



IDF Position Paper

Supporting the nutritional needs of children: The important role of milk and dairy foods in school meal programmes

Executive summary

Over 160 million children around the world currently receive and benefit from school milk programmes. School Milk programmes have been recognised for over a century for their contribution to nutritional adequacy, health, and learning. Milk and dairy products are nutrient-rich, easy to consume, highly palatable, affordable, and often locally produced.

In addition to providing milk and/or dairy products, these programmes help to foster a better understanding of dairy products, including where they come from, how dairy products are made, their nutritional composition, and how they fit into overall diets.

In September 2021, the UN Food Systems Summit (UNFSS), convened by the UN Secretary-General, brought governments, organisations and people together to transform the way we produce, consume and think about food. The Summit resulted in a few concrete actions, including the establishment of the School Meals Coalition, which aims to ensure, through school meal programmes, that 'every child has the opportunity to receive a healthy meal every day in school by 2030'.

Dairy provides crucial nutrients which contributes to nutrition security and should therefore be a key components of school meals. Additionally, milk, cheese, and yoghurt provide essential nutrients that support optimal growth, bone health and overall health.

School meal programmes are a significant safety net for children. As one of the primary means for children to have access to healthy meals, they help combat poverty and malnutrition. Their impact on education is seen in increased engagement from students. In countries that experience armed conflict and food insecurity, school meal programmes can also serve as an incentive for families to send their children, especially girls, to school, thus supporting female empowerment and children's rights to education, nutrition, and well-being.^{1,2}

The 2021 Global Nutrition Report showed that worldwide, close to 150 million children under five years of age are stunted, around 45 million are wasted and almost 39 million are overweight.

On the other hand, national food-based dietary guidelines (FBDGs) are government-endorsed and/or developed documents intended to provide context-specific recommendations and advice on healthy diets and lifestyles for adults and children older than five years.

Aligning FBDGs with the latest evidence on healthy eating, and the wider



social, economic, and environmental implications of dietary choices is therefore an important starting point to enable policy coherence and creating a food environment that contributes to good public and personal health. To ensure a healthy next generation, our children must have a good nutritional start every day.

School meal programmes are an effective way to promote optimal growth, development and health as well as support academic performance in children when aligned with national FBDGs or locally recommended , evidence-based nutritional guidelines as they aid in the prevention of nutritional deficiencies, limit the risks for chronic diseases and promote the general health of all learners.^{1,2}

The dairy sector understands the role that milk and dairy foods play in supporting the health of children worldwide and shares information through the [IDF School Milk Knowledge Hub](#) and School Milk Bulletin. By partnering with organisations across all levels – from local and regional to national and global – the dairy sector can empower stakeholders to understand the evidence-based need for incorporating policies and programmes, such as school milk programmes and milk and dairy foods in school meal programmes, to support children's access to nutritious foods.



This document was developed by the IDF's Action Team on School Milk Programmes and highlights the important role of milk and dairy products as part of School Meal Programmes.

The following aspects are addressed:

- **An introduction to the importance of healthy food at school;**
- **The importance of dairy in school meal programs**
- **Formal school milk programmes; and**
- **Sustainability and affordability of school milk programmes.**

Introduction

School Milk Programmes (SMPs) have been recognised over a century ago for their contribution to nutritional adequacy, health, and learning. Milk and dairy products are nutrient-rich, easy to consume, highly palatable, affordable, and often locally produced. Over 160 million children around the world currently receive and benefit from school milk.

In addition to providing milk and/or dairy products, these programmes help to foster a better understanding of dairy products, including where they come from, how dairy products are made, their nutritional composition, and how they fit into overall diets.

Dairy provides crucial nutrients which contributes to nutrition security and should therefore be a key components of school meals. Milk, cheese, and yoghurt provide essential nutrients that support optimal growth, bone health and overall health.

