Fighting Hunger Worldwide

Smart School Meals

Nutrition-Sensitive National Programmes in Latin America and the Caribbean

A Review of 16 Countries

WFP

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July 2017

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Foreword

School meals in Latin America and the Caribbean echo a history of social development that puts children at the centre and public policies at the service of communities.

The 2030 Agenda for Sustainable Development is grounded in this people and rights-based approach to development. It recognizes that governments are in the lead to leave no one behind and to provide equal opportunities for all. Innovative partnerships are indispensable to meet the global goals, and this universal call to action is a shared responsibility.

For this reason, the World Food Programme and the Latin American Network for School Meals, with support of governments and a wide number of partners, have joined forces to showcase achievements of national school meals programmes in the region and jointly set new frontiers for the school meals of the future.

In a region where obesity and overweight are among the most pressing health concerns, together with persevering micronutrient deficiencies, the platform provided by large-scale school meals programmes to improve nutrition is an opportunity that cannot be overlooked.

School meals programmes that not only feed children but nourish them while promoting healthy eating habits represent a unique instrument to simultaneously promote human development and support health and education goals. When integrated in broader social protection systems and linked to other programmes, they maximize their potential and the return on investment of national budgets.

The region's prominent effort in institutionalizing and scaling up universal, quality school meals programmes deserves dedicated attention to better understand nutrition-sensitive approaches and the opportunities that lie ahead of us all to best serve schoolchildren and vulnerable populations. Children who are well nourished and healthy can learn and thrive.

We hope you enjoy the reading and help us spread the word.

Miguel Barreto
WFP Regional Director
for Latin America
and the Caribbean

Manuel Espinoza
President,
Latin American Network
for School Meals

Acknowledgements

This publication was drafted by Emilie Sidaner as leading author and Alessio Orgera as co-author and coordinator (WFP). Aulo Gelli (International Food Policy Research Institute-IFPRI) contributed with in-depth analysis on national school meals costing and funding. Strategic guidance, technical inputs and content were provided by Francesca de Ceglie, Marc André Prost and Cecilia Garzon from the WFP Regional Bureau in Panama, as well as Manuel Espinoza, President of the Latin American Network for School Meals.

A very special appreciation goes to the government institutions in charge of school meals programmes in the 16 countries covered by the review for their support and availability to participate in the first WFP School Meals Survey for Latin America and the Caribbean (2016): Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru. Their interest, invaluable collaboration and extensive inputs were critical to ensure a comprehensive picture on school meals in the region. WFP country offices and the WFP Centre of Excellence against Hunger in Brazil were crucial to facilitate the systematization of information at the country level. This publication would have not been possible without the support from all the countries involved in the study.

Similarly, critical inputs provided by renown experts on school meals and nutrition, WFP global and regional partners as well as other allies have enriched the knowledge-base and debate on this emerging topic. Expert viewpoints and other inputs were provided by (in order of appearance): Lauren Landis (WFP Nutrition Division); Juan A. Rivera (National Institute of Public Health of Mexico-INSP); Andy Chi Tembon (World Bank), Bachir Sarr (Partnership for Child Development-PCD); Aaron Buchsbaum, Leslie Elder, Alessandra Marini and Andrea Spray (World Bank); Adriana Viteri and Martin Icaza (UNESCO); Harold Alderman (IFPRI); Gustavo Gamaliel Martínez Pacheco (National System for Integral Family Development, Mexico City); Najla Veloso and Vera Boerger (Food and Agriculture Organization of the United Nations-FAO); Giacomo Re and Omar Benammour (WFP); Daniel Balaban, Sharon Freitas, Mariana Rocha, Laura Lyra y Daniel Melo (WFP Centre of Excellence against Hunger in Brazil); Hector Cori (DSM Nutritional Products); Stefano Fedele (UNICEF); Arlene Mitchell (Global Child Nutrition Foundation); and Rafael Fabrega (Tetra Laval Food for Development Office). We are sincerely thankful to all for taking the time and accepting to contribute your expertise to advance the global and regional school meals agenda.

A special thank you for the insightful review and comments also goes to a number of WFP experts and colleagues, in particular Carmen Burbano, Laura Irizarry, Diana Murillo, Mutinta Hambayi, Charlotte Cuny, Alessandro Di Nucci, Carol Montenegro and Elena Ganan. Last but not least, the study was peer reviewed by IFPRI, INSP and the WFP Centre of Excellence against Hunger.

This publication was truly a joint effort of a wide variety of national, regional and international partners – coming together in the spirit of sustainable and quality national school meals programmes that can best serve schoolchildren. It is just a start. Thanks to all for joining this effort and we hope to count on you for future analysis of school meals programmes in Latin America and the Caribbean.

Executive Summary

Over the past years, Latin America and the Caribbean has achieved impressive socio-economic development. More than 30 million people have overcome hunger in less than twenty years, and significant results have been achieved in terms of nutrition. In 1990, about 13.9 million children under five years of age suffered from stunting, decreasing to 6.1 million in 2015. Nevertheless, chronic malnutrition still affects 11.6 percent of children under five. On the other side of the malnutrition spectrum, childhood overweight and obesity are on the rise. In most Latin America and Caribbean countries, undernutrition and micronutrient deficiencies coexist with rising levels of obesity, largely affecting school-age children and adolescents. On the education front, there has been significant progress in reducing the number of out-of-school children. However, according to UNESCO, about 3.6 million primary schoolchildren are still out of school in the region (2016).

