



Food and Agriculture  
Organization of the  
United Nations

TECHNICAL BRIEF

# IMPROVING NUTRITION OF SCHOOL AGE KIDS THROUGH NUTRITION-SENSITIVE FOOD SYSTEM APPROACH



Near East and North Africa regional network on nutrition-sensitive agri-food systems



# IMPROVING NUTRITION OF SCHOOL AGE KIDS THROUGH NUTRITION-SENSITIVE FOOD SYSTEM APPROACH

Cover photo credit: ©FAO/Pep Bonet

# BACKGROUND



School children are collecting green spinach leaves from their school garden.  
©FAO/Hasan Bilal

The Near East and North Africa (NENA) Region is not on track to reach the Sustainable Development Goals (SDG), particularly the SDG 2 of Zero Hunger. If recent trends continue, the number of people affected by hunger will surpass 75 million by 2030 in the NENA region. The impact of COVID-19 on the region's economy will further complicate the challenge of achieving the SDG 2.1 target to eliminate hunger. Malnutrition in its all forms affects all countries regardless of the nature of the malnutrition problem and income levels.<sup>1</sup> The burden of malnutrition in all its forms remains a challenge in NENA region. NENA is the only region in the world where the rates of malnutrition have been on the rise over the past decade.<sup>2</sup> Recent estimates for 2019 are that 22.5 percent of children under 5 years of age were stunted, 9.2 percent wasted and 9.9 percent were overweight.<sup>3</sup> Undernutrition remains one of the most serious health problems among preschool and school children (6-11 years) and adolescents (12-18 years), and the single main contributor to child mortality in many low and middle-income countries in the region. A significant proportion of children are undernourished, and over a third of the population in the region suffers from micronutrient deficiencies. At the same time, rapid increase in overweight and obesity in children is worrisome. Obesity has been described by the World Health Organization (WHO) as a global epidemic due to its high and increasing prevalence in almost all countries. Obese children are more likely to be obese during adulthood, and this increases the risk of health complications such as cardiovascular diseases and metabolic syndrome, which are the leading cause of death among males and females in Arab countries. Unhealthy dietary habits such as skipping breakfast, low intake of nutritious foods (such as fruits, vegetables and dairy), high intake of high calories food high in sugar and sodium and lack of nutritional knowledge are the main factors for the high levels of malnutrition among school children and adolescents in majority of the countries.

Deepening poverty and inequality is resulting from a combination of factors including demographic changes, ineffective development pathways, fragile agri-food systems with weak value chains, economic shocks and natural disasters, political instability, including conflict induced humanitarian crises causing displacement. Children and adolescents are particularly affected and their education disrupted. It is estimated that one in every four children (almost 23 million) in the region are either out of school or at risk of dropping out.<sup>4</sup> Nearly 90 percent of out-of-school children in the region are in crisis-affected countries and girls are more likely to be excluded from education.



Secondary School Students attend a lecture and a short excursion outside where they learn more about their immediate environment.

©FAO/Brent Stirton

The Food and Agriculture Organization of the United Nations (FAO) recognises that schools can make an important contribution in countries' efforts to address food insecurity, poverty and tackle various forms of malnutrition. On top of the potential health, nutrition and education benefits with the latter being measured in terms of net enrolment rate, low dropout rates, better exam scores. Schools are ideal settings for food and nutrition programmes and services, because nutrition and education are closely linked and dietary, hygienic and exercise habits that affect nutritional status are formed during the school-age years. Many eating habits and behavioural patterns are developed during childhood and adolescent period.

Schools can also be ideal for reaching large numbers of people, including youth, schools staff, families and communities. Children pass on the information that they received at school about good nutrition to their families and to the wider community. As children are widely perceived to be enthusiastic and able communicators both with their peers, families and wider community, if encouraged and appropriately informed, they can act as agents for change. As such, schools are great entry point for reaching into the community and promoting good nutrition, including proper hygiene and sanitation practices with life-long healthy habits. School food and nutrition interventions can include one or more of the following components: school gardens, school meals, school nutrition standards, school food and nutrition policies, food production linked to school food procurement, nutrition education in the school curriculum and improvements in water and sanitation, as well as other activities that contribute to improvements in school children's health and nutrition. Through all these complementary interventions pupils can improve their diets, develop healthier food practices and extend these to their families and communities.