The UN Food Systems Summit (UNFSS), convened by the UN Secretary-General in September 2021, brought governments, organisations, and people together to transform the way we produce, consume, and think about food. The Summit resulted in a few concrete actions, including the establishment of the School Meals Coalition, which aims to ensure, through school meal programs, that 'every child has the opportunity to receive a healthy meal every day in school by 2030'. SMP are a type of school meal programs which promotes the distribution of milk and dairy products in schools.

School Meal Programmes are a significant safety net for children and their communities. As one of the primary means for children to access healthy meals, they help combat poverty and malnutrition. Their impact on education is seen in increased engagement from students. In countries that experience armed conflict and food insecurity, school meal programmes can also serve as an incentive for families to send their children, especially girls, to school,



thus supporting children's rights to education, nutrition and well-being.^{1,2}

School Meal Programmes can contribute directly to the Sustainable Development Goals (SDGs) 1 (poverty reduction), 2 (Zero hunger), 4 (Quality education) and 5 (Gender equality). When school meals are appropriately designed to meet all nutritional requirements, they can improve the nutrition status of pre-school children, primary school children and adolescents by providing essential nutrients that are critical for development. This leads to enhanced nutrition and health, decreased morbidity, and increased learning capacity.³

School Meal programmes also increase the demand for quality agricultural products. This supports jobs for agricultural workers throughout the food system, including in processing and distribution, and can provide a boost to local economies.

Defining the problem

The devastating consequences of hunger and undernutrition, which affects nearly 811 million people in the world, hits low-income countries hardest.⁴

The 2021 Global Nutrition Report showed that worldwide, close to 150 million children under five years of age are stunted, around 45 million are wasted and almost 39 million are overweight.

Effective investments should be made throughout a child's life — from early childhood to adulthood — for each to achieve their full potential. It takes some 8000 days for a child to develop into an adult. Sensitive phases shape development throughout this period, and age-appropriate and condition-specific support is required throughout if children are to achieve their full potential as an adult.

Investing in human capital — the sum of a population's health, skills, knowledge and experience — can strengthen a country's development prospects in a rapidly changing world. Building human capital prepares workforces for the more highly skilled jobs of the future, which can drive more sustained growth and transform the trajectory of economies.

Why school meal programmes are important

School meal programmes are effective vehicles for providing and improving accessibility of nutritious foods and beverages to children. Across the world, they are implemented with the primary aim of addressing child hunger by improving food and nutrition security to reduce nutritional deficits and boost school participation and learning.

Globally, one in every two schoolchildren – 388 million children – receive school meals every day in at least 161 countries from all income levels. Many of these children depend on school meals as a key source of their daily nutrition and a recent study showed that, on average, 40% of children have missed out on these meals since COVID-19 restrictions shuttered classrooms.⁵

Studies confirmed that school meals increase enrolment and reduce absenteeism, which, in turn, enhance learning and support higher educational attainment. The effects are particularly pronounced among girls and young women, as retaining girls in secondary education can increase educational achievement and reduce the risk of early marriage or inappropriate work.¹



School meal programmes play an important role as a community solution for nutrition adequacy, and this supports children's health and a child's ability to learn. Research suggests that consuming nutrient-dense foods that are readily available in these programmes — such as fruit, vegetables and dairy products — is associated with improved academic and health outcomes among children and adolescents.¹ In a large observational study of US elementary and middle school students, children who consumed school breakfast daily reported higher intakes of healthy nutritious foods, including fruit and vegetables, whole grains and dairy, as well as higher intakes of dietary fibre and calcium, than students who did not eat school breakfast every day. Students who had lunch at school daily had higher intakes of dairy and calcium compared with students who did not eat a school lunch daily.⁶

According to the World Food Programme (WFP)⁷, efficient programmes yield returns of up to US\$9 for every US\$1 invested, creating value across multiple sectors, including education, health and nutrition, social protection, and local agriculture.

The role of dairy as part of school meal programmes

Experts agree that school meal programmes have a positive effect on children's nutrition and health outcomes.

Dairy is an important component of nutritious school meals, providing key nutrients that contribute to nutrition security.

