, day school, low SES area, Nairobi).

Most head teachers reported that their schools had a standard menu for either the school term (three months) or the year. Maize (flour or cereal) and rice were mentioned as the main staples (starches), beans and/or green grams as the main protein and cabbage and/or kale as the main vegetables provided in the school meal menu. On some occasions, potatoes, porridge, meat, eggs and fruits were provided as part of the menu, but less often (e.g. once a week) based on the capacity of the school to purchase the food items. Perceptions about the diversity of menus to meet nutritional requirements for adolescents varied between head teachers, irrespectively of the SES level of the commune.

“We just have a few items in the menu – githeri, ugali, rice, ndengu [green grams] beans ...cabbage...then porridge, there is nothing beyond that... if we were to add to the items that we need to meet the nutritional obligations then it would mean that they have to pay more... so the economic status of the students may not allow us to provide the nutritional requirements” (School head, public, mixed, day school, high SES area, Kiambu).

“We serve a variety. There is starch, there is protein, there a fruit, there is water and it is well served” (School head, private, mixed, day school, low SES area, Nairobi).

Weekly menus of the SMP were assessed through analysing the meals provided to students over 5 school days preceding the survey. The menus were recalled by caterers and categorized into (sub) food groups inspired from the 29 DQQ food groups. Detailed findings are presented in Figure 5. The “DQQ-inspired” subgroups are presented in the following order: starchy staples, vegetables and fruits, animal-source foods, salty snacks, sugary snacks, and beverages. Many subgroups appear to never be served to students, such as fish and nuts and seeds. Others sub-groups show probable seasonal unavailability such as vitamin-A rich fruits and vegetables. Unhealthy foods such as packaged ultra-processed salty snacks or soft drinks were not provided to students through SMPs.

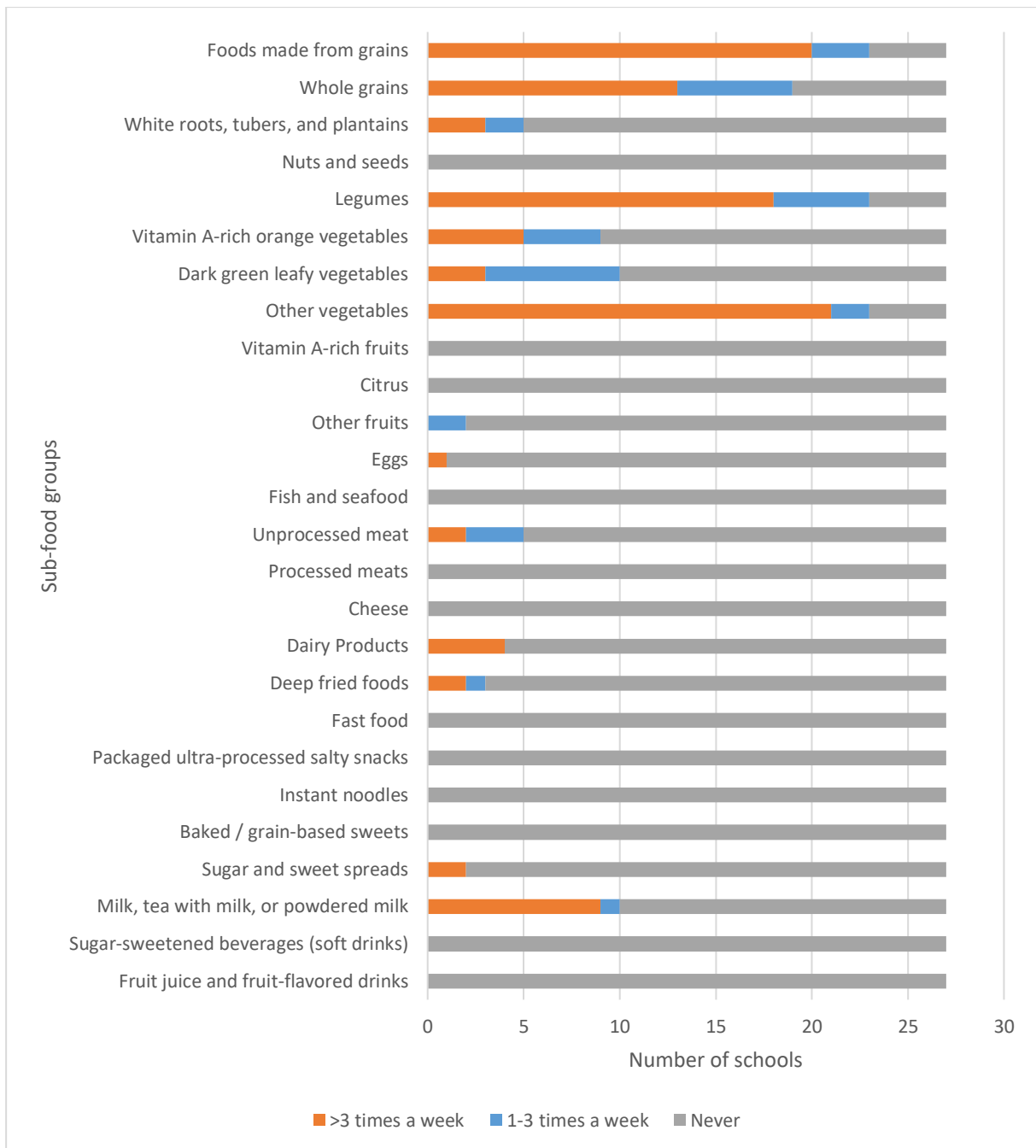


Figure 5. Frequency of DQQ-inspired food subgroups proposed to students by SMPs over 5 days

Note: Food groups are inspired from the DQQ²⁹ and were used for a 5 days recall with caterers (n=27).

Frequency of schools providing at least 5 food groups in meals on the 5 days preceding the survey (inspired from the All-5 indicator³⁰) is presented in Table 5. Majority of the schools (24 out of 27) provided less than 5 food groups per day in the SMP did not attain 5 food groups in a week of 5 school days, only 3 schools provided 5 food groups per day at least once a week.

Table 5. Frequency of schools providing at least 5 food groups in SMPs over 5 days

	N	All	County name		Socioeconomic status		
			Kiambu	Nairobi	Low SES	Middle SES	High SES
Never	27	24	14	10	7	8	9
1-2 times a week	27	2	0	2	1	1	0
More than 2 times a week	27	1	1	0	1	0	0

Note: 5 food groups are vegetable, fruit, pulse/nut/seed, animal-source food, and starchy staple. Frequency over 5 days

Finally, all schools reported implementing SMPs and despite important efforts provided by schools to serve diverse meals and menus, evidence show a lack of diversity over meals and weekly menus, due to economic constraints.

Unhealthy food was available in half of school premises, through canteens (i.e. cafeterias). However, most of the unhealthy food bought in canteens was minimally processed (mainly fried food) and unhealthy beverages were observed in only 4/29 schools.

GP2. Ensure that food procurement is as local, seasonal and culturally appropriate as possible.

The food sources for SMPs was locally procured for 27/30 schools, with most schools purchasing foods from local markets or businesses (n=25) (Table 6). Foods were also produced in school gardens for 11/30 schools (7 in Kiambu and 4 in Nairobi), which ensured fresh foods for students, although mainly fruits and vegetables and not in a significant proportion.

“Now we are growing things in our own school compound and now we get that food when it is very fresh for the students. So, the goodness about it is that our students are eating food which is very fresh from the farm because we don’t like harvest and keep in the store, we harvest on daily basis then they eat when it is fresh”
(School head, public, girls, boarding school, high SES area, Nairobi).

Table 6. Source of the food used to prepare meals provided routinely through SMPs

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
		30	15	15	10	10	10
Schools providing meals through SMPs, prepared in the school premises	30	28	15	13	9	9	10
Origin of the food used to prepare meals							
Bought from local market/business	28	25	14	11	7	9	9
Produced in school garden	28	11	7	4	4	4	3
Purchased directly from local small-scale farmers/organizations or community groups	28	6	2	4	2	2	2
Purchased from Small and Medium Enterprises	28	1	0	1	0	0	1
Purchased from other regions in the country	28	1	1	0	1	0	0
Imported from outside the country	28	0	0	0	0	0	0
Provided by parents	28	0	0	0	0	0	0
Provided by an NGO/UN	28	0	0	0	0	0	0
Provided by the government	28	0	0	0	0	0	0
Food locally produced	28	27	15	12	8	9	10

Note: Data collected from head teacher interviews (n=30). Two schools do not prepare meals within the school premises. Local sources: foods purchased from local market/business, local small-scale farmers/organisations or community groups, produced in the school garden, provided by parents. Outsourced: Purchased from other regions in the country, provided by an NGO/UN, provided by the government, or imported from outside the country.

Head teachers indicated that food suppliers were usually local, mainly determined through a tendering process where all interested suppliers, including Small and Medium Enterprises (SMEs), were eligible

to participate. Schools involved SMEs or individuals mainly to provide perishable food, such as fruits, vegetables, and eggs, ordered weekly or daily and when the quantities required were small.

“The supplier who supplies fruits to the canteen is a small vendor and we encourage small and microenterprises to supply food such as meat, fruits and eggs since we purchase them less than twice a week and they are from nearby” (School head, public, girls, day school, high SES area, Nairobi).

“A young lady, she has a green grocery and she supplies fruits, we also have the person who supplies meat and is from our shopping centre (Caterer, public, girls, boarding school, low SES area, Kiambu).

Only 1 school reported having outsourced food (imported food) provided through the SMP. For instance, in one school food was imported from another country. This information was related to drought season, cereals (in large scale) were very scarce and had to be sourced from neighbouring countries Tanzania/Uganda/Rwanda.

“In Kenya, there was no beans and the beans that were available are not what we eat... So here he [the supplier] is telling me I’ve brought you beans...from Burundi.... you have to spend more” (School head, public, girls, boarding school, medium SES area, Nairobi).

Caterers reported that food provision was sometimes affected by seasonality, especially for fruit and vegetables. When out of season, such foods would become unavailable or too expensive for schools to afford.

“The challenge is that you can buy food cheaply this time and the next time they will be too expensive. Sometime during droughts, you don’t get greens as well” (Caterer, private, mixed, day school, low SES area, Kiambu).

As such, the schools have to either reduced the quantity of food provided to the students or adjust their menu/foods provided based on the foods available in the season, which sometimes may not be as nutritious.

“We don’t have much challenge apart from something like vegetable when there is dry season, it’s not there. So, the challenge is they start eating one type of vegetable. Like at times there are no kales so we may not have enough and that time we eat only cabbage. So that’s the challenge we are facing...So when the vegetable is not there. It’s very expensive so we reduce the quantity” (School head, private, girls, boarding school, medium SES area, Kiambu).

One of the highlighted challenges was parents' failure to pay fees on time coupled with fluctuating (increasing) food prices as a barrier to the smooth running of the food procurement process. Although government provides capitation to school to cover school related expenses, it was reported as often not covering all school costs. In such cases, the parents had to contribute to school meals cost (which would differ from school to school). In case of inability to pay by some parents or delays in paying, schools would work with limited available budgets available for SMPs.

“In this community parents are a bit affected with the hunger we have now. So, when they don’t pay the money, it then getting the money to purchase food becomes a problem. So, the supplier has to have challenges.” (Caterer, public, mixed, day school, medium SES area, Kiambu).

As a coping strategy, satisfaction (quantity) was prioritized over meeting the nutritional requirements (quality) of adolescents’ meals, whereby schools mainly prioritised the purchase of starchy staples and fewer fruits and vegetables, reducing the quantity or frequency of providing the foods or using cheaper alternatives.

“I think I can highlight that the main challenge is the provision of these foods and especially now that the cost of living has gone up, the cost of food has gone up. So even ensuring that we provide quality is becoming a challenge... So, with that, we are just left to provide most basic meals for the students; sometimes not very assured of the quality but quantity” (School head, public, mixed, day school, high SES area, Nairobi).

“We normally try to ensure that we try to give the students balanced diet. But it becomes very expensive especially when you think about now looking for fruits, looking for cabbages and greens to supplement the legumes and the starch – it becomes very expensive yet what the parents pay vis-à-vis the cost of commodities, pushes the school to go to very heavy debts with the suppliers and even sometimes you have a lot of problems with them refusing to supply...and yet you cannot send students away, the parents don’t have money to pay – so this is a real challenge” school head, public, mixed, day school, middle SES area, Kiambu)

The majority of schools offered culturally appropriate food items on their menu. However, not all dishes (such as traditional ones) were always appreciated by the students.

“Some of the challenges maybe I may think about is the students themselves, they may look at it as it is more swag to be seen that you don’t eat githeri, you’ve never seen githeri in your place so you want to show people you don’t eat githeri... there is that lack of understanding about the meals” (School head, public, girls, boarding school, high SES area, Nairobi).

GP3. Provide access to adequate, safe, clean kitchen and eating spaces.

In order to provide adequate, safe and clean kitchen/eating spaces, schools need to have proper spaces available. According to school observations, food and meals were prepared in school kitchens in 28 schools. In 2 schools, food was cooked in a dedicated place that was not a kitchen. Facilities and equipment for modern cooking (e.g. ovens/stoves) and storage (fridges/cold area) were lacking in most schools. The majority of schools had a source of ‘clean’ water for cooking and washing up liquid available. However, two schools had no areas to separate cooked and raw ingredients (Table 7).

Table 7. Place of School Meal Programmes preparation and serving

	County name				Socioeconomic areas		
	N	All	Kiambu	Nairobi	Low	Middle	High
N	30		15	15	10	10	10
Observations							
Place of food preparation of SMP							
Kitchen	30	28	15	13	9	9	10
Dedicated place in the school which is not a kitchen	30	2	0	2	1	1	0
Facilities/equipment in food preparation area (multiple answer)							
Ovens/stoves for cooking	28	15	8	7	5	3	7
Open fireplace/jiko (traditional cooking facilities)	28	19	11	8	6	6	7
Fridges/cold storage	28	9	4	5	3	3	3
Source of 'clean' water for cooking and cleaning	28	28	15	13	9	9	10
Clean food preparation areas	28	27	14	13	9	8	10
Areas to separate cooked and raw ingredients	28	26	14	12	9	9	8
Dishwashing liquid, soap	28	28	15	13	9	9	10
Detergent, washing liquid (for floors and preparation areas)	28	25	13	12	9	8	8
Place where meals from the SMP are served							
In a dedicated serving space (school cafeteria/dining hall or equivalent)	28	21	12	9	9	6	6
Outside on school grounds	28	7	2	5	1	3	3
In student’s regular classroom	28	2	0	1	0	1	0
Place where students eat (multiple answer)							
In a dedicated serving space (school cafeteria/dining hall or equivalent)	28	13	9	4	5	3	5
Outside on school grounds	28	16	7	9	4	6	6
In student’s regular classroom	28	4	2	2	2	0	2
Location where students eat (multiple answer)							
Inside	28	14	8	6	6	3	5
Outside not covered	28	16	6	10	4	7	5

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
Outside in a covered space	28	3	3	0	0	2	1
Characteristics of the eating place (multiple answer)							
Spacious	28	23	9	14	8	7	8
Friendly, welcoming	28	21	13	8	9	6	6
Clean	28	21	10	11	8	6	7
Organized	28	10	4	6	5	2	3
Quiet	28	8	2	6	4	2	2
Noisy	28	4	2	2	1	3	0
Dirty	28	1	0	1	1	0	0
Students eat							
Under supervision	28	21	10	11	7	8	6
Not supervised	28	5	2	3	3	1	1

Note: Observations during food preparation and during meal time were not allowed in 2 schools; Acronym: School Meal Programme (SMP)

In most kitchens, we observed large aluminium pots used for preparing large quantities of food. Some schools used improved wood stoves (Figure 6). In smaller kitchens, large pans were placed directly on traditional (open fire) stoves. One kitchen had a gas stove.



Figure 6. School kitchens and stoves

Note: From left to right: Public, medium SES area, Kiambu; Private, high SES area, Kiambu.

Plastic basins and containers, covered or uncovered, were used for mixing and preserving foods. Enumerators described most food preparation places as clean and organized.

In most schools (21 out of 30), the SMP was served in a dedicated serving space, that was the dining hall or equivalent, and for 7 schools, the SMP was served outside on school premises (Table 7). However, students could eat inside the school dining hall (14/28), outside of school premises in a covered space (3 out of 28) or outside in open spaces (16 out of 28) (Figure 7). In 4 schools, students would eat their meals in regular classrooms. Spaces where students ate were described by enumerators during observations as spacious (23/28) and clean (21/28). They also observed that students were supervised during meal time in 21/28 schools.



Figure 7. Places where students eat

Note: From left to right: Public, Low SES, Kiambu (inside), Public, High SES area, Kiambu (outside and covered), Public, Medium SES area, Kiambu, (outside, not covered).

1.2. Food promotion (GP4, GP5)

GP4. Regulate advertising of unhealthy foods and beverages on school premises

Of the 30 schools surveyed, 3 head teachers declared receiving sponsorships from food and beverage companies for programmes including scholarships, school events and fundraising, which could be considered as advertising (Table 8). No advertising was observed within school premises.

Table 8. Advertising and promotion within the school premises

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N		30	15	15	10	10	10
School directors receive sponsorships from any food and beverage companies for programmes, including scholarships, school events and fundraisings	30	3	1	2	0	0	3
Advertising channels (multiple choice)							
Free give away	3	3	1	2	0	0	3
Advertising (posters, banners)	3	1	0	1	0	0	1
Outdoor events like tournaments	3	1	0	1	0	0	1

Two head teachers reported that there was no regulation of advertising for unhealthy foods and beverages on school premises yet. No advertisements/signs/posts/leaflets promoting food within schools were observed within schools in any of the schools.

GP5. Promote healthy foods and nutritious diets using innovative communication tools tailored to young people.

We did not collect specific data on innovative communication tools tailored to young people. Nutrition education was conducted in schools using classical tools (see Nutrition education section 1.7). However, one programme implementer mentioned the role of social media in the marketing and advertising of 'junk food', which may influence adolescents and contribute to drive their preference for unhealthy foods.

"I don't know whether to call it the social media... We find that there is a lot of advertisements and billboards for these junk foods and you find that most of the adolescents are attracted and will opt to take, like junk foods as opposed to taking a meal that is nutritious and balanced and that meets their needs. So, they will opt to go

for these other foods that are more trendy and fashionable and hence they end up not meeting their needs...”
(Prog_implementer_2).

1.3. Food prices (GP6, GP7)

GP6. Tax or manipulate prices at school to make unhealthy foods more expensive.

We found no evidence that schools implement taxes or manipulate prices to make unhealthy foods more expensive. No policies or programmes that would increase the prices of unhealthy foods were reported. The 2 policy makers and 2 programme implementers interviewed stated that it had not yet been implemented in schools.

GP7. Subsidise or manipulate prices at school to make healthy foods cheaper or free.

No policies or programmes that would reduce the prices of healthy foods in schools was reported by any respondent.

In addition, subsidies for the SMP were not frequent according to head teachers. Only 6 head teachers interviewed (out of 30) reported partial subsidies and 23 head teachers indicated that students had to pay the total cost for the meals provided by the SMP, as they would do at the school canteen or with external food vendors (Table 9). The subsidies, however, did not specifically aim to promote healthy food or make unhealthy options more expensive; instead, they aimed to assist students in obtaining more affordable meals as part of the SMP. In addition, parents having difficulties to pay fees for the SMP (see section 2.3 on Livelihood of suppliers) would still give some money to their children so they could buy cheaper food that may be unhealthy.

“it’s not all parents who are able to contribute (to the SMP) but you find that even the ones who are not able to contribute they can give a few shillings for the children to take care of their meals and you’ll find that they will opt to go and buy chips or fries that are sold maybe around the school” (Prog_Implementer_2).

Table 9. Cost of school meals

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
	30	30	15	15	10	10	10
Payment of students for SMPs							
Only partially subsidized	30	6	3	3	2	0	4
Students have to pay totally	30	23	11	12	8	9	6
Do not know	30	1	1	0	0	1	0

Note: Data from head teacher interviews; Acronyms: School Meal Programme (SMP)

Some of the school heads further believed that the financial support provided by the government to parents for the SMPs was inadequate to provide food of sufficient quantity and variety, especially with prevailing high food prices.

“The government says 40,000 per year per student is meant for food, is meant for accommodation, it is meant for water, meant for electricity because it is for boarding, to buy food, it is meant to pay the cooks. So, it must be divided into those many (needs). So even if you take 40,000 for a whole year it is still very little...and these parents from the catchment area where they come from, honestly, they can’t pay. You can’t push them. You can’t even add. They will not be able to pay.” (Deputy School head, public, mixed, day school, low SES area, Nairobi)

There were also indications of ongoing discussion and development of school menus and recipes by the government.

1.4. Food labelling (GP8, GP9)

GP8. Combine menu board labelling system in school canteens with nudges towards healthier options.

Menus on display were observed in 6/30 schools, with 5 of these located in Kiambu, showing intentions from the schools to plan for balanced menus. For each meal, there was only one meal option (therefore, nudges for healthier options are not to be expected in settings with limited financial resources). During the observations of meals distribution in schools, dishes served to students were monotonous throughout the week (an example in Figure 8).