As the context changes, the problems schoolchildren and adolescents face today are not the same as a few decades ago. In a region where universal access to primary education is nearly achieved, key priorities for governments are the expansion of education services to pre-primary and secondary school-age children and enhancing the quality of education for all children, ensuring that no one is left behind. In the face of the double burden of malnutrition, priorities for school age children appear to be promoting good nutrition and healthy eating habits, addressing and preventing micronutrient deficiencies and tackling the specific needs of adolescent girls and other vulnerable groups.

Nearly all countries in the region implement school meals programmes. Today, about 85 million schoolchildren in the region receive school meals every day, with an annual investment of approximately USD 4.3 billion, primarily coming from national budgets.

Governments prioritize school meals programmes more than ever before because, in addition to their contribution to education, school meals provide critical support to vulnerable and deprived families. Nutritionally balanced school meals, along with complementary nutrition education and health measures, can support child development and hunger reduction, with short- and long-term benefits. When linked to local food production, school meals programmes also have the potential to benefit local producers and economies while promoting long-term food security. Renewed attention has been recently given to the potential health and nutrition benefits of school meals. In the fight against hunger and malnutrition, "nutrition-sensitive" actions will be critical components of any global strategy to eliminate malnutrition. There is wide consensus that the reach and focus of social protection programmes should be used to improve nutrition outcomes. School meals programmes have an important role to play. When appropriately designed, they have the potential to improve the diets and nutrition knowledge and practices of millions of schoolchildren and their communities.

The Latin America and the Caribbean region is a pioneer in this approach. Over the course of the years, school meals programmes have been evolving to adapt to the changing needs. Many countries are progressively embedding school meals programmes in their wider nutrition and food security policy frameworks. Governments increasingly seek to provide nutritious and healthy school meals and snacks adapted to diverse local cultures, as well as to link them to local food production and local economies. The attention to the quality and composition of school meals and the interest in the potential role they can play in fostering healthy diets within and beyond school grounds have also been triggered by the surging rates of overweight and obesity in the region. If some countries have developed promising and innovating strategies and approaches to enhance the nutritional impact of their school meals programmes, these have not been fully documented yet.

By systematizing and sharing knowledge on nutrition-sensitive approaches for school meals in the region, this study tries to analyse how national school meals programmes address hunger and malnutrition in all forms and accelerate progress toward Sustainable Development Goal 2 (Zero Hunger), shedding light on country practices that can serve to inform nutrition-sensitive school meals programmes in other countries. The information presented allows to identify implementation approaches and innovations that could be documented in greater detail in the future and possibly scaled-up and replicated.

The study was coordinated by the WFP Regional Bureau for Latin America and the Caribbean, in partnership with the Latin American Network for School Meals (La-RAE). The analysis draws both on primary and secondary sources of information about school meals programmes in 16 Latin America and Caribbean countries. The core sample is composed of the 13 countries where WFP has presence, namely Bolivia, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay and Peru. Additionally, it includes information about three larger and well-established programmes: Brazil, Chile and Mexico.

The study provides a comprehensive picture of regional characteristics and trends. Quantitative information was gathered through a questionnaire. Survey information was complemented by secondary data from government websites and other internet sources, published case studies, legal and policy documents, guidelines, reports, and country presentations delivered at regional seminars. Government counterparts, WFP country offices, experts and partners provided additional information and invaluable analytical insights.

A first common finding of the study shows how school meals programmes in the region have advanced remarkably in the last decades. Many countries have embarked on an ambitious journey to reform and redesign their school meals programmes to address the new challenges their schoolchildren face. However, despite undisputed achievements and progress, the nutritional potential of school meals is often underutilized and could be optimized with some key

investments to the current large-scale programmes. The study identifies six main areas where opportunities for improvement.

1. **Smart investment on quality school meals programmes that maximize their contribution to nutrition. Strong focus on micronutrient deficiencies, overweight and obesity, the promotion of lifelong healthy eating habits, and special approaches for adolescent girls and pre-primary schoolchildren.**

   A strong focus on micronutrient deficiencies, overweight and obesity, the promotion of lifelong healthy eating habits, as well as special approaches for adolescent girls and pre-primary schoolchildren are key elements of success. One area of great achievement in the region is that food baskets and menus are being diversified and improved. Nevertheless, in several countries more attention needs to be paid to the micronutrient content of meals as well as to food fortification options.

   The surging rates of overweight and obesity have triggered a strong interest in the potential of the school environment to promote healthy eating habits and lifestyles. School meals, combined with nutrition education and the promotion of physical activity, are a cornerstone of this approach. Strengthening nutritional and food safety guidelines and norms, promoting healthy and sustainable eating practices through nutrition education, and linking programmes with school-based health services are key elements that need to be implemented through more comprehensive, integrated and systematic approaches.

   Home-grown school meals approaches are being increasingly implemented in the region to foster healthier and more diversified meals that use local fresh products and support smallholder farmers and local economies. Yet, in many countries, bringing successful home-grown models at scale and ensuring the nutritional value and safety of the food provided at school, while maintaining costs at a reasonable level, are still challenges.

2. **Continued political and financial commitment to advance the quality of service provision.**

   Political commitment to school meals programmes is a common strong feature in the region. Most countries have adopted a rights-based approach to school meals, and have achieved or are about to achieve universal coverage at the primary school level. The improvement of legal and policy frameworks over the past decade has contributed to programmes' sustainability. However, in several countries, regulations are still fragmented or incomplete, and full compliance with norms and guidelines by all actors is still challenging.