Milk and dairy foods have a long association with SMPs and were first recognized over a century ago for their contribution to nutritional adequacy, health, and learning. They are nutrient-rich, easy to consume, highly palatable, affordable and often locally produced.

Evidence shows that dairy foods such as milk, yoghurt and cheese offer a unique combination of essential nutrients, which work together to provide multiple health benefits. These products are valuable sources of high-quality protein, calcium, potassium, phosphorus, zinc, iodine, B vitamins and vitamin A. Evidence regarding the effect of dairy on children's health shows that milk and dairy foods contribute to several health benefits, including optimal growth and development, reduced risk of malnutrition and stunting, and combating childhood obesity and type 2 diabetes and heart disease later in life.^{8,9}

Dairy foods also offer benefits for nutritional status, hydration, dental and bone health, physical stature, cognitive function, and appetite control.¹⁰ The wide variety of milk and dairy food offerings provides an array of options to accommodate culturally relevant dietary patterns and meet personal needs, tastes, and preferences.

The wide variety and availability of milk and dairy products (e.g. traditional dairy products, different fat classes or lactose-free products) offer many options to suit children's nutritional needs, tastes and cultural preferences.

Dairy as part of food-based dietary guidelines

National food-based dietary guidelines (FBDGs) are government-endorsed and/or developed documents intended to provide context-specific recommendations and advice on healthy diets and lifestyles for adults and children older than five years.



Some countries also have paediatric food-based dietary guidelines (PFBDGs), specifically focused on the needs of children younger than five. Typically, FBDGs form the basis for a social safety net and nutrition education programmes and national food and nutrition policies in countries. FBDGs are often used as a guide for designing school meal programs, as well as for public procurement practices associated with school meal programs.

Aligning FBDGs with the latest evidence on healthy eating, and the wider social, economic and environmental implications of dietary choices is therefore an important starting point to enable policy coherence and creating a food environment that contributes to good public and personal health. To ensure a healthy next generation, our children must have a good nutritional start every day. School meal programmes are an effective way to promote optimal growth, development and health as well as support academic performance in children when aligned with national FBDGs or locally recommended, evidence-based nutritional guidelines as they aid in the prevention of nutritional deficiencies, limit the risks for chronic diseases and promote the general health of all learners.

The importance of milk and dairy foods in FBDGs is clear: approximately three-quarters of national FBDGs recommend consuming milk and dairy products daily as part of a healthy diet. It is recognized as an important source of nutrients that are critical to meeting the dietary recommendations for all stages of life.¹¹

The milk and dairy food group is often set as a standalone group in FBDGs. This is mostly due to their calcium contributions to the diet. However, dairy foods are also recognized as a source of high-quality protein and several essential vitamins and minerals, such as vitamin A, vitamin B2 (riboflavin), vitamin B12, vitamin D (only in products fortified with vitamin D), choline, calcium, iodine, phosphorus, potassium, and zinc. Six of these nutrients are recognized as some of the most consistently under-consumed nutrients worldwide. In particular, low intakes of vitamin A, iodine and zinc are among the most common nutrient deficiencies globally, impacting low- and middle-income regions.

In addition to providing unique and essential nutrients needed throughout life, dairy foods also contain other distinctive non-vitamin and non-mineral components, known as bioactive compounds, embedded within a specific food matrix.^{12,13,14} A growing body of evidence points to the role of the dairy matrix health effect in explaining the wide range of health benefits associated with consuming dairy products – from well-studied associations controlling blood pressure and improving bone health to newer associations such as reducing the risk of diabetes and heart disease.¹⁵

Dairy products are therefore described as being more than the sum of their nutrients, consequently contributing to health-promoting effects beyond individual nutrients. Restricting high-quality foods such as milk, cheese and yoghurt is likely to have a negative impact on children's health, which can have life-long consequences such as impaired development or osteoporosis later on in life.