DAY	BREAKFAST	TEA BREAK	LUNCH BREAK	SUPPER
MONDAY	PORRIDGE	TEA & BREAD	GITHERI	UGALI & CABBAGE
TUESDAY	PORRIDGE	TEA & BREAD	RICE WITH NDENGU/MEAT	UGALI & CABBAGE/SUKUMAWIKI
WEDNESDAY	PORRIDGE	TEA & BREAD	GITHERI/CABBAGE	UGALI & SUKUMAWIKI/OTHER NON-ACIDIC VEGETABLES
THURSDAY	PORRIDGE	TEA & BREAD	RICE & BEANS	UGALI & CABBAGE
FRIDAY	PORRIDGE	TEA & BREAD	GITHERI	UGALI & SUKUMAWIKI/OTHER NON-ACIDIC VEGETABLES
SATURDAY	PORRIDGE	TEA & BREAD	GITHERI	UGALI & CABBAGE/OTHER NON-ACIDIC VEGETABLES
SUNDAY	PORRIDGE/EGGS	TEA & BREAD	RICE & BEANS & FRUITS	UGALI & SUKUMAWIKI/OTHER NON-ACIDIC VEGETABLES AND MEAT

Figure 8. Menu on display in one school

Note: Private school, medium SES area, Kiambu

GP9. Display nutrition information, such as calorie content of food available in the school cafeteria, which is easy to understand.

None of the SMP menus provided nutrition information, such as calorie content of food available in the school. Menus or nutrition information were not available in school canteens.

1.5. Food safety (GP10-GP12)

GP10. Define food safety school standards that are in line with national food safety legislation.

Food safety was an important concern raised by many respondents. The availability of policies and guidelines and the commitment of school management and staff to ensure the quality and safety of foods were reported as the main facilitators in guaranteeing safety. Most schools also reported having food safety and hygiene regulation, such as health certificates for food suppliers and handlers and ensuring general personal and food hygiene practices by the students.

School heads reported that schools work together with the Ministry of Health to ensure the safety of foods through regular monitoring and inspection.

“We have the guidelines from the ministry like checking the cooks regularly and then we also have regular inspections” (school head, public, mixed, day school, high SES area, Nairobi).

“Actually, this one we collaborate with external – with the Ministry of Health because sometimes we might not trust our ways of inspecting our food handlers and storage mechanisms [...]. They have their schedules for

visiting the institutions but sometimes as a school we do just invite them to come and inspect to assure us that our food is safely handled” (school head, private, mixed, day school, low SES area, Kiambu)

However, lack of local expertise and the expense of hiring private experts for food safety checks to verify the safety of foods sold in schools, such as the presence of aflatoxins in cereals, were highlighted as challenges in some schools.

“The challenge again here majorly will become cost. Cost in a sense that if you want to bring a practitioner to come and or an officer to come and probably vet whether the food you have is safe, you know you have to part with some cash. So, if we had financial strength we could have them frequently come in, even not only about the storage, even see how the food is prepared, how it is served, where it is taken from. So, there are financial constraints to be precise” (School head, private, day and boarding school, high SES area, Kiambu)

GP11. Ensure that food handlers on school premises are trained and educated and have certificates in food safety and hygiene.

Among the 27 school caterers interviewed (3 schools had no caterer available to participate in the survey), 13 mentioned having received specific food safety and hygiene training. These training sessions covered a variety of topics, including knowledge about food groups, healthy/nutritious meal preparation, food safety and hygiene, WASH, and food quality (Table 10).

Table 10. Caterers’ training on food safety and hygiene

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N		27	15	12	9	9	9
Caterers having received food/nutrition/hygiene education or training	27	13	7	6	3	7	3
Topics covered in the food/nutrition/hygiene education or training							
Food groups	13	11	7	4	2	7	2
Healthy/nutritious meal preparation	13	13	7	6	3	7	3
Food safety and food hygiene	13	13	7	6	3	7	3
WASH	13	13	7	6	3	7	3
Food quality	13	13	7	6	3	7	3
Other topics	13	4	2	2	0	4	0

Acronyms: Water, Sanitation and Hygiene (WASH)

Standards asked for school suppliers and food handlers were also mentioned by most school head teachers and caterers. Food standards are needed to ensure the food procured is safe (causing no harm), even for their own production.

“The food that we provide in the school is healthy and nutritious. We have standards that must be met by the suppliers, the food handlers – we have certifications that they must also possess. We also ensure that our farm is mainly – we do organic farming that is purely using manure” (School head, private, mixed, day school, low SES area, Kiambu).

GP12. Ensure safety and hygiene in all areas where food is stored, prepared or sold.

Findings suggest that schools have put in place various measures from supply, storage, preparation, and cooking to ensure that the food given to the students is of good quality and safe for consumption. To ensure food quality and safety, schools put different measures in place, including procuring foods that have a mark of quality from the Kenya National Bureau of Standards and conducting quality checks to certify that the food being supplied meets the safety and quality standards and is stored in optimal conditions.

“Fresh food – fortified food sometimes and safe -prepared from the clean kitchen because its checked regularly inspected by public health” (Deputy school head, public, mixed, day school, high SES area, Nairobi).

“We also check their expiry dates if they are packaged ones. And also, we ensure that where they are stored we take care – there is no – it’s not dump or it’s not dusty, there are no pests – such like things.” (Deputy school head, public, boys, boarding school, Nairobi low SES area, Nairobi)

In addition, staff handling food undergo regular medical tests and ensure that they prepare food in hygienic conditions. Some participants also reported that public health officers make regular visits to schools to establish whether the food given to learners is safe for consumption. Finally, water used to cook needs to be safe, to avoid food contamination.

“We also ensure that we use safe water. And at this point I mentioned that we have partnered with Impact water [water private company in Kenya] who are enabling us to treat our water to ensure that the water that is used to clean the cutlery that the students use, the water they drink and the water that is used to prepare meals is safe water” (School head, public, mixed, day school, medium SES area, Kiambu)

Observations in the kitchens could not be made for the two schools having food prepared externally and one school that did not allow observation during food preparation. However, we observed that half of the staff working in the school kitchens had their hair covered; and in half of the kitchens observed, all pots for cooking were covered (Table 11).

Table 11. Kitchen observations for practices on food safety and hygiene

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N	30	27	15	13	9	9	10
Average number of staff working in the kitchen (mean, SD)	27	27	3.9 (2.4)	3.9 (1.8)	3.8 (2.0)	3.7 (2.3)	4.3 (2.2)
Average number of staff covering hair (mean, SD)	27	27	1.7 (2.0)	2.1 (2.0)	2.1 (2.5)	1 (0.7)	2.4 (2.2)
Food pots covered							
Yes, all pots	27	16	10	6	5	5	6
Yes, some pots	27	10	4	6	2	4	4
No	27	1	0	1	1	0	0

Note: Not possible to conduct observation during food preparation in 1 school and in 2 schools, food was prepared outside of the school.

Some schools expressed inadequate kitchen and dining space as a challenge in their food provision programmes.

“A challenge we have is our kitchen is very small... Girls are eating outside. The kitchen is small so [...] you start cooking early so that you can cook all the meals. So, the one that was cooked maybe in the morning and then they cook the same ugali after an hour, the taste will be different. So, you find girls complaining, when they go for shift one, food is better than shift two” (School head, public, girls boarding school, medium SES area, Nairobi).

“Lack of facilities like the dining hall, and lack of enough water points. I think those are the ones that I can cite we are looking forward to erect dining hall. In fact, we are looking for the well-wishers to help us erect a dining hall because in the rainy season again the (feeding) programme is interrupted” (School head, Public, boys, day school, low SES area, Nairobi)

The lack of adequate storage facilities and cold stores (only 9 schools had fridges/cold storages, Table 7) in schools meant that perishable foods (e.g. vegetables) were purchased daily. At the same time, non-perishables items are still bought more frequently, which they perceive as more costly and inconvenient than buying in bulk and storing them.

“We don’t even have enough [storage] rooms. Like you would want to buy the maize when it is in season and the prices are good but you don’t have the storage. So, you find yourself every second week buying rice, buying salt – things that are not perishable you still have to buy them twice per month instead of buying once [...]

bread and vegetables and meat, they are delivered on daily basis which makes it very expensive (School head, public, girls boarding school, medium SES area, Nairobi).

“Even extreme heat can make the storage become [difficult], perishable foods are sometimes difficult to handle like now you put something in the fridge, the power goes off” (Deputy school head, public, mixed, day school, high SES area, Nairobi).

Food spoilage and contamination due to inadequate storage facilities also emerged as food safety-related challenges.

1.6. Health and nutrition services (GP13-GP15)

GP13. Deliver high-impact health and nutrition interventions to children and adolescents at schools through periodical visits or health care staff present at school (e.g. anthropometric monitoring, counselling, micronutrient supplements or deworming).

Of the 30 schools surveyed, 15 implemented at least one health or nutrition service, including vaccination, deworming or micronutrient supplementation to students (such as iron, iodine, zinc, or vitamin A) (Table 12). Regular monitoring of weight and height was conducted in only 5 schools. Health/nutrition services were provided by 17/30 schools. Services were permanent and on-site (school clinic) for 6 schools (4 in Kiambu and 2 in Nairobi), while regular visits from external health staff were conducted in the remaining 11 schools.

Table 12. Health and nutrition programmes and services

		County name			Socioeconomic areas		
		All	Kiambu	Nairobi	Low	Middle	High
N		30	15	15	10	10	10
Health and nutrition programmes implemented							
Micronutrients supplementation	30	6	3	3	2	3	1
Vaccination and immunizations	30	15	8	7	3	6	6
Regular monitoring of weight and height	30	5	3	2	1	3	1
Deworming	30	12	8	4	1	5	6
Health and nutrition services							
Schools have a clinic and a nurse	30	5	4	1	2	3	0
Schools have only a nurse	30	1	0	1	0	0	1
Schools have a doctor, a nurse, a community health worker or volunteer coming to the school regularly to monitor children’s health	30	11	7	4	5	3	3

GP14. Set up referral systems and partnerships with local health services.

A few schools have established a referral system in collaboration with local health services: two head teachers (in middle SES areas) reported transporting students to hospitals as part of additional nutrition and health services.

GP15. Involve parents with information, counselling and feedback systems about nutrition screening of students.

Not documented due to limited resources for data collection (this was not prioritised).

1.7. Nutrition education (GP16-GP18)

GP16. Deliver mandatory, regular, culturally appropriate nutrition education to students as part of classroom curricula through trained staff or nutrition experts and ensure consistency with food provision.

Nutrition education has been integrated into the curriculum, as reported by a programme implementer interviewed. Food and nutrition education was also reported by head teachers

interviewed as a stand-alone topic in 13/30 schools. Some school respondents reported that nutrition was not a stand-alone subject, but nutrition content was included in some of the subjects, such as biology and home science (i.e. the study of practical skills for household management, including nutrition, integrated into the Kenyan education system).

Table 13. Nutrition education delivered at school

			County name		Socioeconomic areas		
	N	All	Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
Food and nutrition education delivered at school as a stand-alone subject	30	13	7	6	5	4	4
Food and nutrition topics addressed (multiple choice)							
Undernutrition	13	10	6	4	3	4	3
Overweight/obesity and NCDs	13	8	4	4	3	3	2
Micronutrient deficiencies	13	7	5	2	3	1	3
Healthy diets	13	9	6	3	3	2	4
Food safety	13	8	6	2	4	1	3
Environmentally sustainable diets	13	3	2	1	2	0	1
Type of nutrition education resources available							
Books	13	13	7	6	5	4	4
Brochures/leaflets	13	1	1	0	1	0	0
Food pyramids/ food models (e.g. fruit)	13	2	1	1	1	1	0
Posters	13	1	1	0	1	0	0
Others	13	3	1	2	1	0	2
Other school curriculum topics							
Hygiene and sanitation education	30	24	12	12	9	9	6
Gender education (sensitization about gender-based violence, bullying etc.)	30	25	12	13	8	9	8
Environmental education	30	25	11	14	9	8	8
Health education	30	23	10	13	9	8	6
Teachers or other school staff received training in nutrition	30	14	7	7	4	6	4

Note: Data collected with head teachers (n=30). Acronym: Non-Communicable Diseases (NCD)

Half of respondents (14/30) mentioned teachers or other staff receiving training in nutrition (Table 13).

Some head teachers, however, expressed concerns that most of the subjects that have a nutrition component were selective and not compulsory and hence, students who did not select those subjects may miss out. Some of the nutrition content highlighted included food safety and hygiene, nutrition-related diseases and deficiencies such as diabetes and rickets, as well as micro and macronutrients.

“The learning about nutrition, both the major ones, they are the ones we are calling micro and macro [nutrients]...by the way I would say this, nutrition should be compulsory. Whether the person is either going to do biology because biology isn’t compulsory or home science which are both not compulsory but a standing subject, nutrition should be taught (School head, girls boarding school, low SES area, Kiambu).

Environmental sustainability programmes were implemented in 29/30 schools (Table 3), with 25 schools incorporating environmental education topics into their curriculum (Table 13). However, only 3 schools reported addressing the topic of environmentally sustainable diets in specific nutrition education sessions.

GP17. Integrate food and nutrition education throughout the school system and include it in extra-curricular activities, such as school gardens or community activities

Nutrition education was also reported to be included in extra-curricular activities, including initiatives like school gardens (see GP28). Out of 26 schools with gardens, 19 used food produced in the teaching curriculum.

GP18. Include a range of topics in nutrition education, such as healthy eating practices, food systems and food environment by providing theory, strengthening practical competencies, using interactive learning strategies.

When asked which topics were covered in nutrition education, head teachers reported a range of nutrition issues, particularly undernutrition and overweight/obesity. The environmental/sustainable dimension of diets was rarely considered (Table 13).

Books were the primary educational resource used in schools. However, the need to link the curriculum to practical situations was highlighted by a school head as depicted in the excerpt below;

“The main challenge we have about nutritional awareness is what I can say the link from curriculum to practical. So, the child may understand that they need to eat this [food] from their biology, they need to eat this [food] from the home science but practically they want to just eat non-nutritious food...She won’t buy an orange no matter how nutritious it is but she will buy a ngumu [hard cake]” (School head, public, girls, boarding school, low SES area, Kiambu).

Some initiatives, such as the 4k Club³¹, which is also referred to as the young farmers club, is a well-known project, but few schools were implementing it. The schools implementing the young farmers club indicated that it was helpful in facilitating practical learning for the students especially on agriculture, nutrition and environmental issues and supplementing school meals.

“Now the 4k club, teacher of agriculture established it. It gives the learners the basics that they need to understand, food production and nutrition and environment all in one. So, to us here, 4k club begun late in 2017 and although it doesn’t have a lot of memberships but we boast of having the club with the majority of the learners – we have 48. So, it is very useful. It’s one of the clubs which really the government needs to revive because they are dying” (School head, private, mixed, day and boarding school, high SES area, Kiambu).

1.8. Physical education and activity (GP19-GP23)

GP19. Provide age-, sex-, disability- and culturally-appropriate physical education in the curriculum through qualified teachers.

All 30 schools reported having implemented a programme for physical activity (Table 14). Half of the schools provided students access to physical activities 2 to 3 times a week.

Table 14. Physical education and facilities in schools

			County name		Socioeconomic areas		
	N	All	Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
Schools implementing physical activity (according to head teachers)	30	30	15	15	10	10	10
Frequency of physical activity in school							
Every day	30	7	4	3	1	3	3
2 to 3 times a week	30	15	9	6	6	4	5
Once a week	30	8	2	6	3	3	2
Mixed-gender schools	30	17	10	7	6	6	5
Equity in boys’ and girls’ participation in physical activity in school (according to head teachers)							
Boys and girls attend equally	17	10	5	5	3	3	4
More boys attend than girls	17	7	5	2	3	3	1
Place where boys and girls can separately and privately change clothes before and after physical education	17	6	5	1	2	2	2

Sports facilities on the school grounds (observations)	29	24	12	12	7	9	8
Type of sport facilities							
Covered multifunction yard	29	3	2	1	2	0	1
Outside multifunction yard	29	14	8	6	4	4	6
Equipment visible, such as a basketball hoop	29	22	9	13	6	6	10
Outside soccer field	29	16	7	9	5	7	4
Equipment is available for students during break time (balls, skipping rope)	26	18	9	9	6	6	6

Note: not allowed to observe school grounds in 1 school; not possible to observe break times in 4 schools; after the exclusion of non-mixed gender schools and missing data, n=17.

GP20. Provide safe, spacious and clean spaces for indoor and outdoor physical activity.

Observations revealed that 24/29 schools had sports facilities on the school grounds, mostly uncovered multifunction yards or soccer fields and 22 had equipment such as basketball hoops (Table 14).

GP21. Provide the opportunity for all age groups to access space and school sporting facilities for physical activity outside of the curriculum.

Non-specific equipment (balls, skipping ropes, etc.) were available for students during break times in 18/26 schools that could be observed (Table 14).

GP22. Ensure that physical education meets the needs and interests of all students and is tailored to boys and girls and associated with fun, not punishment.

Ten head teachers out of 17 reported equal attendance of girls and boys in physical education, and 7 reported more boys attending physical activity classes than girls. Only 6 out of 17 schools provided a place where boys and girls can separately and privately change clothes before and after physical education (Table 14).

GP23. Advocate for walking and/or cycling as forms of transport for school commutes.

Not Documented. Indicator not totally adapted to the local context.

1.9. Water, sanitation and hygiene (GP24-GP27)

GP24. Ensure that safe drinking water is always available and easily accessible throughout the school premises and free of charge.

According to head teachers interviewed, all students had access to safe drinking water in 29/30 schools. One head teacher from a school located in Kiambu indicated that the source of safe drinking water was bottled water (Table 15).

Observations showed that students had access to drinking water easily throughout the school premises and free of charge (Table 15). However, some schools mentioned relying on county council water (government water supply systems) for running water, but had storage tanks to ensure sufficient and sustained water supply. Other schools had boreholes as alternative water sources. Several school head teachers mentioned microbiological controls from the Ministry of Health and specific procedures for ensuring that water is safe for human consumption.

“Yeah, we do implement water and sanitation, hygiene. Our main source of water is borehole as I mentioned and there is very close monitoring by the ministry of health. Occasionally we take our samples there for inspection and – yeah, so that guarantees that the water we are consuming is safe” (School head, private, mixed, day school, low SES area, Kiambu).

“We use water from the Nairobi water but of course we know being within Nairobi sometimes we are not very sure of the water 100% so there are times we ensure the tank – we have one big tank and some smaller tanks, the smaller tanks are washed once the water is used up, the big one we ensure its emptied periodically and

washed and then we also ensure that we use water guard to put in the water especially for drinking” (School head, private, girls, day school, high SES area, Nairobi).

“One of the barriers is as I said earlier that we get water in irregular days – once in a week so it’s a bit of a challenge because of the growing numbers of the students. So sometimes we may be forced to purchase water in between the week. So that’s a challenge because it costs – the cost is high” (School head, public, mixed, day school, low SES area, Nairobi).

At serving/eating points, hand washing facilities were available in 29 schools, and soap or hand sanitizer in 18 schools. Rubbish bins were available in all schools but one (Table 15).

Table 15. Access to drinking water and WASH facilities in schools

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
	30	30	15	15	10	10	10
Safe drinking water available for all students (head teachers interviews)	30	29	14	15	9	10	10
Main source of drinking water							
Piped water into the school	30	17	7	10	6	2	9
Borehole	30	11	7	4	3	7	1
Protected dug well	30	1	1	0	0	1	0
Bottled water	30	1	0	1	1	0	0
Observations serving/eating points	30	29	15	14	9	10	10
'Easy' access to drinking water	29	29	15	14	9	10	10
Source of drinking water for students							
Tap water	29	24	11	13	7	8	9
Public taps or standpipes	29	3	2	1	0	2	1
Boreholes/tubewells	29	12	7	5	5	6	1
Rainwater	29	2	2	0	2	0	0
Delivered water, including tanker trucks and small carts/tank/drum	29	3	1	2	3	0	0
WASH available at serving/eating point							
Water for hand washing available at serving/eating point	29	29	14	15	10	9	10
Soap/hand sanitizer available at serving/eating point	29	18	7	11	4	6	8
Rubbish bin available at the serving/eating point	29	29	14	15	10	9	10
Observations toilets for students	30	30	15	15	10	10	10
Easily accessible (even for children with physical disabilities)	30	22	12	10	7	8	7
Clean	30	26	13	13	8	9	9
Existing place to wash hands							
Soap is available for washing hands	30	7	1	6	3	0	4
Type of hand washing station							
Running water from public supply system	30	21	12	9	6	9	6
Running water from plastic tanks (with or without tap)	30	17	8	9	7	5	5
Water in buckets	30	3	1	2	1	2	0
Sanitary napkins or other menstrual supplies provided to students (head teacher interviews)							
Yes, regularly	30	10	4	6	3	3	4
Yes, but not regularly	30	8	5	3	1	3	4
No	30	7	4	3	4	2	1
Not applicable (male schools only)	30	5	2	3	2	2	1

Notes: Observations at serving/eating points not allowed in 1 school. Acronyms: Water, Sanitation and Hygiene (WASH).

GP25. Ensure access to appropriate hand washing, personal hygiene and sanitation facilities with running water and soap to all students, especially close to toilets.