   Governments have also demonstrated strong financial commitment to school meals, making tremendous efforts to expand their programmes' coverage. However, ensuring adequate funding remains a challenge for a number of countries, as well as ensuring quality service provision all year round.

A few countries are now expanding their programmes to secondary education, although generally with stricter eligibility criteria. This universal approach is indeed a success area in Latin America and the Caribbean. Yet it entails some trade-offs in terms of costs and efficiency, as the steady increase in the number of beneficiaries might have partly compromised the nutritional quality or the steady provision of school meals in some cases.

One approach that is increasingly being used in the region is to provide differentiated food baskets based on vulnerability criteria, whereby children attending schools in particularly vulnerable areas are entitled to more or different food. Targeting free meals in most deprived areas, while introducing a subsidized cost within less deprived communities or requesting better-off families to contribute to part of the costs, might be the next step in some countries. Implementing strategies to reduce food waste and optimize resources while continuing to guarantee the universality of the school meals programmes was also identified as a common challenge in the region.

3. Strengthened monitoring and evaluation systems to support the expansion of school meals programmes.

Monitoring and evaluation systems are a cornerstone for effective school meals programmes, but they are often weak. Nutrition-related indicators specific to school-age children are rarely included. Detailed studies on the role, scale and impact of food and nutrition education and school-based health and nutrition services linked to school meals programmes are also scarce.

Enhancing data collection and nutrition surveillance at the school level, monitoring cost-per-child, and carrying out independent impact evaluations are priorities for programme improvements and will require greater attention from policymakers and implementers. Developing internationally recognized indicators for monitoring nutrition outcomes for school-age children is another important gap area that calls for different actors to join efforts. Lastly, another area for future research is the cost effectiveness of different modalities and implementation approaches, in particular regarding nutrition outcomes.

4. Nutrition-sensitive school meals programmes integrated within wider national social protection systems and linked to other social protection instruments.

While this study shows that school meals are recognized as powerful safety nets and important components of national social protection systems in most countries of the region, only in a few cases they are integrated in national social protection laws and policies or have clearly stated social protection objectives. In general, school meals programmes are not designed, reviewed and evaluated in conjunction with other social protection instruments supporting the same target population.

A more intentional effort to frame, design and implement school meals within the national social protection system is needed. Creating stronger links between school meals and other national social protection instruments is key to optimize their respective contribution to overlapping social protection objectives and to nutrition-sensitive approaches. In a region on the forefront of both conditional cash transfer programmes and school meals, where unique registries and integrated information management systems are on the rise, a stronger integration of school meals programmes in the broader social protection system can greatly enhance programmes' efficiency, impact, inclusiveness and sustainability. School meals have also been used and expanded in response to emergencies and could be considered an important tool for shock-responsive social protection.

5. Renewed forms of community participation to enhance local ownership and advance gender equality.

Communities and local stakeholders are highly involved in the management of school meals, showing strong local ownership and participation, a key feature of most programmes in Latin America and the Caribbean. Yet, gaps are still evident, especially in terms of enhancing gender equality.

Renewed forms of community participation to ensure local ownership of nutrition-sensitive school meals programmes and accelerate their contribution to gender equality need to be crafted. New opportunities to promote gender equality within and outside the school environment and address the specific needs of girls, boys, women and men, including their specific nutrition needs, are essential.

6. Different contexts, many actors, one community of practice: joining forces to move towards more innovative partnerships to strengthen nutrition outcomes.

There is a tremendous opportunity for different actors to join forces under innovative partnerships for nutrition-sensitive school meals. This includes further strengthening multisectoral approaches, improving institutional coordination, and looking at innovation and new information technologies that can facilitate school meals knowledge management and dissemination. Given the wealth of practice, South–South cooperation offers a unique opportunity in the region.

Development partners, research institutions, and the global and regional school meals community of practice stand by to support governments in the region to analyse and improve their school meals programmes to better contribute to nutrition results and to achieve the Sustainable Development Goals by 2030 – leaving no one behind and starting from those furthest behind.

1 Introduction

Chapter 1

1.1 Background and purpose

School meals programmes are the most prevalent safety net worldwide (World Bank, 2015). In addition to their contribution to education, they support families and help promote human development (Alderman and Bundy, 2011). Nutritionally balanced school meals, along with complementary nutrition education and health measures, support child development and hunger reduction through enhanced nutrition and improved learning ability, with short- and long-term effects. When linked to local production, school meals programmes also have the potential to benefit local producers and economies and promote long-term food security (Bundy et al., 2009).

Renewed attention has been recently given to the potential health and nutrition benefits of school meals. In the fight against hunger and malnutrition, *"nutrition-specific"* interventions are not sufficient. *"Nutrition-sensitive"* actions will be additional critical components of any global strategy to eliminate malnutrition (Ruel and Alderman et al., 2013). There is wide consensus that the reach and focus of social protection programmes should be used to improve nutrition outcomes. Significantly, the Second International Conference on Nutrition identified social protection, including school meals, as a key sector to tackle malnutrition in all its forms (FAO and WHO, 2014)."

School meals programmes have an important role to play in the fight against hunger and malnutrition. When appropriately designed, they have the potential to improve the diets and nutrition knowledge and practices of millions of schoolchildren and their communities.