Improving school children's nutrition, knowledge and dietary practices is a key area and require further attention, especially with regard to the systematic integration of food and nutrition education into national school curricula, pre- and in-service training of school teachers and school service staff in good nutrition and healthy diet appropriate for school age kids. Holistic and coherent school food and nutrition programmes and policies are key to achieve children's human rights to food, education and health.

# ISSUES AND CHALLENGES



A child smiles during her meal.  
©FAO/Jorge Rodríguez Baeza

School food and nutrition must be an integral part of education system. Unfortunately, not all countries in the region have school food and nutrition as part of their education curriculum, and food and nutrition is not systematically integrated in education system. While stakeholders do acknowledge the importance of school food and nutrition programmes, these programmes not implemented in harmonized and integrated way. Often, school based interventions lack coordinated and harmonized approach that includes different sectoral programmes and activities of various partners to reach the optimal results in child nutrition and health. There is need to strengthen linkages between school education programmes with agri-food system, social protection, nutrition and health interventions for harmonized and integrated approach and create partnerships with different stakeholders, including involvement of smallholder producers, processors, traders, various private sectors entities along food value chain, including academe and training institutions.

One of the most cost effective school food and nutrition interventions is school meals programmes. Schools meals are not only important for ensuring children's nutrition,

growth and development, but also provide strong incentive for children, specially girls from the poorest households, to attend schools. In NENA region these school meals programmes are highly dependent on regulations for foods provided by school canteen.<sup>5</sup> School canteens often lack appropriate regulations for serving safe and nutritious foods for children, there is also a lack of age appropriate menus that provide better quality, more diversity and higher varieties of foods to meet dietary requirements of pupils. While, school meals programmes are an important interventions in most of the countries, these programmes also need to be complemented by other programmes like social protection interventions.<sup>6</sup> Well-targeted school meals programmes embedded in national education and social protection systems, are critical part of the efforts to achieve inclusive and comprehensive social policies that has multiple benefits such as child nutrition, health and education, gender and equity, resilience of vulnerable households to seasonal, economic and climate-related shocks. This is especially relevant to countries in crisis and conflict, where school meal programmes are essential yet inadequately supported and insufficiently linked to other programmes



Group of students perform harvesting work in the school garden of their school.  
©FAO/Pep Bonet

like social protection. Supplying culturally acceptable and familiar foods for pupils to match the local eating customs<sup>7</sup> is one of the key element for sustainable school meal programmes. Therefore, linking school meal programmes with local agri-food system interventions and encouraging sourcing foods for school meals locally, which can broaden benefits to the local economic by providing structured demand, markets, and income opportunities for small holder farmers.<sup>8</sup>

However, school meals programme will also need to be accompanied by robust food and nutrition education that is appropriate for different school age kids. School staff need to have skills and knowledge to promote food and nutrition, and understand communication and behavioral change methods and tools that addresses child needs, be practical and tailored to their interest. Food and nutrition education should be progressively part of the school curriculum for all ages, from the very early stages through secondary school. In many cases, educational objectives, contents and evaluation criteria related to food, nutrition and adequate diet already exist as part of national curricula. However, these are often inadequate with limited funding and insufficient capacity (Dixey *et al*, 1999; Pérez-Rodrigo *et al*, 2001a, 2001b). Capacity

strengthening for national stakeholders to integrate school food and nutrition into school curriculum, including capacity of stakeholders to deliver food and nutrition education to children using different tools is important.

The promotion of micronutrient-rich fruits and vegetables, including local and traditional varieties, and other foods (e.g. small livestock) in school, home and community gardens will diversify the local food base, generate income and add nutritional value to children's school meals, thus contributing to their nutritional status. School gardens, if planned and implemented with the support of parents and the community, can complement school meal programmes and enhance their long-term impact in terms of children's health and nutritional status and learning achievements. However, it should be noted that school gardens are used predominantly for education purposes. Using gardens as laboratories for hands-on learning of science, environmental studies and other subjects such as, mathematics and art. Showing children how to grow a variety of foods like vegetables, fruits, legumes, can increase children's preference for and consumption of vegetables and fruits.<sup>9</sup>