There are toilets in all 30 schools, easily accessible for students, including those with physical disabilities (however, only in 22 schools). Most often, toilets were judged as clean by enumerators (26 out of 29 observed). Hand washing facilities were always present (30/30), but at the time of observations, soap was available near toilets in only 7 schools (Table 15).

Concerning hygiene and sanitation, respondents pointed out that schools have measures in place to promote hygiene and sanitation among the learners.

“The other one is about sanitation; we have enough toilets, we have enough bathrooms. Our sewer is okay – is connected to the famous Nairobi sewer which is well maintained. In case there are any challenges we have personnel who we contact and they respond promptly...then we also have the hand washing areas which are enough. And then another thing is that the kitchen is also provided with water and whenever we get problems from the supplier, the Nairobi water, then we usually call them and they bring with their lorry” (Deputy school head, public, boys boarding school, low SES area, Nairobi).

However, high cost of waste disposal and sewer blockages were highlighted by some respondents. The challenge was worsened with high population of learners in some schools.

“We are not connected to the sewer line. So, we normally use this kind of pit latrines and then we normally hire these people of – exhausters. They are the ones we normally hire and you know it is also very expensive. And I think it would be well when we are connected to the sewer line” (School head, public, mixed, day and boarding school, medium SES area, Nairobi).

“I mentioned our toilets are flush toilets and the population is high. So, if it is a short break, they are queuing. So, you flush – by the time the other person is coming in, it hasn’t gotten enough water. And of course, whatever will be left there will not be very encouraging to the person coming next. But what we do, we have provided small tanks outside there where they can get water using a can and then one can pour” (School head, public, boys boarding school, medium SES area, Kiambu).

GP26. Make clean, age- and gender-appropriate sanitation facilities and products (including menstrual supplies) available and easily accessible to all students.

Among the 30 head teachers interviewed, only 10 affirmed that menstrual supplies were provided regularly in their school, 8 mentioned that they were provided but not regularly, and 7 schools did not provide any (Table 15).

GP27. Promote safe hygiene and sanitary behaviour.

The curriculum was reported to include hygiene and sanitation education in 24/29 schools. Implementation of the WASH programme was described as ensuring that students remain healthy and free of water and hygiene-related illnesses.

1.10. School gardens (GP28, GP29)

GP28. Use school or urban gardens as a learning platform that can support school-based food and nutrition education.

In Kiambu and Nairobi, 26 gardens were observed by enumerators, while only 24 head teachers declared they had a school garden or farm on the compound. Nineteen schools stated that gardens were used as learning platforms that support school-based food and nutrition education, and 20 explained producing food products used in meals provided by the schools (Table 16).

Table 16. School gardens

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N		30	15	15	10	10	10
There is a garden/farm in the school compound (from observations)	29	26	15	11	8	9	9
There is a garden/farm in the school compound (according to head teachers)	30	24	13	11	8	7	9
Food grown in the school garden							
Cereals and grains	24	7	5	2	2	2	3
Roots and tubers	24	2	2	0	2	0	0
Legumes, nuts and seeds	24	5	4	1	2	2	1
Vegetables	24	20	11	9	6	7	7
Fruits	24	4	2	2	2	1	1
Animal source food	24	6	3	3	1	2	3
Use of food produced in the school garden							
Used in teaching curriculum	24	19	9	10	6	6	7
Students take products home	24	1	0	1	0	1	0
Products are incorporated in meals provided by school	24	20	12	8	7	6	7
Products are sold	24	2	0	2	0	1	1

Note: school grounds not allowed to observe in 1 school.

Head teachers reported having school farms (larger than school gardens and managed by the schools,) where they grew food for use in school to supplement other sources. They reported that this ensured sustainability and fresh foods were cheaper. However, they also specified that school farming was expensive due to the costs incurred in farm management.

“It is good and also very easy to give them quality and quantity [...] but if it is home-grown, we are able to supply them steadily with whatever we have there. Even the chicken, even with eggs – we are able to provide more than we could provide if we are buying from outside...But the only thing is that it’s expensive because you have to pay all the people working there. So, sustaining it is also not easy” (School head, public, girls boarding school, high SES area, Nairobi).

GP29. Ensure that food from school gardens is nutrient-dense.

According to head teachers, schools mainly grow vegetables, although with limited variety. Cereals, legumes, fruits, roots and tubers and animal source food were less frequently reported (in less than 7 schools). Additionally, it is noteworthy that more schools in peri-urban areas in Kiambu were growing food – especially cereals, which require more space - compared to those in Nairobi (Table 16).

2. School community

2.1. School community involvement (GP30, GP31)

GP30. Raise and build awareness about healthy diets to improve diets of the wider community.

School community involvement can help raise and build awareness about healthy diets, aiming to improve the diets of the wider community. Twenty-four head teachers (24/30) described their schools as implementing programmes involving the wider community (see Table 3) and 23/30 reported that parents were given information about healthy and nutritious foods during the school year, through meetings (Table 17).

Table 17. Parent’s involvement in the school community

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10

Parents are given information about healthy and nutritious food at any point during the school year	30	23	11	12	10	7	6
Ways of receiving information on healthy and nutritious food							
<i>Meetings</i>	23	23	11	12	10	7	6
<i>Parents-teacher diaries</i>	23	1	1	0	1	0	0
<i>Posters/messages in front of the school</i>	23	1	0	1	0	1	0
<i>Others (Newsletters, Phone calls, SMS)</i>	23	4	2	2	2	2	0

GP31. Ensure community mobilisation, ownership and involvement in the food and nutrition programme.

According to most head teachers interviewed, the community was mainly involved in supplying food in school.

“We get our supplies from within the community. Everything is from within here. All our suppliers are from within here” (school head, public, mixed, day school, medium SES area, Kiambu).

“We buy quite a lot from the community around because we try as much as possible to buy from the local community. If they are able to provide the eggs, the vegetables or whatever food, we give them priority as long as they are competitive...Yeah, it has been useful and one of course, it makes the people also own the school. When they see some of the people from the community are bringing items in school, they feel like they are part of that school (school head, public, boys, boarding school, medium SES area, Kiambu).

In addition, community members were prioritised when hiring school staff, such as cooks.

Teachers were involved through the school committee in conducting quality checks during food procurement.

“For you to be able to be a supplier in the school, we follow the procurement process – the tendering process, we must tender. And before you qualify then you must have all the necessary certifications that you have met the standard of providing or supplying whatever you intend to supply” (Deputy school head, public, mixed, day school, low SES area, Nairobi)

Teachers were also involved in conducting quality checks during food preparation and service or managing nutrition-related extra-curricular activities such as school farming, agriculture, young farmers clubs, etc.

“We have a boarding master, we have an assistant boarding master and usually we consult each other because like every time for the meals we have a teacher on duty – in fact not one; three of them. So, like if there is any problem we’ll sort it out” (school head, public, boys, boarding school, medium SES area, Kiambu).

“The teachers are involved in the committee and even inspection ...by the way the food that we give the students is the same that the teachers eat so that if the food is bad then they will also know” (caterer, public, mixed, day school, medium SES area, Nairobi).

The main contribution of parents is paying school fees, parents also support in developing the menu through the parents’ association or school committees.

“They are participating by paying school fees. You know, when they pay the school fees, food is bought. So that’s the support we can talk of” (Caterer, public, mixed, day school, medium SES, Kiambu)

“They are the ones that through now the parents’ associations, decided on the school menu... They came up with the menu based on the budget or the amount that they are paying” (School head, public, mixed, day school, medium SES area, Kiambu).

A few informants highlighted food provided by students, either as part of the school garden by students or by the school club.

“We have a boy [student] who has the tender to bring mandazi to the students. So, he brings to me and I taste it before he can sell it to the students. But he asked for permission from the teacher” (Head cook, public, mixed, day school, low SES area, Nairobi)

2.2. Capacity development and training of the school community (GP32-GP34)

GP32. Strengthen capacity of school staff, vendors and suppliers to implement school food/nutrition activities.

When asked about specific training, head teachers declared school staff had received training in nutrition in 14 out of 30 schools. Caterers from 13 schools indicated having received training in preparing healthy and nutritious meals.

GP33. Make training manuals/guidelines available and accessible for staff.

Not Documented. Needed to prioritize due to limited resources for data collection.

GP34. Provide health screening for school staff and give free counselling.

Not Documented. Needed to prioritize due to limited resources for data collection.

2.3. Livelihood of suppliers (GP35-GP37)

GP35. Procure food for school food programmes from local farmers.

Respondents interviewed indicated that food procurement for the SMP was local for nearly all schools (26/28) (Table 6). Among them, 25 respondents reported that their schools would buy food from the local market or businesses, 6 would purchase directly from local small-scale farmers, organisations, or community groups, and 1 would have a SME as a source for food procurement. School meal provision thus contributes to the livelihoods of local school suppliers.

The present study was conducted in urban and peri-urban areas, probably limiting the possibility for schools to directly connect to farmers, except if they can deliver to schools.

“Like now the vegetables we usually go with the school vehicle. We just purchase, it gets transported through the school vehicle and then we put in the store; same to the cereals. But the meat we usually make an order then they bring themselves. Even the fruits mostly the farmers usually bring themselves” (Caterer, private, girls, boarding school, high SES area, Kiambu).

In addition, individual farmers may not have the capacity to provide large quantities of supplies, as explained by a school head in Kiambu:

“Let’s say like eggs we take once a week. So, it’s not such a big supply, we just get a farmer from around and they supply because we take like 39 trays of eggs every week” (School head, public, boys, boarding school, medium SES area, Kiambu).

Food suppliers were described as mainly identified through a tendering process, which is open to all, including major suppliers like flour mills or SMEs. Most respondents reported using major suppliers for cereal and grains that are purchased in bulk/large quantities and less often. Some described engaging local food companies to supply bulk foods, such as bread and milk. They felt that buying from the manufacturers reduced the chances of food contamination and adulteration along the supply chain and had favourable prices compared to buying from retail shops/businesses.

“Yes, but there are those things that we only procure from certified supplies. Things like bread, things like milk, those ones we get from the big companies that supply milk so that we do not get substandard milk or bread” (deputy school head, public, mixed day school, low SES area, Nairobi)

“This one (food company), they are bringing a lot at once so that’s why the price is a bit low” (school head, public, mixed, day school, high SES area, Nairobi)

Regarding SMEs, respondents pointed out that it was okay to involve them in the provision of food as long as they could meet the required food quality and quantity. This, in the opinion of the respondents, would help to empower the SMEs and the community at large economically.

“They are available on need. They are cheap and since we don’t handle voluminous supply of foods, some like for example milk, that one we cannot go for a very big supplier because the quantities demanded at school level and the population of the school requires less quantities and therefore, we run with the small vendors” (Deputy school head, public, mixed, day school, medium SES area, Kiambu).

However, some respondents were sceptical about the use of SMEs in supplying food to schools for the reasons that they: i) lack the capacity to consistently supply the substantial quantities of food required by certain schools, particularly in the case of cereals, ii) may not have the financial capacity to supply the food items on credit, which most schools do, iii) may not meet the food quality and safety standards needed by the schools, and iv) most of them do not meet the regulations needed to supply food to schools.

Priority was often given to the local community members. Informal vendors from the community, e.g., parents provide perishable food products that were delivered to the school daily or weekly, such as vegetables, fruits, meat, milk and eggs.

“The supplier who supplies fruits to the canteen is a small vendor and we encourage small and microenterprises to supply food such as meat, fruits and eggs since we purchase them less than twice a week and they are from nearby” (School head, public, girls, day school, high SES area, Nairobi)

The main challenges highlighted of implementing a SMP were financial constraints faced by the schools as a result of the inability of some parents to pay fees the global economical and political situation, which has resulted in the high cost of food in the country. Schools are unable to contribute to stabilising livelihoods of suppliers if parents cannot afford school fees.

“The challenges we are facing particularly at the moment is inadequate food supply. The suppliers are unable to get us food on time simply because in the market there is also no food. And then the inflation, they are quite expensive at the moment. The grains are very expensive. Then other issue is about payment of fees – you know we depend on the parents on the lunch programme where they pay their school fees. So, you find that most of them they don’t respond to the payment of fees positively. So that again is a challenge. Paying the suppliers is an issue because if parents don’t pay, we are unable to pay the suppliers” (Deputy school head, public, low SES area, Nairobi).

GP36. Strengthen the capacities of smallholder farmers to produce nutritious food.
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We did not find direct evidence on current activities implemented at the school level to strengthen the capacities of smallholder farmers to produce nutritious food for schools. However, one programme implementer interviewed stated that his organisation conducted projects supporting: i) the farming of healthy foods (fruits and vegetables) and linking farmers to schools, to increase access to healthy foods at cheaper prices, and ii) the adoption of the health-promoting school framework by the World Health Organization (WHO).

“You know we don’t implement but we support the government to implement. We are supporting the development of adolescents’ health policy strategy and also the adoption of the health promoting schools by the WHO – it’s part of the things that we are doing. Then we are also supporting a few counties, I would say about six counties to look at the adolescent programming and how they can enhance the programming for the adolescents within their county...” (Prog_implementer_1).

Some respondents from the schools gave their opinion for example in strengthening smallholder farmers in organizing themselves into cooperatives of small-scale farmers.

“It would be brilliant because it will also be promoting the mama mbogas [women –local vegetable sellers], the village, you know, local entrepreneurs. As long as they have some kind of muscle [finances] they would team up

because the volume of food that is consumed in a school is high and then the supply is regular. So, if you are just harvesting a bag and the next time I am demanding I need 90 bags, you may have a very serious challenge supplying. But if they teamed up maybe with these small-scale traders or small-scale farmers so that when this one doesn't have, the other one have, possibly it can work" (School head, public, girls, boarding school, low SES area, Kiambu).

Others further opined that small businesses would work better if they formed groups and coalitions, strengthening their capacity to receive safety certification, financial capacity to operate on a credit basis and provide the food quantities required by the schools.

"It's difficult I think for the regulating bodies to properly regulate them and even certify what they are dealing with due to their maybe small size. So that's the only challenge because it's difficult to get such certifications or even documents showing that they've been approved to safely handle food, it's difficult to certify the standards of the food that they are providing" (School head, private, mixed, day school, low SES area, Kiambu).

In particular, the price for healthy and safe food may increase from the moment they tendered and the moment they need to supply schools. A way to support smallholder farmers to produce or supply nutritious food would be by strengthening their financial capacity.

"We are in very hard economic times and the cost of food has skyrocketed and that has really been a big challenge especially with the suppliers who are unable to supply with the prices they tendered ...making us even go to get that food on credit very expensively and sometimes even changing the diet because of lack of such commodities. You may find that you feed students with maize and beans and you find that you need to look for something like flour because maize and beans prices have skyrocketed" (School head, public, mixed, day school, medium SES area, Kiambu).

GP37. Incentivise nutrition-sensitive value-chain actors to produce and process high-quality food for schools.

We did not find any strong evidence on current activities conducted in the 30 schools surveyed, incentivizing nutrition-sensitive value-chain actors to produce and process high-quality food for schools. Instead, some caterers pointed out poor-quality food supplied by some school suppliers and lack of financial resources to maintain stable supply to schools due to lack of funds.

"You know, when they bring, because they bring it in large numbers like for example beans, they bring – we use around 30 bags per month and these 30 bags I cannot check all of them. So maybe I check only around four or five bags and maybe the other ones I haven't there is something bad" (Caterer, public, boys, boarding school, low SES area, Nairobi).

"You know mostly these SMEs you find that if someone supplies you for one month without pay then they will be overwhelmed because most of them don't have enough funds. Capital is a problem for the small-scale businesses. Like here we feed many students so they may be overwhelmed at some point. So, I do prefer someone who can supply to the school for like two or three months without pay. But the SMEs, you find that they can supply to you twice or thrice and then they cancel the tender" (Caterer, public, mixed, boarding school, medium SES area, Nairobi).

However, some existing initiatives focusing on connecting nutrition sensitive value-chains to schools (such as fish value chain) were mentioned at a higher level.

"We can say we have school health programmes running in our schools. We have the fish for all programmes [...] through the fisheries, they are doing various fish ponds on various schools so it may not be specifically still focusing on adolescents. But you can see, because they are part of it, in one way or another they are beneficiaries" (Policy maker_2)

3. External school food environment

3.1. Food provision (GP38)

GP38. Limit exposure to unhealthy food outside the school premises by defining zones or public planning laws promoting healthy zones within a certain perimeter of school grounds in which unhealthy foods should not be sold.

Observations were conducted at the school gate to examine students' food exposure outside the school premises. At the time of the day when the enumerators conducted their observation, food or drinks sales were observed outside or around schools in 16 out of 30 schools (Table 18). Various types of foods and drinks were sold, including sweets and snacks (10 schools), beverages (9 schools), but also fruit (11 schools), and vegetables (7 schools).

Table 18. Observation of advertising and promotion within and outside of school grounds

	N	All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
		30	15	15	10	10	10
Foods SOLD at the school gate							
Food and drinks sold outside or around the school perimeter	29	16	7	9	9	2	5
Food groups available for sale outside the school/around the school perimeter							
Cereals and grains	16	3	2	1	2	1	0
Roots and tubers	16	4	2	2	4	0	0
Legumes, nuts and seeds	16	1	0	1	0	0	1
Vegetables	16	7	3	4	4	2	1
Fruits	16	11	3	8	6	2	3
Sweets and snacks	16	10	5	5	6	0	4
Animal source food	16	4	1	3	2	2	0
Beverages	16	9	3	6	5	2	2

Note: observation at the gate not possible to conduct in 1 school

3.2. Food promotion (GP39)

GP39. Regulate the promotion, marketing and advertising of foods, snacks and beverages high in energy, sugar, fat and salt around schools.

We found no evidence of any existing school policy regulating the promotion, marketing and advertisement of unhealthy food and beverage around schools. Observations at the school gate found advertisements in only 1 school (in Kiambu, low SES area), which was a poster presenting a price discount for a dairy product.

3.3. Food prices

N/A. No GPIs identified.

3.4. Food labelling

N/A. No GPIs identified.

3.5. Food safety

N/A. No GPIs identified.

4. School food and nutrition policy or institutional framework (GP40, GP41)

Before conducting in-depth qualitative interviews, head teachers of the 30 schools were asked about their awareness of national policies, programmes, interventions or services addressing school food and nutrition (Table 19). Existing policies were identified during the Kenya policy review conducted in a prior phase of the study²⁸. Head teachers were most aware of policies or programmes related to SMPs and “menu guides”, which refer to the National School Meals and Nutrition Strategy²⁵. The policies and programmes known only by a third of the respondents were those related to “healthy diets” such as the National Guidelines for Healthy Diets [and Physical activity]³², and those related to “nutrition”, such as the Kenya National Nutrition Action Plan [for 2018-2022]³³.

The HGSMP was the policy or programme less known by head teachers. This is consistent with the Kenya policy review which found no policy specifically addressing HGSMP. The only policy highlighting

the role of school gardens is the National School Meals and Nutrition Strategy (2017). In fact, some of the participants understood the HGSMP as growing their own food for the meal programme (instead of food grown from a local source). Finally, one of the most well-known policy or programme was the 4k Club Kenya, which is probably due to attention given in 2021 by the president³¹.

Table 19. Awareness on school food and nutrition policies and programmes in Kenya

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
Head teachers' awareness of national policies or programmes related to:							
School meals programme	30	23	10	13	6	7	10
School menu guide policy	30	22	12	10	6	10	6
HGSMP	30	10	4	6	1	5	4
National guidelines for healthy diets	30	12	6	6	6	3	3
Kenya national nutrition action plan	30	10	4	6	2	4	4
National school nutrition strategy	30	13	6	7	5	2	6
School health policy	30	18	10	8	6	6	6
Kenya school health implementation strategy	30	15	7	8	7	3	5
School nutrition curriculum	30	10	4	6	4	3	3
4K club Kenya	30	24	15	9	8	7	9

Note: Acronyms: Home-Grown School Meal Programme (HGSMP)

Policies and guidelines were described by the respondents as giving direction to schools on how to ensure that they provide safe, balanced, and nutritious foods to learners. However, they were sometimes uncertain about their knowledge.

“Part of the National Policy on School Nutrition I believe is about whether we are giving the students – what they are eating whether it is adequate, whether it is nutritional – in terms of nutritional requirements, whether it is met. And then there is also the issue about food security that is part of the National Policy, I believe so”
(Deputy school head, public, mixed, day school, high SES area, Kiambu)

“It [the School Health Policy] gives a guideline and safe standards that should be there in a public school. Like now for example they tell you, you need to have these number of toilets, the way of disposing – these number of dustbins, they also look at even the congestions in the dorm, they give you the guidelines of how many people can be in a room” (Deputy school head, public, boys, boarding school, low SES area, Nairobi)

GP40. Put in place a school policy which addresses actions related to food and nutrition.

Schools reported localizing some of the national policies and guidelines in their school. The school health policy and school meals strategy/guideline were mentioned as the national guidelines that have been adopted and implemented by most schools. School-specific policies/guidelines/regulations included SMPs and food procurement, standardised school menus, nutrition curriculum, restrictions on the sale of foods/food vending within the school, and restrictions on foods (by students) from outside the school.