Nutrition-specific and nutrition-sensitive interventions

Nutrition-specific interventions or programmes address the immediate determinants of fetal and child nutrition and development – adequate food and nutrient intake, feeding, caregiving and parenting practices, and low burden of infectious diseases.

Nutrition-sensitive interventions or programmes address the underlying determinants of fetal and child nutrition – food security, adequate caregiving resources at the maternal, household and community levels, and access to health services and a safe environment – and incorporate specific nutrition goals and actions, thus accelerating progress of nutrition-specific interventions.

Source: Ruel and Alderman et al. (2013).

The Latin American and the Caribbean (LAC) region is a pioneer in this approach, as many countries are progressively embedding school meals programmes in their wider nutrition and food security policy frameworks. Nearly all countries in the region implement school meals programmes. About 85 million schoolchildren receive school meals every day, with an annual investment of approximately USD 4.3 billion, primarily coming from national budgets (WFP, 2013). Governments increasingly seek to provide nutritious and healthy school

meals and snacks adapted to diverse local cultures, as well as to link them to local food production and local economies. The attention to the quality and composition of school meals and the interest in the potential role they can play in fostering healthy diets within and beyond school grounds has also been triggered by the surging rates of overweight and obesity in the region. In Latin American countries in particular, undernutrition and micronutrient deficiencies coexist with rising levels of obesity among schoolchildren and adolescents.[1]

However, if some countries have developed promising and innovating approaches to enhance the nutritional impact of their school meals programmes, these have not been documented yet. In addition, many programmes cannot be considered yet truly nutrition-sensitive, according to the characteristics we will review in the following sections. There is a general knowledge gap on the strategies and approaches adopted by countries to enhance school meals programmes' contribution to nutrition goals. This publication seeks to fill this gap and focuses on national programmes in LAC.

In line with its *Revised School Feeding Policy (2013)*, WFP is committed to working with partners to analyse and share knowledge on school meals to better support governments in implementing quality, sustainable programmes. The *State of School Feeding Worldwide*, published in 2013, presented a global picture on the status of school meals programmes. The *Global School Feeding Sourcebook (2016)* documented national school meals programmes through a collection of case studies. *Strengthening National Safety Nets - School Feeding: WFP's Evolving Role in LAC* presented a snapshot of WFP's work in support of national school meals programmes in LAC (WFP, 2015). This study intends to continue these efforts.

By systematizing and sharing knowledge on nutrition-sensitive approaches for school meals in the region, this publication hopes to contribute to unlock the potential of national school meals programmes to address hunger and malnutrition in all forms and accelerate progress towards Sustainable Development Goal 2 (Zero Hunger), and other Sustainable Development Goals (SDGs) under Agenda 2030.

The publications sheds light on country practices and experience that can serve to inform nutrition-sensitive school meals programmes in other countries. The information presented allows to identify implementation approaches and innovations that could be documented in greater detail in the future and possibly scaled up and replicated.

[1] *For more information, see The Lancet 2013 Series: www.thelancet.com/series/maternal-and-child-nutrition.*

Expert Viewpoint 1:

Why is WFP investing in nutrition-sensitive school meals?

Lauren Landis, Director of the Nutrition Division, World Food Programme

The year 2015 ushered in the Sustainable Development Goals (SDGs), which renew our efforts to eliminate poverty and expand and modernize this agenda to meet the new challenges of our world. For organizations like the World Food Programme (WFP) who are now plotting their courses for the future, it is critical to link our strategic plans with these new global targets, but also to ensure that we are equally visionary and modern to match the spirit of the SDGs.

It is a tremendous opportunity for those working in nutrition because it requires us to deliver so many of the core elements promised by the SDGs. This means expanding our objectives to address all forms of malnutrition and to respond to emerging trends associated with the nutrition transition (e.g. changes in diet and physical activity patterns), as well as the coexistence of undernutrition and overweight and obesity. It also means using integrated approaches; the determinants of nutritional status are known to be multisectoral, so we must also be multisectoral in our responses. Regarding this second aspect, nutrition-sensitive programming and policies are central.

At WFP, nutrition is a corporate priority area of focus and strengthening our nutrition-sensitive programming is a key part of this. This means we are breaking down the barriers between our organizational divisions and asking how we can best bring together contributions to nutrition from agriculture and food systems, safety nets and social protection, education and health. We are aiming to place nutrition at the centre of programme design, using the programme platforms we have to reach key vulnerable groups and adjusting activities to address different nutritional needs. The Latin American and Caribbean region is leading the way in demonstrating how we can contribute to strengthening national nutrition-sensitive strategies through systems-based approaches that link social protection, health and food systems for improved nutrition outcomes. We are also engaging in long-term collaboration with research partners to ensure that while we embark on new types of programming we are also learning from these experiences, using data to adjust ongoing programmes and generating new evidence that can benefit the broader development community.

Just as they have been a core element of WFP's efforts to fight hunger, school meals will be a core element of WFP's nutrition-sensitive strategy. School-age children stand much to gain from good nutrition: micronutrient intake plays a key role in aiding cognitive development among young children, even after the 1,000 days, as well as in preventing anaemia in adolescent girls or micronutrient deficiencies among other age groups. Meanwhile, the meals, take-home rations or conditional cash

transfers can provide further incentives to stay in school, which, especially for girls, can have intergenerational nutrition benefits.