# KEY RECOMMENDATIONS

- Integrate systematically food and nutrition into school education curriculum. The school education curriculum needs to cover several categories of good nutrition, healthy diets, healthy lifestyle combined with exercise and personal hygiene, appreciation of agriculture, environment and natural resources management.
- Develop and or update national food-based dietary guidelines that addresses food and nutritional needs of school age kids. The development of food-based dietary guidelines, which present national nutrition needs in the form of simple dietary advice for the public, assists national institutions in developing communication materials to ensure that the guidelines are used effectively and the communication messages are relevant for school age kids.
- Ensure enabling and supporting healthy school environment that restrict marketing of energy-dense foods high in fat, sugars and salt at schools.
- Incorporate school food and nutrition into agri-food systems relevant policies, strategies and programmes to increase the availability and accessibility of safe and nutritious foods in schools.
- Encourage extracurricular activities involving school gardens, kitchen gardening and other agriculture-based activities, including creating marketing skills at early school age.
- Strengthen capacity of national stakeholders in designing, implementing, monitoring and evaluating school food and nutrition integrated programmes and initiatives, focus on institutional approaches, coordination and collaboration of sectors and stakeholders, technical skills of individuals, awareness and understanding among all stakeholders of school food and nutrition system and adoption of school nutrition-sensitive practices that are practical and well tailored to child needs.
- Provide regional and or national platforms for fostering exchange of lessons learned, sharing good practices and experiences in implementing school food and nutrition interventions in NENA region.



First graders having lunch in the canteen of an FAO beneficiary school of a food security and nutrition project.  
©FAO/Karen Minasyan

# REFERENCES

- <sup>1</sup> **UNSCN**. 2017. *By 2030, end all forms of malnutrition and leave no one behind*. Geneva. (<https://www.unscn.org/uploads/web/news/NutritionPaper-EN-14apr.pdf>)
- <sup>2</sup> **Devereux, S.** 2015: *Social Protection and Safety Nets in the Middle East and North Africa*. IDS Research Report 80. Brighton. (<https://www.ids.ac.uk>)
- <sup>3</sup> **FAO, IFAD, UNICEF, WFP, WHO, UNESCWA**. 2021. 2020. *Near East and North Africa Regional Overview of Food Security and Nutrition. Enhancing Resilience of food Systems in the Arab States*. Cairo. (<http://www.fao.org/3/cb4902en/cb4902en.pdf>)
- <sup>4</sup> **UNICEF MENA**. 2018. *Regional Fact Sheet. Middle East and North Africa Out-of-School Children Initiative*. Amman. (<https://www.unicef.org/mena/out-school-children>)
- <sup>5</sup> **Bahrain Center for Studies and Research**. 2004. *Proceedings of Symposium on School Nutrition in the Arab Countries*.
- <sup>6</sup> **WFP**. 2017. *Middle East and North Africa Initiative for School Meals and Social Protection: A partnership for enhanced nutrition, education and resilience*. Cairo. (<https://docs.wfp.org/api/documents/WFP-0000021910/download/>)
- <sup>7</sup> **UNSCN News**. 2002. *Keeping Schools Open: School Feeding in Conflict and Crisis. Dr. Abraham Horwitz Memorial Lecture*. ([https://www.unscn.org/files/Awards/Horwitz\\_Lectures/6th\\_lecture\\_school\\_feeding\\_in\\_crisis\\_and\\_conflicts.pdf](https://www.unscn.org/files/Awards/Horwitz_Lectures/6th_lecture_school_feeding_in_crisis_and_conflicts.pdf))
- <sup>8</sup> **UNFSS**. 2021. *Action Track 1: Ensure Access to Safe and Nutritious Food for All. Potential Game Changing and Systemic Solutions: An Initial Compilation*. ([https://www.un.org/sites/un2.un.org/files/unfss\\_at1\\_synthesis\\_propositions\\_round1.pdf](https://www.un.org/sites/un2.un.org/files/unfss_at1_synthesis_propositions_round1.pdf))
- <sup>9</sup> **FAO**. 2010. *A new deal for school gardens*. Rome. (<http://www.fao.org/3/i1689e/i1689e.pdf>)

## **Food and Agriculture Organization of the United Nations**

Regional Office for the Near East and North Africa  
Cairo, Egypt

**Email:** [FAO-RNE@fao.org](mailto:FAO-RNE@fao.org)

**Website:** [www.fao.org/neareast](http://www.fao.org/neareast)

**Twitter:** [FAOinNENA](https://twitter.com/FAOinNENA) - [FAOinNENA\\_EN](https://twitter.com/FAOinNENA_EN)



Some rights reserved. This work is available under a [CC BY-NC-SA 3.0 IGO](https://creativecommons.org/licenses/by-nc-sa/3.0/) licence