“We have our own nutrition policy in the school because we have crafted it with a lot of consultation. In the management we have somebody in the area of nutrition to also assist us” (School head, public, boys, boarding school, medium SES area, Kiambu)

“We don’t allow students to come with food from outside. They are supposed to eat the food we provide. And if they need special food, of course they come with a letter from the doctor because if everybody says I get special, the school may not be in a position to provide special food for everyone. So, we usually tell them to get us a letter from the doctor so that we are able to provide them special food” (Public, mixed, day school, low SES area, Nairobi)

Although participants acknowledged their awareness of some of the existing policies and programmes and their relevance to their schools, they highlighted some challenges in implementing the policies, including a lack of full awareness of the policies and inadequate resources for policy implementation at the school level.

GP41. Set up a school committee including the whole school community to routinely discuss policy implementation, monitoring and financing related to food and nutrition.

Head teachers interviewed from 26/30 schools reported they had an existing school implementing committee/referent for food and nutrition programmes, interventions or services. The committee would be usually constituted by teachers and head teachers. Others members were also mentioned (data not shown): two people from a private company (not food related) who are sponsoring the school, one accountant, two parents' associations in 3 schools, and students in 3 schools.

Table 20. School implementing committee for programmes, interventions or services

		All	County name		Socioeconomic areas		
			Kiambu	Nairobi	Low	Middle	High
N	30	30	15	15	10	10	10
Existing school implementing committee/referent for programmes, interventions or services	30	26	13	13	9	10	7
Members of the school implementing committee							
Principal/Head teacher	26	21	11	10	7	8	6
Teacher	26	23	11	12	9	8	6
Caterer	26	7	2	5	1	3	3
Government representative	26	2	1	1	1	1	0
NGO	26	1	0	1	0	1	0

5. Cross-cutting issues

5.1. Gender sensitivity (GP42, GP43)

GP42. Ensure equal access to education, activities and services for girls and boys.

In Nairobi and Kiambu, girls' and boys' only schools are frequent, although mixed-gender schools still constitute the majority of schools. Out of the 30 surveyed schools, 19 currently implemented gender equality and equity programmes (Table 3).

In addition, out of the 17 mixed-gender schools, equity in boys and girl's attendance to physical activity in school was mentioned by 10 head teachers. Only 6 schools provided adapted space to change clothes for boys and girls (Table 14).

Other points on equal access to education, activities and services were not investigated in the present study.

GP43. Encourage equal involvement of women in school food and nutrition programmes as cooks, farmers or programme managers without overburdening them.

Not Documented. Need to prioritize due to limited resources for the study.

5.2. Participation (GP44, GP45)

GP44. Involve students in the design, development and implementation of school food and nutrition projects.

Data indicated that students were minimally involved in the design, development, and/or implementation of school food and nutrition projects. Only 3 schools included students in their

school committees (out of 26 established committees). Students could also be involved in school farming activities through the 4k club project or various school clubs.

“What we do is that we keep on getting feedback from them – is the food enough? Do they like our food? Is there anything they would want added? Anything they would want done to the food without increasing the costs – they do give us the feedbacks and then when they bring for us the cash here, whatever they produce comes directly to the school kitchen” (School head, public, mixed, day school, medium SES area, Kiambu)

“They are the same students who water this tree programme and for the fruits” (School head, public, mixed, day school, medium SES area, Kiambu).

In addition, as a school nutrition focal person explained, sometimes students could be consulted in developing the school menu and provide feedback on how to improve meals provided in schools.

“We first – in fact when we started the programme we asked them which kind of food they may want to be served. And sometimes even they could mention those expensive ones, we said no, this one cannot be offered but we gave them a choice. So at least they gave us the choices what they want and what they do not want” (Nutrition focal person_1, private, mixed, day school, low SES area, Nairobi)

GP45. Facilitate student-led projects on food and nutrition.

A significant majority of the schools surveyed possessed school gardens (24/30). This initiative notably facilitated student-led projects on food and nutrition. For instance, among the 24 school gardens, 18 were managed by school staff, 14 by students themselves, and 1 by a farm manager.

Especially, the 4k club or young farmers club was a student-led project that, although known by head teachers in 24 schools out of 30, was implemented in only a few schools (exact number not collected as it emerged in qualitative interviews). Those not implementing the programme cited the disinterest in farming activities from the students especially in urban areas, the lack of farming spaces and inadequate resources, and limited capacity to implement the clubs as some of the reasons. They recommended the need for support and capacity strengthening, in order to run the clubs.

“The kales they are eating right now, they are the ones who have planted them. They are the ones who even harvest and take to the kitchen. Currently it’s what we are feeding from – from that club – from the students” (School head, public, mixed, day school, medium SES area, Kiambu).

“4k club it is implemented by the students in that club. It is also being implemented at the school level by them rearing rabbits and once the rabbits multiply they sell them to expand the club (School head, public, girls, day school, high SES area, Nairobi).

School heads cited some challenges in implementation including the labour requirements and droughts that affected the productivity of the school farms. There were also perceptions that the 4k club programmes were fading off, and hence the need for the government to review and revamp them. In urban areas with limited farming spaces, some schools were implementing innovative farming methods such as bucket farming.

“Being an urban area or within the outskirts of the cosmopolitan with very few land or pieces of land, where maybe more than half of our students are from rental homes, then I can simply assure you, running the club may be a tall order. Because they do not want to be involved in that particular project you are doing. They are also expecting that for them to be involved in the activities of growing something here and there, it is their right to get the product to take home.” (Deputy school head, public, mixed, day school, medium SES area, Kiambu).

5.3. Social inclusion and human rights (GP46, GP47)

GP46. Take affirmative action against bullying, stigmatisation and discrimination.

In 25 out of 30 schools, the curriculum incorporated gender education, including sensitization about gender-based violence and bullying. The right for children is included in the School Health Implementation Strategy.

“This policy (school health implementation strategy) advocates for certain values, skills and maybe rights of children – child protection and how to handle children with special needs, and disease prevention in an institution” (School head, private, mixed, day school, low SES area, Kiambu).

GP47. Ensure that all students have access to a full, healthy, free or subsidised meals and education for all in line with rights-based and inequality sensitive approaches.

No school met GP47. However, 6 schools reported implementing a component on food prices, subsidies, or cash supporting school meal fees for students.

Participants highlighted the lack of capacity to provide optimal nutritional support to adolescents with special nutritional needs and those with underlying conditions such as HIV and stomach complications. The main reason for this, from the school heads’ perspective, was that special needs vary per individual, hence making it challenging to meet them all, given the large number of students in their schools and the prevailing financial constraints.

“The students when they normally come here, they’ve got some kind of health issues and they require maybe a special diet of which the school can’t afford to provide...that is a very big challenge that you see some students have juvenile diabetes, others have got ulcers, each and every day they are complaining. It’s not easy to give them the kind of the special diet they need because of the number of the students we have and also there is no way we can be cooking different kinds of meals for different students. So that is a big challenge” (School head, public, mixed, day and boarding school, medium SES area, Nairobi)

In some cases, parents /students have to cater for the extra costs incurred in providing special diets, and the foods provided may be less nutritious due to a lack of food varieties to cater to particular needs. This emerged in both public and private schools and was more common in boarding schools.

“As an institution the major challenge is the fact that different students require different nutritional needs due to health challenges or recommendations from nutritionists...this is very difficult for the school to implement because an institution provides a bulk diet programme so taking maybe care of specific needs of specific health conditions is a challenge for an institution.” (School head, private, mixed, day school, low SES area, Kiambu).

5.4. Environmental sustainability (GP48-GP51)

GP48. Ensure environmental sustainability of food procurement by considering the use of traditional, neglected and underutilised foods.

Not Documented.

GP49. Promote sustainable diets, e.g. by setting limits on the number of servings or by requiring a set number of plant-based meals.

Promoting sustainable diets by limiting the number of servings or requiring plant-based meals in a population having difficulties in reaching their nutrient requirements and having very limited animal-source food consumption may not be appropriate recommendations.

Environmental sustainability programmes are currently implemented in 29/30 schools, with 25 schools incorporating environmental education topics into the curriculum. However, only 3 schools addressed the topic of environmentally sustainable diets in specific nutrition education sessions.

Most schools reported implementing tree planting, proper waste disposal and waste recycling. The activities were mainly implemented through school clubs. The use of naturally/organically produced food products, which have minimal use of agrochemicals, was seen by some respondents as an aspect of food healthiness, with some schools indicating they prioritise the use of organically produced foods for their feeding programmes, especially those in peri-urban areas.

“We do not use the agrochemicals. So, simply, these are the organic food. We only use the manure. The only item that we add which is simply to make them more yielding is the foliar feed. But on the agrochemicals, we do not” (School head, public, mixed, day school, medium SES area, Kiambu).

GP50. Set criteria for reducing food loss and waste.

Not Documented. No data available on food loss.

GP51. Encourage fuel and energy saving.

In 19 school kitchens, traditional cooking facilities with open fireplaces were used and typically associated with higher fuel consumption and lower energy efficiency. This indicates the need to transition cooking towards more efficient and energy-saving methods.

“The requirements for preparation for example use of resource as in energy, you see it will be expensive to make that variety; it would be expensive in terms of fuel, in terms of the purchase of food because of high prices of food. So that’s why there is lack of variety. And even some foods may require more fuel, more time to make and yet you are dealing with a very big population. So that limits what we can prepare” (Deputy school head, public, mixed, day school, high SES area, Nairobi).

5.5. Safety and violence prevention (GP52, GP53)

GP52. Put in place rules and guidelines for staff and students related to physical safety, corporal punishment of students by teachers, fighting and other forms of violence and sexual harassment or substance abuse.

Not Documented. Needed to prioritize due to limited resources for data collection.

GP53. Trained teachers to monitor, administer and teach first aid and basic safety.

Not Documented. Needed to prioritize due to limited resources for data collection.

5.6. Private sector engagement (GP54, GP55)

GP54. Monitor the involvement of the private sector in school food and nutrition activities to ensure it promotes nutritious school meals.

Not Documented. Needed to prioritize due to limited resources for data collection.

GP55. Ensure that the private sector is not involved in the development of a school food and nutrition policy or a member of the school committee.

Private sector engaged in 2 school committees, but non-food related.

5.7. Friendly, trusting climate at school (GP56-GP58)

GP56. Promote good and equitable relationships between students and staff, as well as with families and the wider community.

Not Documented. Needed to prioritize due to limited resources for data collection.

GP57. Promote open and dynamic communication and interactions between all school community members.

School committees can facilitate communication and interactions within the entire school community, between students and staff, as well as with families and the wider community. However, caterers are only included in the committees of 7 schools, and parents and students participate in school committees in only 3 schools. Teachers and head teachers represent the majority of committee members and are responsible for overseeing the work.

GP58. Avoid overburdening communities, parents, teachers and school staff with participation in school food/nutrition programmes.

Not Documented. Needed to prioritize due to limited resources for data collection.

Summary of findings on comprehensive nutrition programmes currently implemented in schools

The summary of the evidence found through analysing the quantitative and qualitative data, as compared to the 58 GPIs, is presented in Table 21.

Table 21. Overview of evidence on current implementation of school food and nutrition programmes using international good practice indicators in a sample of 30 secondary schools in Kenya

Good practice indicators from reviewed literature ¹	Evidence from Kenyan policy documents	Evidence of current implementation in a sample of 30 schools	Level of Implementation in 30 schools
Domain 1: School premises			
Food provision	Partial		Partial
GP1. Promote healthy diets by increasing availability and access to a diverse range of minimally processed foods provided on the entire school premises while limiting access to unhealthy foods or beverages defined by (meal-, food- and/or nutrient-based) standards or guidelines.	Partial ^{102,105,111,112,137}	All 30 schools had a SMP, 14 schools had a canteen (i.e. cafeteria), and 6 schools allowed an external food vendor within the school premises. The categorization of meals and menus based on food groups, observed in one day or recalled over 5 days revealed a lack of food diversity, mainly due to economic constraints. Most of the food available through SMPs was minimally processed. Unhealthy food was available in half of the school premises, through canteens. Unhealthy beverages were observed in only 4 schools.	Partial
GP2. Ensure that food procurement is as local, seasonal and culturally appropriate as possible.	Yes ^{103,106,112}	Food sources of meal/food provided by the SMP were locally produced sources in 27 out of 28 schools preparing meals in the school premises. Among the 27 schools, only 1 school used outsourced food. Food procurement was seasonal, so sometimes affected by seasonality. Meals served in the SMP were culturally appropriate.	Yes
GP3. Provide access to adequate, safe, clean eating spaces.	No	Half of schools had an indoor/covered dining hall. Two thirds were described as spacious, welcoming and clean. Students ate outside in an uncovered place in half of the schools. Students were supervised while eating in 21 out of 30 schools.	Partial
Food promotion	Partial		Partial
GP4. Regulate advertising of unhealthy foods and beverages on school premises.	Partial ¹³⁷	Existing sponsorships from food and beverage companies was mentioned in 3 schools out of 30. However, no advertisement for unhealthy food within the 30 schools was observed, only one advertisement was observed at a school gate (for dairy products).	Yes
GP5. Promote healthy foods and nutritious diets using innovative communication tools tailored to young people.	Yes ¹⁰⁶	Not documented.	N/D
Food prices	No		No
GP6. Tax or manipulate prices at school to make unhealthy foods more expensive.	No	No evidence was found on schools implementing taxes or manipulating prices at school to reduce the prices of healthy foods and make unhealthy foods more expensive.	No
GP7. Subsidise or manipulate prices at school to make healthy foods cheaper or free.	No	Only 6 head teachers reported partial subsidies and 23 head teachers interviewed indicated that students had to pay the total cost for the meals provided by the SMP. The subsidies did not specifically aim to promote healthy food but to assist parents in obtaining more affordable meals as part of the SMPs.	No
Food labelling	No		No

GP8. Combine menu board labelling system in school canteens with nudges towards healthier options.	No	School menus were on display in 6 out of 30 schools. In most of the schools there was only one food option provided for each meal of the day (healthier options are limited in settings with limited financial resources).	No
GP9. Display nutrition information, such as calorie content of food available in the school cafeteria, which is easy to understand.	No	No nutritional information was provided for food available in the school cafeteria.	No
Food safety	Yes		Partial
GP10. Define food safety school standards that are in line with national food safety legislation.	Yes ^{103,106,112,120}	Food safety standards reported in line with national food safety legislation were defined in all schools.	Yes
GP11. Ensure that food handlers on school premises are trained and educated and have certificates in food safety and hygiene.	Yes ^{102,103}	Among 27 caterers interviewed, 13 mentioned having received any food/nutrition/hygiene education or trainings.	Partial
GP12. Ensure safety and hygiene in all areas where food is stored, prepared or sold.	Yes ¹⁰³	Most schools had put in place various measures from supply, storage, preparation, and cooking to ensure good food quality and safety. However, inadequate infrastructures were observed (kitchen and dining space) and inadequate storage facilities and lack of cold stores were mentioned by respondents. Half of the staff working in the school kitchens had their hair covered and in half of the kitchens observed, all pots for cooking were covered.	Partial
Health and nutrition services	Yes		Partial
GP13. Deliver high-impact health and nutrition interventions to children and adolescents at schools through periodical visits or health care staff present at school (e.g. anthropometric monitoring, counselling, micronutrient supplements or deworming).	Yes ^{102,103,106,108,111,112,113,126,127,128,130,131,132,133,137}	There was evidence of health and nutrition interventions such as vaccination, deworming, weight and height monitoring, and/or micronutrient supplementation delivered in 15 schools out of 30. Health/nutrition services were provided by 17 schools out of 30. Services were permanent and on site for 6 schools and provided by regular visits from external health staff in 11 schools.	Partial
GP14. Set up referral systems and partnerships with local health services.	Yes ^{102,103,131}	A few schools had established a referral system in collaboration with local health services: two head teachers (in middle SES areas) reported transporting students to hospitals as part of additional nutrition and health services.	No
GP15. Involve parents with information, counselling and feedback systems about nutrition screening of students.	Yes ^{131,132}	Not documented	N/D
Nutrition education	Yes		Yes
GP16. Deliver mandatory, regular, culturally appropriate nutrition education to students as part of classroom curricula through trained staff or nutrition experts and ensure consistency with food provision.	Yes ^{102,106,107,108,111,112,125,129,137}	Food skills, literacy/nutrition education program was implemented (as a stand-alone subject) in 13 schools out of 30. Nutrition content was included in some of the subjects, such as biology and home science. School staff received training in nutrition in 14 schools out of 30. Most of the subjects that had a nutrition component were said to be selective and not compulsory by some head teachers.	Partial
GP17. Integrate food and nutrition education throughout the school system and include it in extra-curricular activities, such as school gardens or community activities.	Yes ^{102,103,108,116,127,129,137}	School gardens were used in teaching curriculum in 19 schools out of the 26 with gardens.	Yes
GP18. Include a range of topics in nutrition education, such as healthy eating practices, food systems and food environment by providing theory, strengthening practical	Partial ^{102,111,112,129,124,131}	Nutrition education delivered in schools covered a varied range of nutrition issues, with undernutrition and overweight/obesity being the most commonly reported topics.	Yes

competencies, using interactive learning strategies.		Books were the primary educational resource used in these schools. Some initiatives, such as the 4k club, or young farmers club were helpful in facilitating practical learning for the students especially on agriculture, nutrition and environmental issues.	
Physical education	Partial		Partial
GP19. Provide age-, sex-, disability- and culturally-appropriate physical education in the curriculum through qualified teachers.	Yes ^{108,125}	Physical education was provided in all schools for boys and girls. Half of the schools provided students access to physical activities 2 to 3 times a week, 7 schools every day.	Yes
GP20. Provide safe, spacious and clean spaces for indoor and outdoor physical activity.	Yes ^{106,111,137}	There were 24 schools out of 29 that had sport facilities on the school grounds, mainly outside and uncovered. Safety and cleanliness of the spaces was not documented.	Partial
GP21. Provide the opportunity for all age groups to access space and school sporting facilities for physical activity outside of the curriculum.	Yes ^{103, 108,137}	Sporting equipment was available during breaks in 18 out of 26 schools.	Partial
GP22. Ensure that physical education meets the needs and interests of all students and is tailored to boys and girls and associated with fun, not punishment.	Partial ¹⁰⁷	Ten head teachers out of 17 reported equal attendance of girls and boys in physical activities, and 7 reported more boys attending physical activity classes than girls.	Partial
GP23. Advocate for walking and/or cycling as forms of transport for school commutes.	No	Not documented.	N/D
Water, sanitation and hygiene	Yes		Partial
GP24. Ensure that safe drinking water is always available and easily accessible throughout the school premises and free of charge.	Yes ^{103,106,117, 129,137}	Safe drinking water was observed as easily accessible throughout the school premises and free of charge in all 29 schools observed.	Yes
GP25. Ensure access to appropriate hand washing, personal hygiene and sanitation facilities with running water and soap to all students, especially close to toilets.	Yes ^{106,117,120}	Sanitation facilities were available in all 30 schools. Hand-washing station with running water was available in 30 schools. Soap was available in 7 schools out of 30 at the time of observation. At meals serving points, hand-washing stations were available in 29 out of 30 schools and soap/hand sanitizer were available in 18 schools out of 30 schools.	Partial
GP26. Make clean, age- and gender-appropriate sanitation facilities and products (including menstrual supplies) available and easily accessible to all students.	Yes ^{103,106,107, 120,133,134,135,137}	Sanitation facilities are separate for boys and girls in all schools. Easy access to toilets was provided in 22 out of 30 schools. Toilets were described as clean for 26 and menstrual supplies were provided in 25 schools (with regular provision in 10 schools and less regular provision in 8 schools).	Partial
GP27. Promote safe hygiene and sanitary behaviour.	Yes ^{103,106,117, 137}	Curriculum included hygiene and sanitation education in 24 out of 29 schools.	Yes
School gardens	Partial		Partial
GP28. Use school or urban gardens as a learning platform that can support school-based food and nutrition education.	Yes ^{100, 102, 103, 112, 115, 129}	School gardens were set-up in the compound of 26 schools out of 30. School gardens were used as a learning platform in 19 school.	Yes
GP29. Ensure that food from school gardens is nutrient-dense.	No	Schools grew mainly vegetables (but diversity was limited), and sometimes fruits, cereals and animal source food.	Partial
Domain 2: School community			
Community involvement	Yes		Partial
GP30. Raise and build awareness about healthy diets to improve diets of the wider community.	Yes ^{103,106,112, 126,137}	There were 24 head teachers out of 30 describing their schools as currently implementing programmes involving the wider community and 23 reporting that parents were given information about healthy and nutritious foods during the school year through meetings.	Partial
GP31. Ensure community mobilisation, ownership and	Yes ^{103,112}	The community was mainly involved in supplying food in the school.	Yes

involvement in the food and nutrition programme.		Teachers were involved through the school committee in conducting quality checks during food procurement, food preparation and service, managing nutrition-related extra-curricular activities. Parents contributed by paying school fees and participated in menu development through the parents' association or school committees.	
Capacity development and training of the school community	Partial		Partial
GP32. Strengthen capacity of school staff, vendors and suppliers to implement school food/nutrition activities.	Yes ^{102,103,112,137}	Head teachers mentioned school staff receiving training in nutrition in 14/30 schools. Caterers received training on how to prepare healthy and nutritious meals in 13/30 schools.	Partial
GP33. Make training manuals/guidelines available and accessible for staff.	No	Not documented.	N/D
GP34. Provide health screening for school staff and give free counselling.	No	Not documented.	N/D
Livelihood of suppliers	Partial		Partial
GP35. Procure food for school food programmes from local farmers.	Yes ¹¹²	In urban and peri-urban areas, the possibility for schools to directly connect with farmers could be limited. However, school meal programmes were mainly locally sourced in 26 schools, with 25 schools purchasing food from the local market or businesses and 6 schools directly from local small-scale farmers, organizations, or community groups.	Yes
GP36. Strengthen the capacities of smallholder farmers to produce nutritious food.	Partial ¹¹²	Some NGOs had implemented projects to support the farming of healthy foods (fruits and vegetables) and linking the farmers to the school, for access to healthy foods at cheaper prices and for the adoption of the health-promoting schools' framework by the WHO. Suggestions were made by school staff to strengthen smallholder farmers by supporting groups and coalitions, capacity to receive safety certification and for financial capacity.	Partial
GP37. Incentivise nutrition-sensitive value-chain actors to produce and process high-quality food for schools.	No	No evidence on current activities conducted at school level. However, one initiative was mentioned at higher level, such as the fishery programmes for schools.	No
Domain 3: External food environment			
Food provision	No		No
GP38. Limit exposure to unhealthy food outside the school premises by defining zones or public planning laws promoting healthy zones within a certain perimeter of school grounds in which unhealthy foods should not be sold.	No	Unhealthy food and drinks were sold at the gate of the school in 16 out of 30 schools. Sweets and snacks were sold at the gate of 10 schools and beverages at the gate of 9 schools.	No
Food promotion	No		No
GP39. Regulate the promotion, marketing and advertising of foods, snacks and beverages high in energy, sugar, fat and salt around schools.	No	No evidence of any policy regulating the promotion, marketing and advertisement of unhealthy food and beverage around the schools. Food advertisements at the gate of the school was observed in only one school.	No
Food prices	No		N/A
No global recommendation identified	No	N/A	N/A
Food labelling	No		
No global recommendation identified	No	N/A	N/A
Food safety	No		
No global recommendation identified	No	N/A	N/A
Domain 4: Policy environment			