Beyond these specific nutritional needs, however, we can think of schools as catalysts for promoting broader changes in communities. As a key community institution, schools can be a space where parents, teachers, children, local farmers, cooks and caterers come together to learn about nutrition and healthy eating habits, whether they relate to preventing undernutrition and micronutrient deficiencies, overweight and obesity, or all of the above. Planning nutritious school menus can also create demand for nutrient-dense foods that can be produced locally, allowing us to tap into value-chain approaches, like that of home-grown school meals programmes. These are the ideas that we would like to scale up and apply to other programmes as well, where we are delivering cash and voucher support, or where we can link to other government social protection programmes that could also stimulate demand for these foods. In this sense, school meals have been and will continue to be an important incubator for innovation.

Finally, not to be forgotten is the importance of equity in the SDGs. This is embedded in schools, where at least for a time, as long as they can enrol and stay in school, all children in a community are entitled to receive the same education and same meals, regardless of their race, ethnicity or gender. We owe it to the most vulnerable to ensure that school meals are as nutritious as possible, environments are as stimulating as possible, and education is as quality as possible, and that where it is feasible for us to address pre-existing inequities through more targeted support we do so.

1.2 Methodology and analytical framework

The publication was coordinated by the WFP Regional Bureau for Latin America and the Caribbean in partnership with the Latin American Network for School Meals (La-RAE). A large number of partners and experts have contributed to its content. Data were collected with the support of WFP country offices in the region and the government institutions in charge of school meals.

The analysis draws both on primary and secondary sources of information about school meals programmes in 16 LAC countries. The core sample is composed of the 13 countries where WFP has presence, namely Bolivia, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay and Peru. Additionally, it includes information about three larger and well-established programmes: Brazil, Chile and Mexico.[2]

These 16 countries represented 90 percent of the 85 million school meals beneficiaries reported for the region in the State of School Feeding Worldwide

[2] *This study does not cover other established national school meals programmes in countries such as Argentina, Uruguay, Costa Rica and Jamaica, among others.*

2013. While the study does not pretend to be fully representative of school meals programmes in the region, it provides a comprehensive picture of regional characteristics and trends, complementing other sources and studies published by governments and partner agencies.

Quantitative information was gathered through a questionnaire conducted between May and June 2016 (WFP School Meals Survey, Latin America and the Caribbean, 2016). This was based on the WFP Global School Feeding Survey used for the State of School Feeding Worldwide 2013 and includes additional questions on nutrition-sensitive approaches. Survey information was complemented by secondary data from government websites and other internet sources, published case studies, legal and policy documents, guidelines, reports, and country presentations delivered at regional seminars. Government counterparts, WFP country offices, experts and partners provided additional information and invaluable analytical insights through in-depth stakeholders' interviews. As programmes are constantly evolving, changes may have taken place since the data collection.

1.3 Programme impact pathways for school meals

The burdens of hunger, malnutrition and ill health on school-age children are major constraints in achieving SDG 2 and other SDGs. Investing in nutrition during the period from conception to two years – the first 1,000 days – is a priority.[3] Nevertheless, preventing micronutrient deficiencies and addressing the nutritional needs at every stage of life is also crucial. School-age children undergo considerable physical and mental development, and therefore require substantial amounts of protein, energy and micronutrients to satisfy their needs. The nutritional status of school-age children and adolescents affects their physical development, health, learning and cognitive potential, and subsequently their school attendance and educational achievements. Sequencing interventions for different age groups and their respective nutritional needs widens the window to improve nutrition in the first 1,000 days through intergenerational effects.

Nutritious school meals can offer direct benefits to the health and nutrition well-being of pupils. By promoting healthy diets, they also provide an opportunity to address the problems of childhood overweight and obesity, as well as anaemia, among the most pressing challenges in LAC. There is growing attention to the potential for schools to serve as a platform for enhancing students' knowledge and practices related to improved food choices, while providing an integrated package of interventions that support nutrition, including nutrition education, micronutrient supplementation, deworming and health promotion. Furthermore, school meals provide a market opportunity that may enhance local agricultural production and food systems, contributing to food and nutrition security. Combined interventions can unleash a chain of beneficial impacts that break the cycle of poverty through better nutrition

[3] *See also: http://scalingupnutrition.org.*

and education, leading to improved employment opportunities and income, and improved dietary and health choices by parents in later life, which in turn lead to better birth and nutrition outcomes and enhanced educational success for the next generation (Global Panel, 2015).

School meals programmes provide food to children in schools. There are many types of programmes, but they can be classified in two main groups based on their modalities: (a) in-school meals and snacks, where children eat at school; and (b) take-home rations, where families are given food if their children attend school regularly. In LAC, governments and their partners provide mainly school meals or snacks. In-school programmes are often complemented by wider conditional cash transfer programmes linked to school attendance for vulnerable families. Unless otherwise specified, this publication uses the term school meals as a generic term to refer to meals or snacks provided in school.

School meals programmes may cover a wide range of education institutions. Information available in this publication, unless otherwise specified, covers formal pre-primary, primary and secondary education, with the exception of coverage (the proportion of schoolchildren who benefit from school meals programmes), which is calculated only for primary schoolchildren.