The nutritional profile of milk and dairy benefits children's growth and development

Experts recommend water and plain milk as the beverage of choice for children between one and five years of age to secure growth and development.¹⁶ For older children and adolescents, beverages with no added sugars are recommended as the primary choice. These include water and unsweetened fat-free or low-fat milk.^{17,18}

A number of key health and nutrition organizations as well as scientific experts do not recommend PBBs as suitable replacement for dairy milk children due to



their wide variability in nutrient content and limited evidence of the bioavailability of the nutrients and a resulting impact on diet quality and health outcomes.^{7,19,20}

With the exception of fortified soy beverages, drinks made from almonds and other nuts, oats, rice or coconuts often contain little to no protein and lack other key nutrients important to support optimal growth. Milk has the most balanced distribution of energy from carbohydrates, protein and fat combined into a unique nutrient package, which can be difficult to replace in a healthy dietary pattern.

The commitment of the dairy sector to partner with formal School milk and School Meal Programmes

Over 160 million children around the world currently receive and benefit from school milk, and there is growing evidence to support the multiple benefits to children's health from milk-associated SMPs. Milk is an integral part of global food systems and part of the solution to sustainably nourishing a growing population. It is therefore vital that school milk programmes continue to be recognized for their contribution to children's health, through support from governments and intergovernmental organizations and the private sector.

The dairy sector understands the role that milk and dairy foods play in supporting the health of children worldwide and shares information through the [IDF School Milk Knowledge Hub](#) and School Milk Bulletin. By partnering with organizations across all levels – from local and regional to national and global – the dairy sector can empower stakeholders to understand and incorporate policies and programmes such as SMPs to support children's access to nutritious foods.

A major consideration for the efficient and practical implementation of a school milk programme is food safety, which is essential for guaranteeing that high-quality milk is being consumed by children. In developed countries or where schools have the necessary cooling facilities, fresh pasteurised milk can be used. However, milk for most school environments need to be processed and packaged appropriately to respond to challenges associated with deliveries to schools and the existing infrastructure in schools. The World Food Programme acknowledges this in its position paper 'Use of milk in WFP operations'¹¹, which states that safety risks are minimised when 'milk has undergone ultra-high temperature (UHT) processing to ensure quality and safety'. The WFP also recommend not using liquid milk prepared from milk powder on site owing to the risk of unsatisfactory hygiene and sanitation conditions. This might especially be applicable to areas the WFP operates in.

The sustainability of SMPs can be facilitated by establishing a good system of data collection to measure programme impact and to ensure foodstuff and beverages reach the intended beneficiaries. Programme managers and funders need data to verify that funds for school feeding are used for its intended purpose and that expected impact and results are achieved. A variety of forms can be referenced and used to collect information pertaining to school enrolment, classroom attendance, drop-out rates, individual consumption, as well as for registering the height and weight and other health data of children. In addition, statistics can be collected to track direct and indirect job creation in the agriculture and dairy production and processing sectors. Furthermore, the information registered in school ledgers and warehouse inventory sheets, waybills and individual student consumption can be used to track stock movements and verify school milk programme accountability.



A sense of ownership of and involvement in SMPs at the community level will ensure effective management of implementation at schools and promote programme sustainability. Parents and community members can be involved in various activities at schools, such as preparing meals, distributing milk and other beverages to children, and monitoring all activities associated with the SMP. In addition to their in-kind support to implementation, parents and community members can also provide financial support to programmes and advocate for school feeding with government stakeholders.

Conclusion

Experts agree that SMPs have a positive effect on child and adolescent nutrition and health outcomes. Evidence shows that the nutritional profile of dairy, specifically its mineral and protein component, supports healthy growth and development among children and adolescents²¹ and that the nutritional package is difficult to substitute by other food sources. Furthermore, approximately 75% of national FBDGs recommend consuming milk and dairy products daily as part of a healthy diet. However, many children and adolescents are still not meeting the recommended intakes of milk and dairy products,^{22,23} which may impact their health and development. With milk and other dairy products being diverse and versatile, their inclusion in school milk or meal programmes therefore, offers an opportunity for positive impacts on children's nutritional status and fosters positive dietary habits.

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