School food and nutrition policy or institutional framework	Partial		Partial
GP40. Put in place a school policy which addresses actions related to food and nutrition.	No	School-specific policies/guidelines/regulations included school meal programmes and food procurement, standardised school menus, nutrition curriculum restrictions on the sale of foods/food vending within the school, and restrictions on foods by students from outside the school.	Partial
GP41. Set up a school committee including the whole school community to routinely discuss policy implementation, monitoring and financing related to food and nutrition.	Yes ^{106,112,137}	Existing school committee in 26 out of 30 schools. However, caterers were only included in the committees of 7 schools, accountant in one school, parents' associations in 3 schools, and students in 3 schools.	Partial
Domain 5: Cross-cutting issues			
Gender sensitivity	Partial		Partial
GP42. Ensure equal access to education, activities and services for girls and boys.	Yes ^{106,107,109,128,133,134,135}	Gender equality / equity program implemented in 19 out of 30 schools. Only 6 schools out of 17 mixed-gender schools provided adapted place to change clothes before and after physical education for boys and girls.	Partial
GP43. Encourage equal involvement of women in school food and nutrition programmes as cooks, farmers or programme managers without overburdening them.	Partial ¹⁰⁷	Not documented.	N/D
Participation	Partial		Partial
GP44. Involve students in the design, development and implementation of school food and nutrition projects.	Yes ^{106,116,117,118}	In the 26 school committees, 3 included students. Some programmes designed to involve students existed, such as the 4K Club Kenya. Schools were aware of this programme in 24 out of 30 schools, but the programme was not implemented in many schools. Efforts were made to consult students in developing the school menu and give feedback on how to improve the diet provided in some schools.	Partial
GP45. Facilitate students-led projects on food and nutrition.	Partial ¹⁰⁰	School gardens were managed by students in 14 out of 24 schools and by school staff in 18 schools.	Partial
Social inclusion and human rights	Partial		Partial
GP46. Take affirmative action against bullying, stigmatisation and discrimination.	Partial ^{106,107,128}	Sensitization about gender-based violence and bullying was conducted in 25 out of 29 schools.	Partial
GP47. Ensure that all students have access to a full, healthy, free or subsidised meals and education for all in line with rights-based and inequality sensitive approaches.	Partial ^{106,112}	Food prices, subsidies, cash support for meals and education implemented in 6 out of 30 schools, through partially subsidized SMP for students.	Partial
Environmental sustainability	Partial		ND
GP48. Ensure environmental sustainability of food procurement by considering the use of traditional, neglected and underutilised foods.	No	Not documented.	N/D
GP49. Promote sustainable diets, e.g. by setting limits on the number of servings or by requiring a set number of plant-based meals.	No	Not fully adapted to the context of limited resources. Only 3 schools reported to address the topic of environmentally sustainable diets in specific nutrition education sessions.	N/D
GP50. Set criteria for reducing food loss and waste.	No	Not documented.	N/D
GP51. Encourage fuel and energy saving.	Yes ^{112,124}	Traditional cooking facilities with open fireplaces were used to cook in 19 schools.	No
Safety and violence prevention	Yes		N/D

GP52. Put in place rules and guidelines for staff and students related to physical safety, corporal punishment of students by teachers, fighting and other forms of violence and sexual harassment or substance abuse.	Yes ^{103,106,107,130,133,137}	Not documented.	N/D
GP53. Trained teachers to monitor, administer and teach first aid and basic safety.	Yes ¹⁰⁶	Not documented.	N/D
Private sector engagement	No		N/D
GP54. Monitor the involvement of the private sector in school food and nutrition activities to ensure it promotes nutritious school meals.	No	Not documented.	N/D
GP55. Ensure that the private sector is not involved in the development of a school food and nutrition policy or a member of the school committee.	No	Private sector engaged in 2 school committees, but non-food related.	No
Friendly, trusting climate at school	Partial		N/D
GP56. Promote good and equitable relationships between students and staff, as well as with families and the wider community.	Yes ^{107,118}	Not documented.	N/D
GP57. Promote open and dynamic communication and interactions between all school community members.	No	Schools had established school implementing committee in 26 schools. Members actively involved were mainly teachers and principals. Approximately one-third of the committee members comprised catering staff, while parents and students were limitedly represented.	No
GP58. Avoid overburdening communities, parents, teachers and school staff with participation in school food/nutrition programmes.	No	Not documented.	N/D

Notes: Rates for the 58 good practice indicators (GPIs) were defined as follows: No: No evidence was found for the GPI in any of the schools; Partial: evidence was found for the GPI, in some of the schools; Yes: evidence was found for the GPI, in every or almost every schools. Rates for the components of SFNPs were defined as: No: Most of the GPIs from the component were not implemented, i.e. rated as "No"; Partial: Most of the GPIs from the component were partially implemented, i.e. rated as "Partial"; Yes: Most of the GPIs from the component were implemented, i.e. rated as "Yes". In case of not documented (N/D) GPIs, components were given the most conservative rates. Evidence on implementation was based on quantitative data and needed to be supported by qualitative data.

Discussion and recommendations

Overall, evidence found of current implementation of a comprehensive SFNP in 30 schools, following the 58 GPIs, was that:

- 12/58 indicators were implemented fully;
- 21/58 indicators were partially implemented;
- 11/58 indicators were not implemented at all;
- 14/58 indicators were not investigated during our study.

We did not document the current implementation for 14/58 indicators during our study due to: i) the need to prioritize components to investigate in relation to our main research objectives (e.g. safety and violence prevention and climate at school), ii) several indicators would have required to interview parents, students, food suppliers or farmers, private sector, and iii) some indicators were found to be not completely relevant to the local context (e.g. promote sustainable diets through limiting number of servings). In addition, 3 external school food environment components (namely food prices, food labelling, and food safety) had no global level indicator identified during the step of benchmark or good practice indicators identification. They are identified by * in the framework in Figure 9.

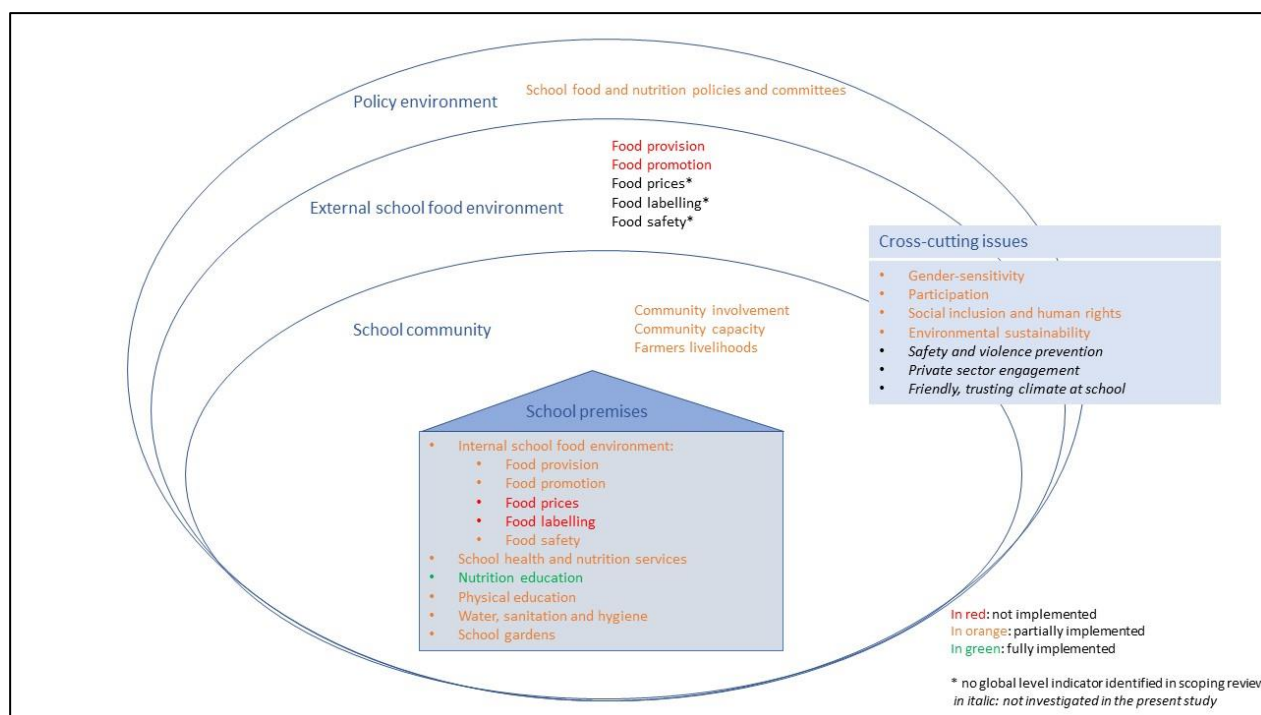


Figure 9. Framework summarizing findings on the level of implementation of comprehensive school food and nutrition programmes

At the level of components of a comprehensive SFNPs, we found that:

- 1/23 component was implemented fully, namely “Nutrition education”;
- 15/23 components were partially implemented;
- 4/23 components were not implemented at all;
- 3/23 were not investigated during our study.

Overall, within the **school premises domain**, there is partial implementation of most good practice indicators at national and school level, but with room for improvement potentially into full implementation. Two elements that have no implementation at all and would require attention except for two elements that would require attention: food prices and food labelling. Although food provision rated as “Partial”, important efforts are made by the school communities to deliver healthy meals (or any meals) through SMP and local food procurement, planning for balanced meals and menus, and food diversity. High prices for fresh foods and financial constraints were mentioned as the main challenges faced by schools in ensuring that adolescents have nutritious and balanced foods. The situation is made worse by the poor socioeconomic conditions of most of the parents, who face challenges paying SMP fees, which in turn leads to schools having credit with school food suppliers. The others 6 elements rated as “Partial” within the school premises domains, namely food safety, school health and nutrition services, nutrition and physical education, WASH and school gardens, show consistently that schools are making strong efforts despite the need for investments in school infrastructure, e.g. kitchens.

Within the **school community domain**, all components were partially implemented. The wider community seemed involved mainly through school food procurement. However, engagement of students and parents, as well as other school community members would benefit comprehensive SFNP implementation. The **external school food environment** was explored partially in our study, as we limited data collection to observations on food provision and food promotion conducted at the gate of the school due to resources limitation to conduct larger survey. The **school policy environment** was rated as partially implemented. Facilitating engagement from the government, ministries, and

counties (through supporting existing multisectoral platforms) would benefit to SFNPs with a special focus on adolescents, at the school level.

Some of the challenges highlighted by the policy makers/programme implementers and by school community members interviewed, to implement comprehensive SFNPs included: inadequate policy guidance specific to adolescent nutrition, and even less within the school context; limited dissemination of existing policies and inadequate resources to implement/adopt the existing policies at the county level; inadequate multi-sectorial collaboration platforms and linkages by the relevant departments such as health, education, and agriculture for implementation of adolescent nutrition programmes; minimal autonomy at the subnational level to design and implement independent programmes; minimal involvement of the nutrition department in school nutrition menu planning and supervision within the Ministry of Education.

Finally, the **cross-cutting issues** domain was partially documented in our study. However, gender equity, participation and social inclusion are elements that do exist in national policies and merit expansion, although limited current implementation.

From the evidence found (gathering qualitative and quantitative results), several recommendations to policy makers and implementers at national, county, school, and community level could be made to strengthen implementation of comprehensive SFNPs in urban and peri-urban settings in Kenya (Table 22).

Table 22. Synthesis of international good practice indicators identified from literature review, policy evidence, implementation levels in 30 schools in Kenya, and recommendations to key actors to strengthen implementation of comprehensive SFNPs.

Domains and components used to structure good practices indicators for a comprehensive SFNP	Evidence from Kenyan policy documents	Level of implementation in 30 schools	Recommendations/way forward	Key actors/ Level 1. National/ government 2. County 3. School 4. Community
1. School premises				
Food provision	Partial	Partial	1. Increase investment for school infrastructures (kitchens, cooking, dining and storage facilities).	1, 2
			2. Improve diversity of food groups in SMP and limit access to unhealthy snacks and sweets within the school premises to improve student's diets.	1, 2, 3, 4
Food promotion	Partial	Partial	3. Create or reinforce regulations on advertising for unhealthy foods and beverages on school premises. Limit the involvement of private food companies in schools	1, 2, 3
Food prices	No	No	4. Provide subsidies to schools to provide healthy food through SMPs (and for limited resources settings, subsidies to support SMPs) and to improve student's diets.	1, 2
			5. Provide subsidies for parents that cannot afford SMPs.	1, 2
Food labelling	No	No	6. Make menus on display mandatory.	1, 2
			7. Sensitization and enforcement of front of pack nutrition labelling within the school environment.	1, 2
Food safety	Yes	Partial	8. Reinforce food safety knowledge and procedures in schools, through trainings, reinforcing awareness and disseminating guidelines.	1,2, 3
			9. Facilitate or reinforce regular food safety monitoring and inspections in schools.	1, 2
School health and nutrition services	Yes	Partial	10. Reinforce implementation of services in schools (e.g. regular deworming, height and weight monitoring and micronutrients supplementation).	1, 2, 3
Nutrition education	Yes	Yes	11. Use innovative approaches and platforms to raise awareness on nutrition, health, and environmental issues in adolescents in schools e.g. school health clubs, 4k/young farmers clubs, music, and drama clubs/festivals.	2, 3, 4
Physical education	Partial	Partial	12. Reinforce implementation of physical activities by students in school and increase investments in physical activity infrastructure in the schools.	1,2, 3
Water, sanitation and hygiene	Yes	Partial	13. Reinforce implementation in schools that still face difficulties in consistent supply of clean and safe water.	2, 3
School gardens	Partial	Partial	14. Reinforce implementation in schools, for example through scaling up of the 4K clubs/young farmers club, as relaunched by the government in 2021, to serve as a nutrition education tool and to improve SMPs and student's diets.	2, 3, 4
2. School community				
Community involvement	Yes	Partial	15. Include more systematically caterers, parents and students in the school food committees.	3, 4
Capacity development and training of the school community	Partial	Partial	16. Strengthen nutrition awareness and capacity building for teachers, caterers, parents, and the wider community.	1,2, 3, 4
Livelihood of suppliers	Partial	Partial	17. Incentivize smallholders or food suppliers to strengthen nutritious food value chains, from farm to schools.	1, 2, 3, 4
3. External food environment				

Food provision	No	No	18. Regulate food environment outside schools, banning unhealthy food vendors in a perimeter around schools.	1, 2
Food promotion	No	No	19. Restrict marketing of unhealthy foods to children and adolescent.	1, 2
Food prices	No	N/A	20. Increase taxes on unhealthy foods to reduce easy access around the school environment.	1, 2
Food labelling	No	N/A	21. Develop front of pack nutrition labelling and enforce its implementation within and around the school environment.	1, 2
Food safety	No	N/A	22. Raise awareness and sensitize the food vendors around the school on food safety.	1, 2,3
4. School policy environment				
School food and nutrition policy or institutional framework	Partial	Partial	23. Identify existing multi-sectoral platforms and strengthen activities facilitating engagement between the relevant ministries involved in school nutrition (health, education, and any other sector that is relevant), including county executives.	1, 2
			24. Provide clear policy guidance at the National or County level, on the implementation (operationalization of the policies) and coordination of SFNPs with clear allocation of roles and responsibilities. This could be done through new policies, revision of existing policies and extensive dissemination of these policies.	1, 2
			25. Give more focused attention on comprehensive SFNP and adolescent nutrition at the county level (county nutrition action plans).	1, 2
			26. Deliver higher level advocacy on adolescent nutrition and school feeding programs among key decision makers at all levels including school principals, board of governors and parent teacher associations.	1, 2, 3, 4
5. Cross-cutting issues				
Gender sensitivity	Partial	Partial	27. Encourage implementation of gender equality and equity programmes.	1, 2, 3
Participation	Partial	Partial	28. Involve students in the design, development, and/or implementation of school food and nutrition projects in schools.	1, 2, 3
Social inclusion and human rights	Partial	Partial	29. Promote that “all students have access to full, healthy, free, or subsidized meals and education for all”, as recommended internationally, including for students who have special diets	1,2,3, 4
Environmental sustainability	Partial	N/D		N/A
Safety and violence prevention	Yes	N/D		N/A
Private sector engagement	No	N/D		N/A
Friendly, trusting climate at school	Partial	N/D		N/A

Notes: Acronyms: Non-documented (N/D); Non-Applicable (N/A)

For researchers, some recommendations can be made, including:

- Develop GPs to assess food prices, food labelling and food safety in the external school food environment.
- Use the list of GPs in specific contexts, revise indicators that are not context relevant. For example, the “Environmental sustainability” recommendations were difficult to assess in the Kenyan context. In such a context, the GPs could focus on sustainable production method – such as agroecology – instead of limiting the consumption of meat and opting for plant-based alternatives. Since agroecology explicitly incorporate equity and access, this is a viable and adapted strategy to be promoted for a transition to sustainable food systems in low-income settings. GPs related to reduction of post-harvest lost, use of solar energy, and wastewater treatment for reuse could be considered as well.

Conclusions

This report describes the findings of the survey conducted in 30 schools to assess the current implementation of comprehensive SFNPs in two urban and peri-urban settings in Kenya. Overall, components of comprehensive SFNPs were found to be partially implemented in the 30 schools of the study. Therefore, this report proposes key recommendations that either governments and local authorities, or schools and local communities should consider to improve school adolescents' diet and nutrition. However, transitioning from recommendations to actions that are adapted, accepted, sustainable and truly transformative requires a participatory approach in which the local community is actively involved as an integral part of the implementation. The following step of the research project is to conduct participatory workshops with the school community to identify and reflect upon the challenges and solutions faced in implementing comprehensive SFNPs in urban and peri-urban settings in Kenya.

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Annexes

Annex 1. Head teachers' interview questionnaire

Cover

1	County	1. Nairobi 2. Kiambu
2	Sub-county	[CAPI refer to Codelist]
3	School ID Nambari ya kitambulisho cha shule	1-30
4	Name of school Jina la shule	_____
5	Type of school Aina ya shule	1. Public 2. Private
6	Level of School Kiwango cha shule	1. Junior school / primary 2. High school / secondary 3. Both
7	Name of interviewer Jina la mhojiwa	[CAPI refer to codelist]
8	Date of Interview Tarehe ya mahojiano	[CAPI : Time Stamp Autofill]

Identification of the respondent

Utambulisho wa mhojiwa

No	Question Swali	Answer options Chaguo la kujibu
1	Respondent function Cheo cha mhojiwa Enumerator: if no one is available, you need to set up an appointment for another day Mdadisi; Ikiwa hakuna mtu, unahitaji kuweka uteuzi wa siku nyingine CAPI: If Q2=9, skip to end of the questionnaire	1. School Head 2. Assistant school head 3. School administrator 4. Other, specify 9: If no one is available, the interview is postponed
2	Respondent's gender Jinsia ya mhojiwa	1. Male 2. Female
3	How old are you? (years) Je, una umri gani? (Miaka)	1. 20 - 29 yo 2. 30 - 39 yo 3. 40 - 49 yo 4. 50 - 59 yo 5. 60 yo and above 99 DK
4	What is the highest level of education you have completed? Je, umehitimu kiwango kipi cha elimu?	1. Certificate 2. Diploma 3. Graduate, Bachelor 4. Postgraduate Diploma 5. Postgraduate Master 6. Postgraduate PhD

1. The school

Shule

Enumerator/Mdadisi

Read: I will now ask you a few statistics about the school.