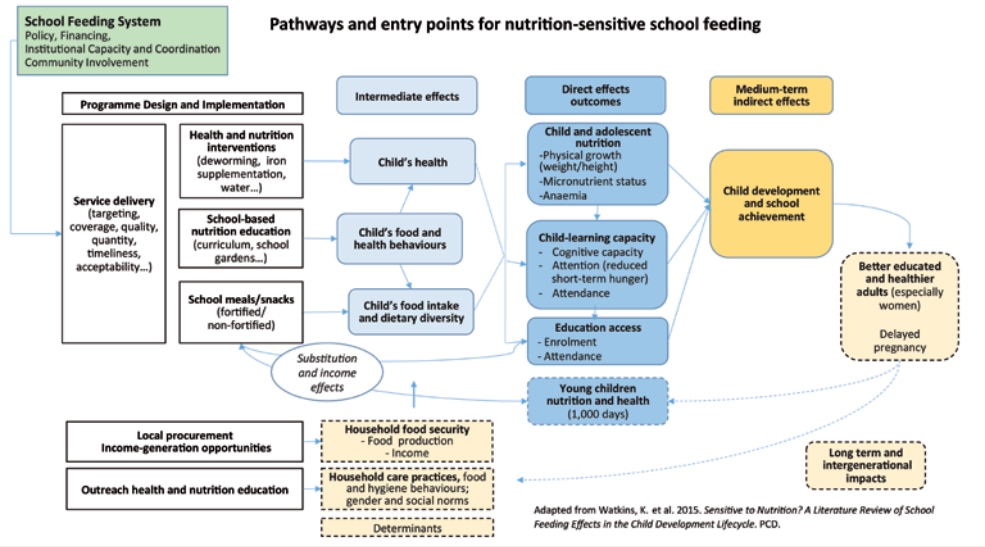
The analytical framework used in this publication builds on the five policy areas for school meals programmes, which were developed by WFP, the World Bank and the Partnership for Child Development, and were originally presented in the publication Rethinking School Feeding: Social Safety Nets, Child Development and the Education Sector (Bundy et al., 2009): (a) national policy frameworks; (b) financial capacity; (c) institutional capacity and coordination; (d) design and implementation; and (e) community participation.

Furthermore, building on previous literature, a programme theory of change approach was used to identify possible entry points for nutrition-sensitive school meals and inform the analysis (see Box 1).

Box 1: Pathways and entry points for nutrition-sensitive school meals

School meals programmes in low- and middle-income countries are often designed to address the challenges of malnutrition and hunger on the development of school-age children. An increasing number of countries, especially middle and high income, are also trying to address unbalanced diets and increasing rates of overweight and obesity.

The figure below shows the different, interrelated pathways through which the provision of school meals may affect schoolchildren's food consumption, nutrition and health, and impact on child development. It also describes the lifetime and intergenerational pathways through which school meals may impact child nutrition at the household and community levels.



Food intake, in terms of quantity, quality and diversity, plays a major role in determining nutritional status and provides the most direct link between school meals and nutrition. Many school meals programmes supplement the food provided at home and improve schoolchildren food consumption and dietary diversity by improving children's access to healthy foods and by providing macro- and micronutrients often missing from the diets of children in middle- and low-income countries (Alderman, 2016). A study conducted in Ghana in 2014 showed that energy, nutrient and micronutrient intake were significantly higher and more adequate among children participating in a school meals programme (Abizari et al., 2004). When examining diet quality of elementary students, a recent study carried out in the United States found that eating school lunch was associated with higher overall diet quality compared with obtaining lunch from home (Au *et al.*, 2016).

Improved food intake might help **physical growth in terms of height and weight**, but only limited effects are expected. For example, a review of school meals

studies in low-income countries found a small, significant improvement in weight gain (Kristjansson *et al.*, 2007). Weight gain can be either positive (in underweight and food insecure populations) or negative (when risks of obesity are high). On the other hand, recent evidence suggests that the provision of healthy meals in schools has the potential to **mitigate rising rates of overweight** among children, where attention to meal quality is effectively integrated with nutrition education and physical activity (Global Panel, 2015; Waters *et al.*, 2011; Verstraeten *et al.*, 2012). While major effects on height are not expected in school age children (Ruel and Alderman *et al.*, 2013; Kristjansson *et al.*, 2007), recent research suggests that improving the nutrition and health environment of school-age children can make a small contribution to linear growth potential and may prevent the continuation of the stunting process in older children (Global Panel, 2015; Best *et al.*, 2010). A study in India showed that children whose families were affected by a severe drought suffered a decline in growth that left them stunted, but where children during that time were participating in India's Midday Meals scheme their height was not compromised (Singh, Park and Dercon, 2014). Nearly all of the studies that reported significant height and weight gains included an animal-based product, not usually included in school meals programmes in low-income countries (Watkins et al., 2015).

There is ample evidence that school meals can **reduce micronutrient deficiencies**, such as iron deficiency anaemia and iodine and vitamin A deficiencies. Providing multiple micronutrients might be more effective than single micronutrients (Best *et al.*, 2011). For instance, in Uganda, adolescent girls benefiting from school meals experienced significant declines in anaemia prevalence relative to a control group (Adelman *et al.*, 2015). Improvements in micronutrient status may be achieved by providing a fortified staple, as in the Ghana example. Providing animal products, as in a trial in Kenya, is another means – comparatively more expensive – to enhance the effectiveness of programmes on the micronutrient status of children (Neumann *et al.*, 2003). Micronutrient mixes can be added to meal preparation too.

The overall nutritional impact is mediated by **household substitution effects**, that is, the extent food is substituted (at least partly) for food normally consumed at home. A number of studies show that the additional calories and nutrients provided tend to "stick" with beneficiary children (Alderman and Bundy, 2011). Household substitution may be beneficial in some cases, as demonstrated by the improvement in nutritional status of young siblings in Burkina Faso and Uganda (Ruel and Alderman *et al.*, 2013). This remains an important area of research.

School meals programmes are more effective when they are integrated with school health and nutrition activities and with school-based health and nutrition education. A recent review in Latin America highlights how combined interventions promoting adequate nutrition practices and physical activity within the school environment are the most effective in preventing overweight and obesity among schoolchildren (Mancipe Navarrete *et al.*, 2015).

At the child level, the capacity to absorb nutrients and thus the child's health

status also determine nutritional impact. **Complementary school health and nutrition activities** can contribute to enhance schoolchildren health. In particular, deworming can contribute to the effectiveness of school meals by removing one of the constraints to iron absorption. While the value of mass deworming is still debated, deworming can be cost-effective in improving school participation by reducing incidence of sickness, and can improve children's weight and haemoglobin values among anaemic children (Bundy *et al.*, 2009).

Both child food consumption and health involve **food consumption and hygiene behaviours**. Other factors to consider at the community and household levels include child-care behaviour, the gender and social norms regarding foods, the allocation of resources within the household, and the parents' education level and knowledge about nutrition. These can be influenced by **school-based health and nutrition education interventions**, including school gardening, directed to schoolchildren and the wider community. In particular, schools can serve as a platform to promote lifelong healthy eating habits.

Nutritious school meals influence learning and educational performance through improved cognitive ability, and through their influence on classroom attendance by reducing disease-related absences. Micronutrients such as iron, zinc and iodine are critical components for the development of a child's brain. There is ample evidence that iron supplementation improves mental functions, as demonstrated for instance by intelligence tests and math scores (Bundy *et al.*, 2009; Best *et al.*, 2011; Luo *et al.*, 2012). Moreover, reduced hunger may have a short-term impact on attention in the classroom (Adelman, Gilligan and Lehrer, 2008).

In the long term, improved productivity and income of healthier and more educated adults leads to increased household food security. School meals programmes can contribute to ensure that girls are well prepared to become mothers, both through adequate nutrition and education. It is increasingly apparent that reaching young women with iron and folate prior to pregnancy can have long-term public health benefits (Bhutta, Das and Rizvi *et al.*, 2013). Better nutrition among adolescent girls reduces maternal mortality and low birthweight, with positive impacts on the next generation. Parental schooling, especially maternal education, has also been consistently associated with child nutritional status (Ruel and Alderman, 2013). This is another entry point to the first 1,000 days of children's lives. The global trend towards parity in education, to which school meals programmes may contribute, is thus encouraging for nutrition.

A second path is when school meals programmes are linked to local food production and economies (home-grown school meals). The local procurement of food for schools from local farming communities can support rural livelihoods and promotes sustainable local markets for diverse, nutritious foods, contributing to food security. Locally sourced school meals may help to increase the variety and quantity of healthy foods, such as vegetables, in the schools (Sidaner, Balaban and Burlandy, 2013; Soares *et al.*, 2017). This approach is being successfully tested in a number of countries, with a view to scaling up the best and most cost-efficient models.

Procuring food locally also poses new challenges. For instance, when responding to seasonal shortages, ensuring food safety, or when fortifying food, a process that is often undertaken at the centralized level. This is why most countries are increasingly seeking hybrid solutions, where centralized and decentralized models coexist depending on specific contexts and needs.

In order to enhance their contribution to child nutrition, school meals programmes must be designed adequately. In particular, they must have clear nutrition objectives corresponding to school-age children's needs, provide adequate, nutrient-rich foods, and reach nutritionally vulnerable groups such as adolescent girls and pre-schoolers. Supportive and well-functioning policies and institutions are also essential. Potential trade-offs in programme design need to be carefully assessed in order to make programmes more efficient as well as more nutrition-sensitive.

2

Regional overview: the evolution of school meals

Chapter 2

2.1 Setting the stage: the Latin America and Caribbean context

2.1.1 Economic growth and poverty

Over the past two decades, Latin America and the Caribbean (LAC) has achieved impressive socio-economic development. The regional gross domestic product (GDP) per capita grew at an average rate of 2.5 percent between 2000 and 2012. Inequality reduced significantly, and the regional Gini coefficient[4] for per capita income decreased by 5 percentage points, from 0.57 in 2000 to 0.52 in 2012 (Vakis, Rigolini and Lucchetti, 2016).

Socio-economic development, reductions in income inequality, and gradual consolidation of national social protection systems set the ground for improved incomes and well-being of the poor. Between 2003 and 2012, about 70 million people moved out of poverty, the strongest reduction in decades. However, while many people have worked their way out of poverty, most of them remain vulnerable and at risk of falling back into poverty. At present, one in four people remain poor in the region – compared to 42 percent in 2003 - and 12 percent live in extreme poverty. In general, while rural areas often present higher poverty prevalence, urban settings show higher numbers of chronic poor in absolute terms. This scenario calls for more attention on how to establish or improve more integrated social protection systems for people who remain vulnerable (Vakis, Rigolini and Lucchetti, 2016).