Soma: Nitakuuliza takwimu chache kuhusu shule

No	Question Swali	Answer options Chaguo la kujibu
1	In what year was the school established? Shule ilianzishwa mwaka upi?	[____] [1900 – 2023]
2	What is the minimum age of the students? (years) Umri mdogo wa wanafunzi ni upi? (miaka) SELECT ONE CAPI : liste déroulante	1. under 10 yo 2. 10 yo 3. 11 yo 4. 12 yo 5. 13 yo 6. 14 yo 7. 15 yo 8. 16 yo 9. 17 and above
3	What is the maximum age of the students? (years) Ni umri gani wa juu zaidi wa wanafunzi?(miaka) SELECT ONE CAPI : liste déroulante	1. under 15 yo 2. 15 yo 3. 16 yo 4. 17 yo 5. 18 yo 6. 19 yo 7. 20 yo 8. 21 yo 9. 22 yo and above
4	How many BOYS are enrolled in this school? Shule hii ina wanafunzi wangapi wa kiume?	[____] boys 999 DK Not applicable (if girls school only) [0-5000]
5	How many GIRLS are enrolled in this school? Shule hii ina wanafunzi wangapi wa kike? Enumerator: if the respondent doesn't know, please help him estimate	[____] girls 999 DK Not applicable (if boys school only) [0 – 5000]
6	Please indicate the levels that exist in this school ? Tafadhali nieleze viwango vya madarasa katika shule hii. MULTIPLE CHOICE	1. Grade 6 2. Grade 7 3. Grade 8 4. Form 1 5. Form 2 6. Form 3 7. Form 4
7	How many teachers currently work in this school? Ni waalimu wangapi wanafanya kazi katika shule hii kwa sasa?	[__] [1-200]

2. School food or nutrition policies, programmes, interventions or services

Sera za Chakula au lische, miradi, mipango ya kuingilia kati au huduma shuleni

Enumerator, please read: Now, I would like to ask you about school food policies or programmes.

Mdadisi, tafadhali soma: Ningetaka unieleze kuhusu sera au miradi za chakula/lische shuleni

No	Question	Answer options
1	I am going to read to you a list of national policies now. Which ones are you aware of? Kwa sasa, naenda kusomea orodha ya sera/ miradi zifuatazo za kitaifa? Unafahamu gani? Enumerator: read all the policies/programs/ interventions Mdadisi : soma sera au miradi zote zilizoordheshwa	
a	Kenyan school nutrition strategy	1 Yes 2 No
b	KENYA school health policy 2018	
c	School health Implementation strategy	
d	National nutrition Action Plan 2018	
e	National guidelines for healthy diets	
f	School Meals Programme	
g	HGSMP (homegrown school meals program)	
h	School menu guide	
i	School nutrition curriculum	
j	4K Club Kenya	

Enumerator read : Now I am going to ask you about different programmes and interventions at your school.

2	Could you tell me if any programme, intervention or service on [] is currently implemented in this school, related to: Unaweza kunieleza ikiwa kuna uingiliaji kati, mradi au, huduma [] unaotekelezwa katika shule hii kwa sasa? CAPI: If Q2=1, enable Q3	
a	HGSMP (Homegrown School Meals Program)	1 Yes 2 No 9 DK
b	Food and meal provision	
c	Food prices, subsidies, cash	
d	Food and menu labelling (nutrition information)	
e	Food safety	
f	Micronutrients supplementation (such as iron, iodine, zinc, or Vitamin A)	
g	Vaccination and immunizations (such as diphtheria, HPV, tetanus, measles, and rubella)	
h	Regular monitoring of weight and height	
i	Deworming	
j	Nutrition standards for procurement	
k	Food skills, literacy/Nutrition education (extra-curriculum)	
l	Water, sanitation and hygiene	
m	Gender equality / equity	
n	Environmental sustainability	
o	Community involvement/	

p	Sexual and reproductive health and rights	
q	Teenage pregnancy or adolescents with children	
r	Adolescents with disabilities (blindness, deafness...)	
s	Other Nutrition & Health services (specify)	
3	Who is implementing [Q2a-Q2s]? Nani anatekeleza?	1. Government 2. United Nations Agencies 3. NGO, if yes please specify 4. Individual 5. Private sector 6. School/Self sponsored 7 Parents contribution 8. Other, if yes please specify MULTIPLE CHOICE
4	Is there a school implementing committee/referent for these programmes, interventions or services? Je, kuna kamati inayoshughulikia utekelezaji wa miradi, uingiliaji kati au huduma katika shule hii? CAPI : if Q4 = 2/9 go to next module	1 Yes 2 No 9 DK
5	Who is part of the school implementing committee ? Je, ni kina nani katika shue hii wanaoiunda ile kamati ya utekelezaji?	1 Principal/Head teacher 2 Teacher 3 Caterer 4 Government implementers 5 NGO 6 Other, please specify 9 DK
6	How many people are part of the school implementing committee ? (total number of persons) Je, ni watu wangapi waliokatika ile kamati ya utekelezaji? (taja idadi kamili)	[_ _] [1-50]

3. Food provision

Utoaji wa chakula

Enumerator please read: Now, I would like to ask you about the food available for students at school

No	Question Swali	Answer options Chaguo la jibu
1	Do students bring their own food to school? Je, wanafunzi hujibebaa chakula wakija shuleni? CAPI: If Q1=2, go to Q3	1 Yes /Ndio 2 No/Hapana 9 DK
2	Roughly how many students bring food to school? Takriban wanafunzi wangapi hujibebaa chakula shuleni? (%)	1. All of students 2. Most of students 3. Half of students 4. A few students 5. None 9 DK
3	From your observation, where do most students usually eat meals (e.g. lunch, not snacks) during the school day? Kwa maoni yako, wanafunzi wengi hukula wapi chakula chao cha mcha (Na sio vitafunio) wakiwa shuleni? MULTIPLE CHOICE	1. In their regular classroom 2. In a school cafeteria 3. In a dining hall 4. Outside on school grounds 5. Home and return 6. Students do not eat meals during the school day (school day is half day) 7. Other, specify 9. DK

Enumerator read : Now I am going to ask you about food provision:

	<p>4. In this school, is there any [] routinely providing any food, meals, snack or beverage)?</p> <p>Je, kuna [] inayowapa wanafunzi vyakula, vitafunio au vinywaji vyovyote mara kwa mara?</p>	<p>5. Which of the following meals or snacks is routinely made available by [] to students?</p> <p>Kati ya vyakula/vitafunio vifuatavyo, ni vipi hupeanwa na [] kwa wanafunzi mara kwa mara?</p> <p>MULTIPLE RESPONSE</p>	<p>6. How many students benefit from it?</p> <p>Wanafunzi wangapi wananufaidika na mradi huu/hizi?</p>	<p>7. Who is responsible for planning the food provision of []?</p> <p>Nani anawajibika katika mipango ya miradi hizi za vyakula?</p>
	<p>1. Yes 2. No 9. DK</p> <p>If Q5=2 9, go to next line</p>	<p>1. Breakfast 2. Lunch 3. Snacks 4. Evening meals 5. Take home rations (planned) 9. DK</p>	<p>1. All of students 2. Most of students 3. Half of students 4. Only a few students 9. DK</p>	<p>1 MoEd 2 MoH 3 School principal 4 Vendor 5 NGO 6 United Nations 7 School caterer 8 Students (School clubs) 9 Other, specify -99 DK</p>
A. School meal programme				
B. School canteen				
C. External food vendor coming within the school premise				X

10	<p>Where is food for [] prepared? Chakula hicho huaandaliwa wapi?</p> <p>Q10 only for A CAPI: if Q10=1 2, enable Q11</p>	<ol style="list-style-type: none"> 1. On the school premise, in the school kitchen facility 2. On the school premise, in a mobile cooking facility 3. Outside the school premise, in a centralized (not private) facility 4. Outside the school premise, in a private facility, such as a caterer 5. Off-site in food vendor's home 9 DK
11	<p>What is/are the source(s) of the meal/food provided (as part of [])? Je, chakula ya miradi hizi hutolewa wapi?</p> <p>Q11 only for A MULTIPLE CHOICE Enumerator read all the options</p>	<ol style="list-style-type: none"> 1. Food is bought from local market/business 2. Food is purchased from other regions in the country 3. Food is purchased directly from local small scale farmers/organizations or community groups 4. Food comes from school garden 5. Food is imported from outside the country 6. Food is provided by parents 7. Food is provided by an NGO/UN 8. Food is provided by the government 9. Other -99 DK
12	<p>Are any foods provided in this school (meals and snacks) fortified with micronutrients (such as iron, iodine, zinc, or Vitamin A)? Kati ya vyakula wanavyopewa wanafunzi (vyakula au vitafunio) kuna vile vilivyoimarishwa kwa virutubisho (kama vile iron, iodine, zinc au vitamin A) ?</p>	<ol style="list-style-type: none"> 1. Fortified meals 2. Fortified snacks 3. Fortified drinks 4. Supplements (Multi micronutrient powder, vitamin A supplements, ...) 5. None 9 DK
13	<p>Is there a garden (or a farm) in your school/compound? Je, mna shamba yeyote kwenye shule yenu? CAPI: If Q13=2, go to next module</p>	<ol style="list-style-type: none"> 1 Yes 2 No
14	<p>What is produced in the garden/farm? Ni nini kinachokuzwa kwenye shamba la shule?</p>	<ol style="list-style-type: none"> 1. Vegetables 2. Fruits 3. Tubers / roots (e.g potatoes, sweet potatoes, yams etc) 4. Cereals / grains (e.g maize) 5. Legumes / pulses (e.g beans) 6. Animal (e.g. chicken, cow, goat) for Eggs, Milk etc 7. Other, specify 9 DK
15	<p>Who tends/manages the garden? Ni nani anafanya kazi kwa / kusimamia shamba hilo?</p> <p>Multiple choice</p>	<ol style="list-style-type: none"> 1. School staff 2. students 3. Parents 4. Others (please specify)
16	<p>How is the food produced in the garden used? Je, vyakula vinavyokuzwa kwenye shamba hilo vinatumika vipi?</p> <p>Multiple choice</p>	<ol style="list-style-type: none"> 1. Used in teaching curriculum 2. students take products home 3. Staff take products home 4. Products are incorporated in meals provided by school 5. Products are sold

4. Food marketing

Usambazaji na uuzaji wa vyakula

No	Question Swali	Answer options Chaguo la jibu
----	-------------------	----------------------------------

1a	Do you receive sponsorships from any food and beverage companies for programmes, including scholarships, school events and fundraisings ? Je,mnapokea ufadhili wowote kutoka kwa makapuni ya vyakula na vinywaji,kwa ajili ya mipango ikiwemo pamoja na udhamini,tukio za shule na kuongeza fedha? Multiple choice If Q1a=2, go to next section	1 Yes 2 No
1b	Which company is sponsoring your school? Kampuni ipi inafadhili shule yenu?	text
2	Do food and drink companies promote their brands and foods in this school through : Je, makampuni ya vyakula na vinywaji hutumia mbinu zipi kukuza bidhaa zao ikiwemo vyakula katika shule hii :	1. Free give aways 2. Use of cartoon characters 3. Celebrity endorsements 4. Advertising (posters, banners) 5. Price discounts 6. Wall painting/Drawing 7. Other (please specify) 8 No they do not

5. Curriculum and resources

Mtaala na rasilimali

No	Question Swali	Answer options
1	Is a food or nutrition subject taught in your school? Je, kuna somo la chakula au lishe linalofundishwa katika shule yako? CAPI: If Q1=2, go to Q5	1 Yes 2 No 9 DK
2	In which grade is it taught? Je, linafundishwa katika kiwango/darasa gani? Multiple choice	1. Grade 6 2. Grade 7 3. Grade 8 4. Form 1 5. Form 2 6. Form 3 7. Form 4 8. Other, specify 9. DK
3	Which nutrition problems are addressed in the nutrition education session? Je, ni matatizo/changamoto gani ya lishe yanazungumziwa katika kipindi cha elimu ya lishe? Multiple answers Enumerator, read options	1. Undernutrition 2. Overweight/obesity and related Non Communicable Diseases 3. Micronutrient deficiencies (anemia, deficiencies in vitamins) 4. Healthy diets 5. Food safety 6. Environmental sustainable diets 7. Other, specify 9 DK
4	What nutrition education resources are available at school? Je, ni rasilimali zipi za elimu ya lishe zinazopatikana shuleni?	1. Books 2. Brochures/Leaflets 3. Food pyramids/food models (eg. plastic bananas, apples) 4. Posters 5. Others 6. No resources 9 DK
5	Have teachers or other school staff been trained in nutrition? Je, shule yako huandaa mafunzo ya lishe kwa wafanyakazi wote wa shule hii?	1 Yes 2 No 9 DK

6	<p>Enumerator : Now I want to ask you about other curriculum topics : Mdadisi: Sasa, nataka kuuliza maswali kuhusu mada mengine ya mtaala</p> <p>Does the school curriculum include hygiene and sanitation education? Je, mtaala wa shule unajumuisha elimu ya usafi na usafi wa mazingira?</p>	<p>1 Yes 2 No 9 DK</p>
7	<p>Does the school curriculum include health education? Je, mtaala wa shule unajumuisha elimu ya afya?</p>	<p>1 Yes 2 No 9 DK</p>
8	<p>Does the school curriculum include sexual and reproductive health education? Je, mtaala wa shule unajumuisha elimu ya afya ya uzazi na uzazi?</p>	<p>1 Yes 2 No 9 DK</p>
9	<p>Does the school curriculum include gender education (sensitization about gender based violence, bullying etc ?...) Je, mtaala wa shule unajumuisha elimu ya jinsia ,(uhamasishaji kuhusu unyanyasaji/ukatili wa jinsia, uonevu na kadhalika?)</p>	<p>1 Yes 2 No 9 DK</p>
10	<p>Does the school curriculum include environmental and climate education? Je, mtaala wa elimu unajumuisha elimu ya mazingira na hali ya hewa?</p>	<p>1 Yes 2 No 9 DK</p>
11	<p>Are parents given information about healthy and nutritious food at any point during the school year? Je, wazazi hupata mafundisho yoyote kuhusu afya na vyakula vyenye lishe bora wakati wowote katika kalenda ya shule? CAPI : If Q11=1 enable Q12</p>	<p>1 Yes 2 No 9 DK</p>
12	<p>How do they receive information about healthy and nutritious food? Je, wanapata mafundisho hayo vipi?</p>	<p>1 Meeting 2 Parents-teacher dairy 3 Emails 4 Posters/Messages in front of the school 5 Other, specify 9 DK</p>

6. Health and physical activity

Enumerator read: Now I will ask you questions about health and physical activity

Mdadisi: Nataka kuuliza maswali kuhusu afya na mazoezi ya viungo vya mwili

No	Question Swali	Answer options
1	<p>Do you have a doctor, a nurse, a community health worker or community health volunteer coming at the school on a regular basis to monitor children's health? Je, kuna daktari, muuguzi, mfanyi kazi wa afya ya jamii au mfanyi kazi wa afya ya jamii wa kujitolea ambaye huja shuleni mara kwa mara, kufuatilia afya ya watoto?</p>	<p>1 Yes 2 No Other</p>
2	<p>Do you have a programme, intervention or services at the school on physical activity? Je, kuna mradi, uingiliaji kati au huduma shuleni inayohusu mazoezi ya viungo vya mwili? CAPI: if Q2=2 9, go to Q5</p>	<p>1 Yes 2 No 9 DK</p>
3	<p>How many times a week do students have physical activity in this school? Je, ni mara ngapi kwa wiki wanafunzi katika shule hii hufanya mazoezi ya viungo vya mwili ?</p>	<p>1. Every day 2. 2 to 3 times a week 3. Once a week 4. Never</p>
4	<p>Do you observe any gender difference in attendance to physical activity in this</p>	<p>1. No, boys and girls attend equally</p>

	school? Je, wewe huona utofauti wowote baina ya waschana na wavulana katika mazoezi ya viungo vya mwili katika shule hii?	2. Yes, more male attend than female 3. Yes, more female attend than male 8 Not applicable (for boys/girls schools only) 9 DK
5	Does this school have a specific space for physical education class? Je, Shule hii ina nafasi maalum iliyotengwa haswa ya elimu ya mazoezi ya viungo vya mwili?	1 Yes (indoor) 2 Yes (outdoor) 3 Both (indoor and outdoor) 3 No
6	Does this school provide a place where males and females can separately and privately change clothes before and after physical education? Je, Shule hii ina mahali kando na pa siri ambapo wanafunzi wanaume na wanawake wanaweza kubadilisha nguo kabla na baada ya elimu ya mazoezi ya viungo vya mwili?	1 Yes 2 No 8 Not applicable for boys/girls schools only

7. Water, sanitation, and hygiene

Maji, usafi na usafi wa mazingira

Enumerator read : This is the last part of the questionnaire. I will now ask you questions about Water, sanitation and hygiene in your school.
Mdadisi: Hii ni sehemu ya mwisho ya dodoso hili. Nataka kuuliza maswali kuhusu maji, usafi na usafi wa mazingira katika shule hili

	Question	Answer options
1	Are there hand washing facilities in your school? Je, kuna vituo vya kunawa mikono shuleni kwenu? CAPI: if Q1=1, enable Q2 and Q3, If Q1=2/9, go to Q4	1 Yes 2 No 9 DK
2	How many hand washing facilities are in your school? Kama jibu lako ni ndio, kuna vituo vingapi vya kunawia mikono katika shule hii?	[] CAPI : constraint 1-50
3	Is soap available in the hand washing facilities? Je, sabuni inapatikana katika vituo vya kunawa mikono?	1 Yes in all facilities 2 Yes but not in all facilities 3 No 9 DK
4	Is clear/safe drinking water available for students ? Je, kuna maji safi na salama ya kunywa ya wanafunzi hapa shuleni?	1 Yes 2 No 9 DK
5	What is the main drinking water source? Je, maji ya kunywa hutolewa wapi sanasana?	1. piped water into the school 2. public standpipe 3. borehole 4. protected dug well 5. protected spring 6. rainwater collection 7. unprotected dug well 8. unprotected spring 9. cart with small tank/drum 10. tanker truck 11. surface water 12. Other, specify
6	What kind of sanitation facilities are available in your school? Je, ni vifaa aina gani vya usafi wa mazingira vinapatikana katika shule hii? Multiple choice	1. connection to a public sewer system 2. connection to a septic system 3. pour-flush latrine 4. ventilated improved pit latrine 5. public or shared latrine 6. open pit latrine 7. bucket latrine DK

7	How frequently are toilets or latrines cleaned? Je, vyoo husafishwa mara ngapi?	1 Twice a day or more 2 Daily 3 Almost daily 4 Twice a week 5 Once a week 6 Less than once a week 9 DK
8	What form of garbage disposal do you have in your school ? Ni utupaji gani wa taka ipo katika shule hii? Multiple choice CAPI : if Q8=1 ask 9	1. garbage collection 2. use of composite pit 3. burning 4. other, specify
9	How frequently is the garbage from the toilets or latrines removed? Je, taka kutoka kwenye vyoo huondolewa mara ngapi kwa wiki?	1 Twice a day 2 Daily 3 Almost daily 4 Twice a week 5 Once a week 6 Less than once a week 9 DK
10	Does this school regularly provide sanitary napkins or other menstrual supplies to students? Je, shule hii inapeana pedi za usafi au vifaa vingine vya hedhi mara kwa mara kwa wanafunzi?	1 Yes, regularly 2 Yes, but not regularly 3 No 8 Not applicable (boys schools only) 9 DK
11	School GPS coordinates Enumerator: please check for accuracy < 15 m	[CAPI : GPS Autofill]

Thank you for your time/Asante kwa muda wako

Annex 2. Head teachers' interview guide

Enumerator : Please make sure you are in a quiet place so you can record the interview properly (less external noise as much as possible).

As I mentioned earlier we would like to speak to you about your experiences with policies, programmes, interventions, services or activities around food, nutrition, health, gender, environment, to better understand what is implemented or not in your school. In this part of the interview, we would appreciate if you speak openly and tell us about your opinion and concerns.

Kama nilivyokueleza hapo awali, tungetaka kuzungumza kuhusu uzoefu wako na sera, mipango, uingiliaji kati, huduma au shughuli zanzohusu vyakula, lishe, afya, jinsia, mazingira, ili kuelewa vyema ni nini kinachotekelezwa au hakitekelezwi shuleni mwako. Katika sehemu hii ya majadiliano, tutashukuru uko huru kuzungumza na kutoa maoni au kuleza wasiwasi wako.

Nutrition awareness

1. In your opinion, what are the main nutrition challenges or problems with pupils at your school?
Kwa maoni yako, ni maswala gani kuu ya lishe kwa wanafunzi katika shule yako?
Examples: Child undernutrition, child over nutrition
Kwa mfano: Utapia mlo, lishe kupita kiasi
2. What do you think are the reasons/causes for these issues? Je, unadhani sababu kuu ya maswala haya ni nini) (yaweza kuwa : Wazazi, mazingira, bei na kadhalika)

Food availability at school

3. In your opinion, is the food provided/sold on the school compound healthy/nutritious? Safe? Why?

Why not?

Je kwa maoni yako, chakula kinacholishwa au kuuzwa hapa shuleni kina manufaa ya kiafya kwa wanafunzi? Unadhani kuwa ni salama? Kwa nini? Kwa nini sivyo

4. In your opinion, is the food which the vendors sell outside the school healthy? Safe?

Je, kwa maoni yako, wauzaji vyakula walio nje ya shule huuza vyakula vyenye manufaa ya kiafya na vilivyo salama kwa wanafunzi? (fafanua wauzaji chakula unaowazungumzia kwa mfano supermarkets, hoteli, fast food stalls n.k)

5. Are SMEs (small and Micro Enterprises/business) involved in supplying food to this school ?
What are your views on using SMEs to supply food to this school ?

Policies/guidelines

6. We mentioned earlier different national policies (*enumerator, probe with the list from the quantitative questionnaire if the respondent said he was aware of these policies in section 2*):

Tulitaja hapo awali sera tofauti za kitaifa (*Mdadisi, chunguza na orodha, kama Mhojiwa alisema anafahamu sera hizi katika sehemu ya pili?*)

Could you let me know what you know about them and what is your opinion about their usefulness and applicability in your school?

Unaweza kunieleza unachojua kuzihusu, malengo yake ni yepi? na maoni yako ni gani kuhusu manufaa na utekelezaji katika shule hii?

7. Could you please tell me if you have food and nutrition policy/guidelines/rules/regulations **in your school?** (*Tell me more about them and give me a copy if available – refer to the policies they mentioned in the quantitative interview*)

Unaweza kunieleza kama mnazo sera, miongozo au kanuni zinazohusu chakula na lishe katika shule hii?

For each policy/guideline/rules and regulations: Ask the following questions:

Kwa kila sera/mwongozo/kanuni: uliza maswali yafuatayo (*kama hakuna sera uliza mbona?*)

- 7.1. If you don't have policies what is the reason? (E.g. lack of nutrition training for the school staff, funds e.t.c)

Kama hamna sera, sababu ni zipi? (Kwa mfano, ukosefu wa funzo ya lishe kwa wafanyakazi wa shule, Fedha, n.k)

- 7.2. Has the policy/guideline been/is it being implemented? describe level of implementation?

Je, sera / mwongozo umekuwa/unatekelezwa? ulitekelezwa lini? Kama ndio, tafadhali taja na ueleeze kiwango ambacho vinatumika

- 7.3. What is your opinion about their usefulness and applicability? Also ask about challenges related to their implementation.

Maoni yako ni gani kuhusu manufaa na utekelezaji wake? (*Unaeza taja baadhi ya changamoto mnazozipitia kwa utekelezaji.*)

Programmes, interventions

8. You mentioned several programmes, interventions, services or activities earlier

Ulitaja baadhi ya mipango, uingiliaji kati, huduma au shughuli hapo awali, unaweza nikumbusha majina yake na uniambie kuhusu malengo yake?

Probe with programs and interventions mentioned earlier during the interview

Chunguza kama ilitajwa awali wakati wa mazungumzo

For each programme/intervention: Ask the following questions

Kwa kila sera/mwongozo: uliza maswali yafuatayo

- 8.1. Has the programme/intervention been/is it being implemented? Describe level of implementation?

Kwa maoni yako, mipango, uingiliaji kati, huduma au shughuli hizi zimetekelzwa/zinatekelzwa? Eleza kiwango ya utekelezaji

- 8.2. What is your opinion about their usefulness/benefits and applicability?

Je, maoni yako ni gani kuhusu manufaa na utekelezaji wake?

- 8.3. In your opinion, what are the main barriers or constraints for implementing these programmes or interventions?

Kwa maoni yako, ni vikwazo gani vikuu vinavyoweza, sababisha ugumu wa kutekeleza mipango, uingiliaji kati, huduma au shughuli hizi? Tafadhali eleza zaidi.

- 8.4. In your opinion, what are the main facilitators (or something that is making it easier) for implementing

these programmes, interventions? Please explain

Kwa maoni yako, ni vitu gani vikuu vinavyoweza (ama kurahisisha) utekelezaji wa mipango, uingiliaji kati, huduma au shughuli hizi? Tafadhali eleza

Parents/community involvement

9. How are parents/community members/ pupils involved in any way in these school feeding/nutrition programmes, interventions? Please describe

Je wazazi, jamii, au wanafunzi wanahusika vipi katika mipango hii ya shule ya Lishe, afya, uingiliaji kati, huduma au shughuli? Tafadhali eleza

Potential solutions

10. In your opinion, what should be done to promote healthy eating in your school? Tell me more, by who/how?

Je kwa maoni yako, nini chaweza fanywa ili kudumisha ulaji wa vyakula vyenye manufaa ya kiafya katika shule yako? Nieleze zaidi, na nani/vipi?

11. In your opinion, what should be done to promote physical activity in your school? Tell me more, by who/how?

Je kwa maoni yako, nini chaweza fanywa kudumisha mazoezi katika shule yako? Nieleze zaidi, na nani/kivipi?

Thank you for your time/Asante kwa muda wako

Annex 3. Caterers' interview guide

Cover

1	County	1. Nairobi 2. Kiambu
2	Sub-county	[_ _]
3	School ID	[_ _]
4	Name of school Jina la shule	_____
5	Type of school Aina ya shule	1. Public 2. Private
6	Type of school (2) Aina ya shule(2)	1. Junior school / Primary 2. High school / Secondary 3. Both
7	Name of interviewer Jina la mhoji	
8	Date of Interview Tarehe ya mahojiano	[_ _]

1. Identification of the respondent

Utambulishi wa Mshiriki

No	Question Swali	Answer options
1	Respondent ID	[_ _]
2	Respondent job position Kazi ya Mhojiwa Enumerator: if no one is available, you need to set up an appointment for another day Mdadisi; Ikiwa hakuna mtu, unahitaji kuweka miadi ya siku nyingine.	1. Caterer 2. Head cook 3. No one is available, the interview is postponed
3	Respondent gender Jinsia ya mhojiwa	1. Male 2. Female
4	How old are you? (years) Tafadhali nieleze umri wako? (miaka)	1. 20 - 29 yo 2. 30 - 39 yo 3. 40 - 49 yo 4. 50 - 59 yo

		5. 60 yo and above 99 DK
5	What is the highest level of education that you have completed? <i>Tafadhali nijulishe ni kiwango gani cha elimu ulimaliza shuleni?</i>	1. Primary school 2. Secondary school 3. Diploma/certificate 4. Graduate, Bachelor 5. Postgraduate Diploma 6. Postgraduate Master 7. Postgraduate PhD 8. Other, specify
6	In which year did you start working in this school? <i>Je, ulianza kufanya kazi ya huduma ya chakul mwaka upi?</i>	CAPI : integer year DK
7	In which year did you start working in food service? <i>Je, ulianza kufanya kazi katika shule hii mwaka upi?</i>	CAPI : integer year DK
8	Do you (or did you ever) receive food/nutrition/hygiene education or training <i>Je, ushawahi kupata mafunzo au elimu yoyote ya chakula/lishe/usafi</i>	1. yes 2. no
9	Who provides (provided) the food/nutrition education or training? <i>Je, ni nani hutoa mafunzo au elimu hii ya chakula/lishe?</i>	1. Government 2. NGO 3. United Nations 4. Other, specify
10	How frequently did you receive such training (one time or on a regular basis)? <i>Je, unapata mafunzo haya mara ngapi? (mara moja au mara kadhaa)</i>	1. one time 2. more than one 3. on a regular basis
11	What topics are/were covered in the food/nutrition/hygiene education or training? <i>Na mada gani zinazoshughulikiwa katika elimu/mafunzo ya chakula na/au lishe?</i>	
a	<i>Food groups Vikundi vya chakula</i>	1. yes 2. no
b	<i>Healthy/nutritious meal preparation Maandalizi ya lishe yenye afya</i>	
c	<i>Food safety and food hygiene Usalama wa vyakula</i>	
d	<i>WASH Usafi wa vyakula na mazingira</i>	
e	<i>Food quality Ubora wa chakula</i>	
f	<i>Others: please develop Nyingine;Tafadhali endeleza</i>	

2. School meal programs or services

1	Is there a school meal programme or service routinely providing any food or meals to students? <i>Je shule inatoa chakula au mlo wowote mara kwa mara,kwa wanafunzi</i> CAPI: if Q8=2, go to Q12	1 Yes 2 No
2	How many pupils are enrolled in the programme or service? <i>Je, ni wanafunzi wangapi walio kwenye mpango au huduma ya chakula?</i>	[_ _ _ _] -99 DK
3	Do students have to pay for school meal programs or services ? CAPI : if Q3=1/9, go to Q5 <i>Je wanafunzi hawa hupaswa kulipia miradi and huduma hizi za chakula?</i>	1. No 2. Yes, only partially subsidized 3. Yes, students have to pay totally 9. DK
4	How much are students asked to pay (in KSH) ? <i>Je wanafunzi hupaswa kulipia pesa ngapi?</i>	[_ _ _ _] -99 DK

4. a	Unit Idadi	1. per day 2. per week 3. per month 4. per term
5	Which of the following meals or snacks are routinely made available to students by your school kitchen/cafeteria (school meal programme) Je vyakula au vitafunio vifuatavyo vinatolewa kwa wanafunzi mara kwa mara? MULTIPLE CHOICE	1. Breakfast 2. Lunch 3. Snacks 4. Evening meals 5. Take home rations (planned) 6. Other, specify 9. DK
6	What is the source of the meal/food provided (as part of school meals programmes or services)? Chakula kinachotolewa kinatoka wapi? MULTIPLE CHOICE Enumerator : read all the options	1. Food is bought from local market/business 2. Food is purchased from other regions in the country 3. Food is purchased directly from local small scale farmers/organizations or community groups 4. Food comes from school garden 5. Food is imported from outside the country 6. Food is provided by parents 7. Food is provided by an NGO/UN 8. Other, specify 9. DK
7	Are any foods provided in this school (meals and snacks) fortified with micronutrients (such as iron, iodine, zinc, or Vitamin A)? Kuna vyakula vyovyote vinavyo tolewa kama sehemu ya huduma ya chakula na lishe za shule hii zilizoimarishwa na madini kama(Iron, iodine, zinc au Vitamin A) ?	1 Yes 2 No 9. DK
8	Where do most students usually eat meals (e.g. lunch, <u>not</u> snacks) during the school day? Ni wapi ambapo wanafunzi wengi kwa kawaida hukula wakati wa siku za shule? MULTIPLE CHOICE	1. In their regular classroom 2. In a dedicated eating space (such as a school cafeteria, dining hall, or other special room besides their regular classroom) 3. Outside on school grounds 6. Other, specify 9. DK

3. Meals

Enumerator, please read the instruction:

We are now going to talk about the types of meals and foods you served to pupils in the last 5 days?

Ni aina gani ya vyakula mliwapa wanafunzi siku 5 zilizopita?

For each school meal served in the 5 school days preceding the survey, please mention:

- The name of any foods served during the day
- And related food groups

Enumerator read: Let's start with Monday.

1. Enumerator select a Day of the week :	2. Were meals provided on [selected day] If Q2=2 go to next line	3. Please write here the name of any meals served on [day selected] ?	4. Check all items that applied to the above :
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1. Monday 2. Tuesday 3. Wednesday 4. Thursday 5. Friday 6. Saturday 7. Sunday	1. Yes 2.No	Text	[List A] Multiple choice
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Second part of the interview, QUALITATIVE

4. Food provisioning

Utoaji wa chakula

1. Roughly how often is food ordered from suppliers (e.g. cereals, grains, legumes, vegetables, fruits, meat) ?
Je, Ununuzi wa chakula kutoka kwa wauzaji, unafanywa takribani mara ngapi?
2. Who are the food providers for this school? Are there any specific criteria for the choice of food provisioners? Which ones? Why?
Wanao toa chakula katika shule hii, ni akina nani? Je, kuna vigezo maalum, vya kuchagua wanaotoa Chakula ? Ni zipi? kwa nini?
3. Please describe the process for food procurement for this school.
4. Who is involved in each step? What is your role there? Are there problems with food procurement? How to you deal with these problems?
Tafadhali elezea taratibu ya ununuzi wa chakula kwa shule hii. Ni nani anahusika katika kila hatua? Jukumu lako ni lipi hapo? Kuna matatizo katika ununuzi wa vyakula? Unawezaje kukabiliiana aje na matatizo haya?
5. To what extent do you involve the school community ? (e.g. parents, teachers, caregivers)
Je, mnapata msaada kiasi gani kutoka kwa jamii ya shule? (k.m. wazazi, walimu, walezi)
6. Are SMEs (small and micro enterprises/business) involved in supplying food to this school ? What are your views on using SMEs to supply food to this school ?
Je, SMEs (Biashara Ndogo na Ndogo/biashara) wanahusika katika kusambaza vyakula kwa shule hizi? Je, una maoni gani kuhusu kutumia SMEs kusambaza vyakula kwa shule hii?

Thank you for your time

Annex 4. School observation guide

1. Cover

1	County	1. Nairobi 2. Kiambu
2	Sub-county	[_ _]
3	School ID	[_ _]
4	Name of school	_____
5	Type of school	1. Public 2. Private
6	Type of school (2)	1. Junior school / Primary 2. High school / Secondary 3. Both
7	Name of enumerator	
8	Date of observation (time stamp)	[_ _]
9	Enumerator, please describe : - when was the observation conducted (during the school day, school open) - where there students present - etc...	Text

Definition of all the foods/beverages of interest for the interviewer

Sugary drinks include all drinks with added sugar, including sugar (using thresholds aligned with national nutrient profile models or national dietary guidelines sweetened carbonated drinks, less than 100% fruit juice, flavoured milk
Dairy foods are foods made from or containing milk, including cheese, yogurt and sugar-free milk-based drinks
Wholegrain foods contain grains in their whole form (rice, barley, oats, corn, wheat, sorghum)
Deep fried foods are those that have been cooked or heated by deep frying in any oil (e.g., chips, fried chicken)
Safe drinking water is water that has been improved and is regularly assessed against the 'Guidelines for drinking-water quality' (WHO) to ensure it is safe for drinking
Salty packaged foods are those that contain high amounts of salt (using thresholds aligned with national nutrient profile models or national dietary guidelines and are provided to the school packaged in some way (e.g. instant noodles, wafers, crisps)
Sweet packaged foods are those that contain high amounts of added sugar and are provided to the school packaged in some way (e.g candy, muffins, cakes, ice-creams)

2. School cafeteria or place where meals are being served

1	Where are the school meals being served ? MULTIPLE ANSWERS	1. In student's regular classroom 2. In a dedicated serving space (such as a school cafeteria/dining hall, or other special room besides their regular classroom) 3. Outside on school grounds 4. There is no place for students to buy, purchase or received any food on the school premises 5. Other, specify 8. Not possible to observe
2	Where are the students eating ? (cafeteria/dining hall, outside on school ground, ...) MULTIPLE ANSWERS	1. In student's regular classroom 2. In a dedicated eating space (such as a school cafeteria, dining hall, or other special room besides their regular classroom) 3. Outside on school grounds 4. Other, specify 8. Not possible to observe
3.1	Is the space where students eat located: MULTIPLE ANSWERS	1. Inside 2. Outside not covered 3. Outside in a covered space 8. Not possible to observe

3.2	Is the space where students eat: MULTIPLE ANSWERS	1. Friendly, welcoming 2. Spacious 3. Organized 4. Clean 5. Dirty 6. Noisy 7. Quiet 8. Not possible to observe
3.3	Do the students eat: MULTIPLE ANSWERS	1. Under supervision 2. Not supervised 8. Not possible to observe
4	Are you allowed to take a photo where the students eat? CAPI : if Q4=1, enable picture 1	1. yes 2. no
Photo 1	Add Take a picture of the place Enumerator : please take the picture without showing faces	Photo 1
5	Are school menus on display? CAPI: if Q5=1, enable Photo 2	1. yes 2. no
Photo 2	<i>Take a photograph of the menu board</i> CAPI : Add photo on Survey CTO	Photo 2
6	Are plates/bowls and other cutlery provided for the children?	1. yes 2. no 8. Not possible to observe
7	Is salt available on tables (free access), at the check out/serving point ?	1. yes 2. no 8. Not possible to observe
8	Is sugar available on tables (free access), at the check out/serving point ?	1. yes 2. no 8. Not possible to observe
9	How many staff are working in the school cafeteria or place where the meals are served ?	_ _ [1-40] -98. Not possible to observe
10	Enumerator, please describe in a few words staff roles	Text
11	Is there water for hand washing available at serving/eating point?	1. yes 2. no 8. Not possible to observe
12	Is there soap /hand sanitizer available at serving/eating point?	1. yes 2. no 8. Not possible to observe
13	Is there a rubbish bin available at the serving/eating site?	1. yes 2. no 8. Not possible to observe

3. Kitchen or place where the food is prepared

Enumerator, please observe the kitchen while the staff is preparing the food, if any. If it is not a kitchen, it can be a place where caterer receive, reheat and serve the food cooked outside the school.

1	Where is the food prepared? Multiple choice	1. kitchen 2. dedicated place in the school which is not a kitchen 3. food vendor stand 4. other, specify
2	Are you allowed to enter and observe the kitchen or the place where the food is prepared? (if more than one place where the food is prepared – kitchen and food vendor stand, choose the larger place) CAPI: if Q2=3, go to next section	1. yes, allowed to observe while the staff is preparing 2. no, not allowed to observe while the staff is preparing, but allowed after 3. no, not allowed at all to observe

3	Are you allowed to take a photo CAPI : If Q3=1 enable picture and disable Q4 If Q3=2, go to Q4	1. yes 2. no
Photo 3	Please take a picture of the kitchen or the place where the food is prepared.	Photo 3
4	Enumerator, please describe in a few words the place where the food is prepared.	Text
5	How many staff work in the kitchen?	[_ _] [1-50] 99 DK
6	How many staff have their hair covered ?	[_ _] [0-50] CAPI : response must be inferior or equal to Q5 99 DK
7	Are there food posts being covered)?	1. yes, all pots 2. yes, some pots 3. no 8. Not possible to observe
8	Which of the following facilities/equipment do you observe in the food preparation area ? Enumerator, check all that apply	
a	Ovens/stoves for cooking	1. yes 2. no
b	Open fireplace/jiko (traditional cooking facilities)	
c	Fridges/cold storage	
d	Source of "clean" water for cooking and cleaning	
e	Clean food preparation areas	
f	Areas to separate cooked and raw ingredients	
g	Dishwashing liquid, soap	
h	Detergent, washing liquid (for floors and preparation areas)	

4. Meals or snacks served today

1	Are you allowed to take a photo of the dishes/meals available today	1 Yes 2 No
	Enumerator: take a picture of the dishes/meals available today	Photo 4
2	At the school kitchen/school cafeteria for all meals select the food groups available in any today's meals : [list A]	
	List A	
a	Cereals and grains CAPI: if Qa=1, enable Q1 & Q2	1 Yes 2 No
b	Roots and tubers CAPI: if Qb=1, enable Q3 & Q4	
c	Legumes, nuts and seeds CAPI: if Qc=1, enable Q5 & Q6	
d	Vegetables CAPI: if Qd=1, enable Q7, Q8, Q9	
e	Fruits CAPI: if Qe=1, enable Q10, Q11, Q12	
f	Animal source food CAPI: if Qf=1, enable Q12 to Q17	
g	Sweets and snacks CAPI: if Qg=1, enable Q18 to Q23	
h	Others CAPI: if Qh=1, enable Q24 to Q28	
i	Beverages CAPI: if Qi=1, enable Q29 to Q34	
j	Any other food (that does not correspond to any of the groups listed above, please specify)	
	Cereals and grains	

1	Refined cereals (white) White bread, white rice, pasta, noodles, white ugali (dehusked corn flour meal), white naan, chapati, injera, refined porridge, maize porridge	1 Yes 2 No
2	Wholegrain cereals (unrefined) Whole brown bread, local brown rice, whole meal brown chapatti, whole meal ugali (whole corn flour meal), whole meal porridge, boiled maize, roasted maize Maize ugali, Ugali made from millet or sorghum, porridge made from millet or sorghum, green maize, githeri, oats, or popcorn?	1 Yes 2 No
Roots and tubers		
3	Irish potato, white sweet potato, green banana, nduma, yam, or cassava?	1 Yes, deep fried 2 Yes, not fried 3 Both are available 4 No
4	Sweet potato that is orange or yellow inside	1 Yes 2 No
Legumes, nuts and seeds		
5	Legumes Beans, githeri, green gram, kamande, pigeon peas, chickpeas or green peas ?	1 Yes 2 No
6	Nuts and seeds Groundnuts, peanut butter, cashews, almonds, pumpkin seeds, or simsim seed?	1 Yes 2 No
Vegetables		
7	Yellow/orange fleshed vegetables Carrots, pumpkin, butternut?	1 Yes 2 No
8	Green leafy vegetables Sukuma wiki, Ethiopian kale, spinach, managu, terere, saget, or kunde? pumpkin leaves, mrenda, nderema, mitoo, or mchunga?	1 Yes 2 No
9	Other vegetables Broccoli, Tomatoes, cabbage, green capsicum, mushrooms, or cauliflower? Cucumber, French beans, lettuce, eggplant, or courgette?	1 Yes 2 No
Fruits		
10	Orange/Yellow fruit Pawpaw, mango, passionfruit, or matunda ya damu	1 Yes 2 No
11	Other fruits Orange, tangerine, or grapefruit? Ripe banana, pineapple, avocado, watermelon, or thorn melon? Apple, pear, grapes, or guava?	1 Yes 2 No
Animal source food		
12	Eggs (e.g. boiled, fried, poached)	1 Yes 2 No
13	Cheese	1 Yes 2 No
14	Dairy Products Yogurt or mala Milk, sweetened condensed milk, unsweetened condensed milk, soya milk, coconut milk or cream fermented milk (maziwa mala (fermented milk), mursik (fermented milk flavoured with charcoal)?	1 Yes 2 No
15	Processed meat Sausages, smokies, hot dogs, salami, ham, or dried meat?	1 Yes 2 No
16	Unprocessed meat Goat, beef, minced beef, mutton, liver or matumbo? Pork, rabbit, or camel? Chicken, duck, turkey, quail, or guinea fowl?	1 Yes 2 No
17	Fish, omena, canned tuna, or seafood?	1 Yes 2 No
Sweets and snacks		
18	Baked Cakes, queencakes, biscuits?	1 Yes 2 No
19	Sweets, chocolates, ice cream, or ice lollies?	1 Yes 2 No
20	Sugar and sweet spreads (Jam, sugar, sugarcane, honey, sukari nguru (molemass))	1 Yes 2 No
21	Salty snacks Crisps, Ringoz, farfar/pipes or chevda?	1 Yes 2 No

22	Deep fried sweets Kaimati, mandaazi, ngumu, mahamri, donuts	1 Yes 2 No
23	Deep fried snacks Chips, ngumu,, samosa, viazi karai or bhajia, or fried chicken?	1 Yes 2 No
Others		
24	Packed instant noodles Indomie?	1 Yes 2 No
25	Soups Tomato soup, vegetable soup, bone soup	1 Yes 2 No
26	Pizza, hamburger, chawarma or other form of fast food	1 Yes 2 No
27	Fats and oils (oils spreading fats and fats) Margarine, butter, peanut butter, vegetable oil, corn oil, kimbo/kasuku/cowboy/chipsy (vegetable fats)	1 Yes 2 No
28	Condiments Tomato and chilli sauce (ketchup), dried chilli tomato paste	1 Yes 2 No
Beverages		
29	Milk, tea with milk, or powdered milk?	1 Yes 2 No
30	Tea with sugar, coffee with sugar, Milo, or drinking chocolate?	1 Yes 2 No
31	Fruit juice or fruit drinks?	1 Yes 2 No
32	Soft drinks such as Coca-Cola, Fanta, or Sprite, or energy drinks such as Red Bull?	1 Yes 2 No
33	Other beverages? Alcoholic beverage (Beer, wine, spirit)	1 Yes 2 No
34	Safe drinking water	1 Yes 2 No
3	Is there any vendor/school canteen inside the school premise	1 Yes 2 No
4	Enumerator : for any food available for any vendors/school canteen inside the school premise, select the food groups:	List A

5. WASH

<p>Definitions UNICEF definitions for Piped supplies of drinking water</p> <ul style="list-style-type: none"> • Tap water in the dwelling, yard, or plot, including piped to a neighbour • Public taps or standpipes • Non-piped supplies • Boreholes/tubewells • Protected wells and springs • Rainwater • Packaged water, including bottled water and sachet water • Delivered water, including tanker trucks and small carts/tank/drum • Water kiosk 	<p>UNICEF categories for sanitation On-site sanitation</p> <ul style="list-style-type: none"> • Flush and pour-flush toilets or latrines connected to septic tanks or pits • Ventilated improved pit (VIP) latrines • Pit latrines with slabs (constructed from materials that are durable and easy to clean) • Composting toilets, including twin pit latrines with slabs and container-based systems
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	Piped supplies of drinking water	
1a	Do students have “easy” access to drinking water? If Q1=2, go to Q3	1. yes 2. no

1b	What is the source of the drinking water for the students ?	<ul style="list-style-type: none"> 1. Tap water 2. Public taps or standpipes 3. Non-piped supplies 4. Boreholes/tubewells 5. Protected wells and springs 6. Rainwater 7. Packaged water, including bottled water and sachet water 8. Delivered water, including tanker trucks and small carts/tank/drum 9. Water kiosk 10. Other (specify) DK
	Categories of sanitation	
1	Does the school have any toilets for students? Open field or bucket should not be considered a toilet CAPI: If Q1=2, go to Q5	<ul style="list-style-type: none"> 1 Yes 2 No
2	Are the toilets easily accessible (even for children with physical disabilities)?	<ul style="list-style-type: none"> 1 Yes 2 No 8. Not possible to observe
3	What is the toilet type? Multiple choice	<ul style="list-style-type: none"> 1 Flush to piped sewer system 2 Flush to septic tank 3 Flush to pit latrine 4 Flush to somewhere else 5 Flush, don't know where 6 Ventilated improved pit latrine 7 Pit latrine with slab 8 Pit latrine without slab/Open pit 9 Composting toilet 10 Bucket toilet 11 No facility/bush/field 96 Other,specify DK
4	Are the toilets clean?	<ul style="list-style-type: none"> 1 Yes 2 No 8. Not possible to observe
5	Is there a place to wash hands?	<ul style="list-style-type: none"> 1 Yes 2 No 8. Not possible to observe
6	What kind of hand washing station is available? Multiple choice If Q6=4, go to next section	<ul style="list-style-type: none"> 1.Yes, running water from public supply system 2. Yes, running water from plastic tanks (with or without tap) 3.Yes, water in buckets 4. No 9. Other
8	Is soap available for hand washing?	<ul style="list-style-type: none"> 1 Yes 2 No 8. Not possible to observe

6. Health/nutrition service

1	Does the school have a clinic/nurse? CAPI: If Q1/1, go to next section	1 Yes, a clinic and a nurse 2 Yes, only a nurse 3 No 8. Not possible to observe
2	Are you allowed to enter and observe the clinic or nurse room ? CAPI : if Q2=1, enable next question	1 Yes 2 No
3	Is the following equipment available : Multiple choice	1. scale 2. measuring tape 3. growth charts 4. health promotion posters (contraceptives, vaccines,...) 5. nutrition promotion posters (food pyramid, ...) 6. physical activity promotion posters 7. Other, specify

7. Physical activity equipment

1	Are there sports facilities on the school grounds? CAPI: if Q1/1, go to next section	1 Yes 2 No 8. Not possible to observe
2	Enumerator, tick what corresponds to the type of sport facilities :	1. Covered multifunction yard 2. Outside multifunction yard 3. Equipment visible, such as basketball hoop 4. Outside soccer field 5. Other, specify 8. Not possible to observe
3	Is there a place where boys and girls can separately and privately change clothes before and after physical education?	1 Yes 2 No 8. Not possible to observe 9 Not applicable (for boys/girls school only)
4	Is there equipment (balls, skipping rope etc) available for students during breaktime?	1 Yes 2 No 8. Not possible to observe

8. School garden

1	Does the school have a school/kitchen garden or farm ?	1 Yes 2 No 8. Not possible to observe
2	What food is grown in the garden? (if possible to say from an observation...)	CAPI : Use List A

1	Cereals and grains CAPI: if Q1=1, enable Q1 & Q2	1 Yes 2 No
2	Roots and tubers CAPI: if Q1=1, enable Q3 & Q4	1 Yes 2 No
3	Legumes, nuts and seeds CAPI: if Q1=1, enable Q5 & Q6	1 Yes 2 No
4	Vegetables CAPI: if Q1=1, enable Q7, Q8, Q9	1 Yes 2 No

5	Fruits CAPI: if Q1=1, enable Q10, Q11, Q12	1 Yes 2 No
6	Animal source food CAPI: if Q1=1, enable Q12 to Q17	1 Yes 2 No

Then the LIST A – Part 2

9. Advertisement and promotion

Advertising on the school compound: note down all advertising: brands, size, location (e.g. sportground, canteen...)

Definitions

Marketing is defined as any form of commercial communication of messages that are designed to, or have the effect of, increasing the recognition, appeal and/or consumption of particular products, brands or services. Marketing includes, but is not limited to, advertising, sponsorship, direct marketing (e.g., give-aways), product placement and visible placement of brand logos.

Branding is defined as the visible presence of food or beverage company logos (whole or partial) within school grounds, on school infrastructure or on school materials

Section A: Foods advertised <u>inside</u> the school		
	Enumerator : For any advertisements you see on the school premise fill out the following :	
1	Are there any advertisements/signs/posts/leaflets promoting food within the school? CAPI : if Q1=1 allow Photo 5 <i>If Q1=2 go to section B</i>	1. yes 2.no
2	What food groups are advertised <u>inside</u> the school?	List A : Part 1 & Part 2
3	Indicate type of advertisement :	1. poster 2. small leaflet 3. umbrella 4. table and chairs 5. cloth (clothing, hat, tshirt, staff uniform, sport uniform) 6. flag 7. whole building branding/painting 8. Billboard
4	Indicate the promotional strategy in the advert :	1. Free give aways 2. Use of cartoon characters 3. Celebrity endorsements 4. Sport and events 5. Price discounts 7 Not applicable
5	Indicate the Brand	Text
Photo 5	Please take a photo of the advertisement/sign/post/leaflet promoting food you see within the school?	Photo 5
6	Are there any leaflets, posters etc promoting healthy behaviours in general? MULTIPLE CHOICE + Add a Picture for each item selected	1. No 2. healthy diets 3. food safety/hygiene diets 4. physical activity 5. social integration and inclusion eg. disabilities 6. gender inequality

		7. drug abuse 8. mental health 9. other, specify
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Annex 5. School nutrition / health focal person interview guide

Utambulishi wa Mshiriki

No	Question Swali	Answer options
1	Respondent ID	[_ _]
2	Respondent Job Kazi ya Mhojiwa	{text}
3	Respondent gender Jinsia ya mhojiwa	1. Male 2. Female
4	How old are you? (years) Je, una umri wa miaka mingapi?(miaka)	1. 20 - 29 yo 2. 30 - 39 yo 3. 40 - 49 yo 4. 50 - 59 yo 5. 60 yo and above 99 DK
5	What is the highest level of education that you have completed? Tafadhali nijulishe ni kiwango gani cha elimu cha juu Zaidi ulimaliza shuleni?	1. Primary school 2. Secondary school 3. Diploma/certificate 4. Graduate, Bachelor 5. Postgraduate Diploma 6. Postgraduate Master 7. Postgraduate PhD 8. Other, specify

Ufahamu na miradi inayohusu lishe

Enumerator, read: Now, I would like to ask you about your perceptions on food. Probe for examples
Mdadisi, soma; Sasa, ningependa kukuuliza kuhusu mtazamo wako wa vyakula. Chunguza kwa mifano

- In your opinion, what do you consider as **healthy** food?
Kwa maoni yako, unachukulia chakula chenye afya, kuwa kama nini?
- In your opinion, what do you consider as **unhealthy** food?
Kwa maoni yako, unachukulia chakula kisicho na afya, kuwa kama nini?
- In your opinion, what do you consider a **safe** food?
Kwa maoni yako, unachukulia chakula kilicho salama. kuwa kama nini?
- Are you aware of any school food standard? (eg. related to nutrient, food groups etc)
If yes, do you think the food served in the school meets these standards? Why?
Je, unafahamu kiwango cha chakula cha shule? Kama ndio, unafikiri chakula kinachotolewa shuleni kinakidhi kiwango hiki? Kwa nini?
- How should schools encourage staff and students to eat healthily in schools?
Ni vipi shule zinapaswa kuhimiza wafanyi kazi na wanafunzi kula chakula cha afya shuleni?
- What are the main nutrition challenges for students in schools?
Ni changamoto gani kuu ya lishe kwa wanafunzi katika shule ?
Ex: Child undernutrition, child over nutrition etc
Kwa mfano: Utapia mlo, lishe kupita kiasi, watoto kuja shuleni wakiwa na njaa
- What do you think are the reasons/causes of the problems/issues ?
Je, unadhani sababu ya changamoto hizi ni zipi?
- In your opinion, what are the main barriers for students to eat healthy at school?
Kwa maoni yako, ni vikwazo/vizuizi gani kuu, kwa wanafunzi kula chakula chenye afya katika shule?

FW instruction: Now I will ask you questions on the policies/guidelines, programs, interventions or activities that are available in your school;

- Does your school have any Policy/guideline or programs/activities on ;
Unafahamu yoyote
 - Food/meal **composition standards/targets** in schools? Please tell me more about it ...
Sera/mwongozo wa viwango/lengo ya muundo wa chakula shuleni?
 - Regulating food and beverage marketing** (e.g. those restricting school food and beverage marketing) within school compounds? Please tell me more about it ...
Sera /mwongozo unaodhibiti uuzaji wa vyakula na vinywaji(k.m zile zinazo zuia uuzaji wa vyakula na

vinywaji) ndani ya eneo la shule?

- c. **Physical activity** in schools? Please tell me more about it ...
Sera/mwongozo juu ya shughuli ya mazoezi ya mwili shuleni
 - d. **Provision of health services in school** e.g. vaccination/immunization, deworming ? Please tell me more about it
Sera/mwongozo juu ya mada nyingine yoyote,kama vile afya,usafi,usawa wa Jinsia,mazingira ya shule?
 - e. **Promote healthy food in schools?** e.g. fruits, vegetables, fish, legumes? Please tell me more about it...
Je,unafahamu mazingatio/miongozo yoyote ya kukuza chakula chenye afya shuleni?
e.g Matunda,mboga,samaki,kunde?Tafadhali taja majina,lengo, na nani
 - f. **Restricting unhealthy food in schools** e.g. salt, processed food, fried food, soft drinks? Please tell me more about it ...
Je,unafahamu mazingatio/miongozo yoyote,ya kuzuia chakula kisicho cha afya katik shule?k.m chumvi,chakula cha kusindika,chakula cha kukaanga,vinywaji baridi? Tafadhali taja majina,lengo,na nani?
 - g. **Nutrition services in the school** e.g. growth monitoring? Please tell me more about it ...
Je, kuna huduma zozote za lishe kwa shule hii, k.m kufuatilia ukuaji wa watoto? Tafadhali nieleze zaidi
 - h. **Reduce the prices of healthy foods** and /or increase the prices of unhealthy food? Please tell me more about it ...
Punguza bei ya vyakula vyenye afya na/au kuongeza bei ya vyakula visivyo na afya?
 - i. **Food safety**...Please tell me more about it ...
Usalama wa vyakula
 - j. **Food and menu labeling** specifying the nutrient content of the foods offered in schools. Please tell me more about it ...
Kuandika maelezo na kuorodhesha virutubisho vilivyo kwenye chakula kinachopewa wanafunzi shuleni.
 - k. **School gardens**... Please tell me more about it ...
Shamba za shule
 - l. **Nutrition education and curriculum**...Please tell me more about it ...
Elimu ya lishe na mtaala
 - m. **Water, sanitation and hygiene**... Please tell me more about it ...
Maji, usafi wa maji na usafi
 - n. Policy/guideline or programs/activities on **gender equity**. Please tell me more about it ...
Jinsia
 - o. **Environment and sustainability** e.g waste management , sustainable foods etc.. Please tell me more about it ...
Kama ndio,ni lini?vipi?na ni nani alitekeleza?Tafadhali eleza.
10. Is there a school implementing committee/referent for these programmes, interventions, services or activities? Please describe who is part of the implementing committee or referent
Je, kuna kamati ya utekezaji ya shule,mrejereaji wa mipango,uingiliaji kati,shughuli au huduma?Tafadhali eleza ni nani mwanakamati ya uingiliaji kati au mrejereaji
11. Are parents involved in any way in these programmes, intervention, service or activity? Tell me more...
Je wazazi wanahusika kwa namna yoyote ile katika mipango,uingiliaji kati,huduma au shughuli hii? Tafadhali eleza
12. Are students involved in any way in these programmes, intervention, service or activity? Please tell me more...
Je wanafunzi wanahusika kwa namna yoyote ile, katika mipango,uingiliaji kati,huduma au shughuli?Tafadhali eleza
13. In your opinion, what are the main **barriers or constraints** for implementing these programmes, interventions, services or activities? Please explain ...
Kwa maoni yako,ni viziwi/vikwazo gani vikuu katika kutekeleza mipango,uingiliaji kati,Huduma au shughuli hizi?
14. In your opinion, what are the main **facilitators** for implementing these programmes, interventions, services or activities? Please explain...
Kwa maoni yako,ni vitu gani vikuu vinavyoweza, katika kutekeleza mipango,uingiliaji kati, Huduma au shughuli hizi? Tafadhali eleza
15. Is there anything you would recommend to better promote healthy eating and physical activity in schools? Please explain ...
Kuna chochote ungependekeza,ili kukuza ulaji bora na mazoezi ya mwili shuleni?

Thank you for your time/Asante kwa muda wako

Annex 6. Coding Scheme

- 1. Nutrition challenges for school children /adolescents**
 - Overweight/obesity
 - Undernutrition
 - Food provision / food availability
 - Food safetyHead teacher/ Caterer / Implementer perspectives
- 2. Causes of nutrition challenges in schools**
 - School environment related
 - Adolescent related
 - Home environment
 - Other causes
- 3. Recommended solutions / programs and interventions to address nutrition challenges**
Solution/programs/interventions
Head teacher/ Caterer / nutrition focal person / Implementer perspectives
- 4. Food provision in school**
Type of food providers in schools
 - Vendors providing healthy foods
 - Vendors providing unhealthy foods**Views and reasons on healthiness of food**
Head teacher/ Caterer / Implementer perspectives
Views and reasons on unhealthiness of foods
Head teacher/ Caterer / Implementer perspectives
Views and reasons on food safety
Frequency of food ordering from suppliers
 - Legumes
 - Pulses/ legumes (e.g beans)
 - Animal products e.g meat eggs milk
 - Staples/starches e.g cereals and grains
 - Fruits
 - Vegetables
 - Other foods**Type of food suppliers**
 - Legumes
 - Pulses/ legumes (e.g beans)
 - Animal products e.g meat eggs milk
 - Staples/starches e.g cereals and grains
 - Fruits
 - Vegetables
 - Other foods**Food procurement process**
 - Food procurement criteria
 - Food procurement procedure
 - Staff /personnel in the procurement process**Challenges in food procurement**
Solutions in food procurement
 - Solutions implemented to address existing challenges
 - Proposed solutions to address the food procurement challenges
- 5. Food provision around the school**
Type of food providers around schools
 - Vendors providing healthy / safe foods
 - Vendors providing unhealthy / unsafe foods**Views and reasons on healthiness of food**
Head teacher/ Caterer / Implementer perspectives
Views and reasons on unhealthiness of foods
Head teacher/ Caterer / Implementer perspectives
Views and reasons on food safety
Head teacher/ Caterer / Implementer perspectives
- 6. General school nutrition policies and guidelines**
6.1 Knowledge and awareness on national policies on school nutrition
Head teacher/ Caterer / Implementer perspectives

6.2 Views on the usefulness of the national school nutrition policies

Head teacher/ Caterer / Implementer perspectives

6.3 Views on applicability of the national school nutrition policies

Head teacher/ Caterer / Implementer perspectives

7. School nutrition policies and guidelines (existing school specific policies/guidelines)

- Existing policies on school nutrition
- Level of implementation of the policies
- Views on the usefulness of the school specific nutrition policies
- Views on applicability of the school specific nutrition policies
- Reasons for lack of school specific nutrition policies
- Challenges in developing / implementing school specific policies

8. School nutrition programs and intervention implemented in schools

- Description of the school nutrition programs
- Level of implementation of the programs
- Views on the usefulness of the school specific nutrition programs
- Views on applicability of the school specific nutrition programs
- Reasons for lack of school specific nutrition programs
- Challenges in developing / implementing school specific programs
- Facilitators in developing/implementing school nutrition programs

9. School and adolescent related nutrition programs and interventions implemented by implementing organizations

- Adolescent nutrition programs
- School nutrition programs
- Challenges in implementing school nutrition programs
- Facilitators in implementing school nutrition programs

10. Involvement of school community in school nutrition programs

Head teacher/ Caterer / nutrition focal person/ Implementer perspectives

11. Proposed solutions to promote healthy eating for school children

- Head teacher perspective
- Caterer perspective
- Implementor perspective
- General solutions
- Solution for implementation by the organization
- Institutions to be involved in school nutrition programs

12. Proposed solutions to promote physical activity in school children

Head teacher/ Caterer / Implementer perspectives

13. Extent of SMEs involvement in food provisioning in schools

Head teacher/ Caterer / Implementer perspectives

14. Views on SMEs involvement in food provisioning in schools

Head teacher/ Caterer / Implementer perspectives

15. Views on desk review

- Views on policy documents identified
- Additional documents to be included in the review