2.1.2 Food security and nutrition

Progress in the region is also notable in terms of food security and nutrition. More than 30 million people have overcome hunger in less than twenty years. The region has enough food to feed its population, as a result of growing agricultural production as well as policies dedicated to improving food access for the most vulnerable. Despite these advances, undernourishment still affects over 34 million people, which requires greater efforts to achieve zero hunger.[5]

Achieving food security has become a priority in the regional and national development agendas. The Hunger Free Latin America and the Caribbean Initiative, launched in 2005, shows the commitment of countries and organizations in the region to eradicate hunger by 2025.[6] In 2015, the Community of Latin American and Caribbean States (CELAC) also endorsed this objective through its Plan for Food Security, Nutrition and Hunger Eradication. Furthermore, most countries have adopted or are discussing national, multisectoral food and nutrition security laws.

[4] *The Gini coefficient is a measure of statistical dispersion intended to represent the income distribution of a nation's residents, and is the most commonly used measure of inequality.*

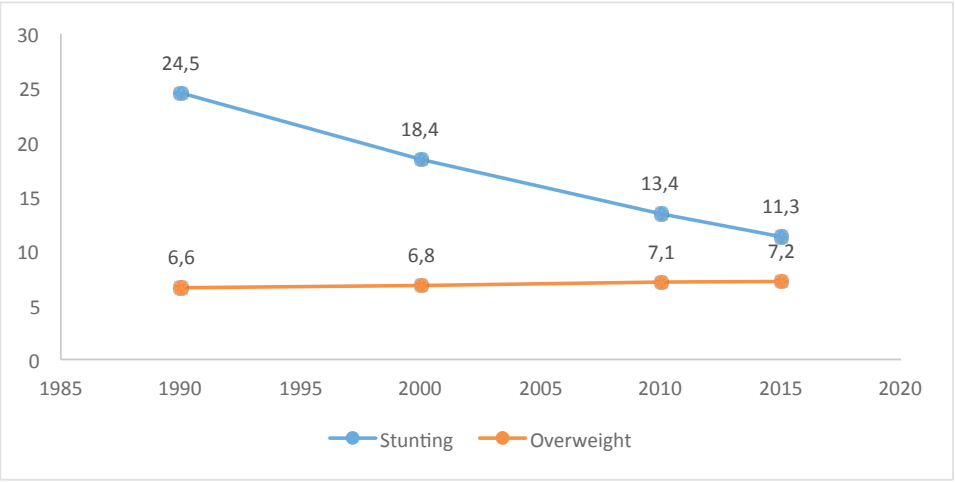
[5] *Number of people undernourished in total population: The State of Food Insecurity in the World (SOFI) Report, WFP, FAO, IFAD, 2015: http://www.fao.org/3/a-i4646e.pdf.*

[6] *WHO, Global Health Observatory: www.who.int/gho/en*

Significant results have been achieved also in terms of nutrition (see Figure 1). In 1990, about 13.9 million children under five years suffered from stunting, decreasing to 6.1 million in 2015. Nevertheless, chronic malnutrition still affects 11.6 percent of children under five years, with important differences in prevalence rates across countries. In addition, data from first-grade students in Central American countries (aged 6–9) show prevalence of stunting above 20 percent in most countries, with the highest rates found in Guatemala (45.6 percent), followed by Honduras, Nicaragua and Panama (Pérez and Barrios, 2013). These rates contrast with the very low prevalence found among primary schoolchildren in Chile and the Dominican Republic (INABIE, 2013; McEwan, 2013).

Significant efforts have been made in recent decades to prevent and control micronutrient deficiencies in LAC. However, micronutrient deficiencies, particularly anaemia, are still common, especially in the most economically disadvantaged and vulnerable groups. There is also a high prevalence of zinc deficiency in children under 6 years of age and in girls and women 12 to 49 years of age (Lopez de Romaña, Olivares and Brito, 2015). Anaemia, which can result from iron, folate or vitamin B12 deficiency, among other causes, negatively impacts work capacity, intellectual performance and child cognitive development. Zinc deficiency can also affect brain development and cognition (Best et al., 2010). It is important to note that data on the micronutrient status of school age children are limited, as this age group is not commonly included in health and nutrition surveys. In addition, about 131 million school-age children in the region live in areas where prevalence of any soil-transmitted helminth infection, caused by different species of parasitic worms, is estimated to exceed 20 percent (Pullan et al., 2010). A high prevalence of worm infestation can be associated with iron deficiency anaemia and undernutrition due to limited absorption of nutrients.

Figure 1: Prevalence of stunting and overweight in LAC (children under 5)[7]



[7] *WHO, Global Health Observatory: www.who.int/gho/en*

Expert Viewpoint 2:

The role of school meals and nutrition programmes in the prevention of child obesity in Latin America and the Caribbean

Juan Angel Rivera Dommarco, Director, Center for Nutrition and Health Research, National Institute of Public Heath of Mexico

The year 2015 ushered in the Sustainable Development Goals (SDGs), which renew our efforts to eliminate poverty and expand and modernize this agenda to meet the new challenges of our world. For organizations like the World Food Programme (WFP) who are now plotting their courses for the future, it is critical to link our strategic plans with these new global targets, but also to ensure that we are equally visionary and modern to match the spirit of the SDGs.

Between 43 million and 52 million children and adolescents in Latin America are overweight or obese, which is equivalent to between 20 and 25 percent of the population of this age in the region.[1] Obesity in children has immediate consequences on physical and emotional health of those who suffer from it[2] and increases the risk of obesity and chronic non-communicable diseases in adulthood.[3]

The rise in overweight and obesity is largely explained by the substitution of our traditional diets for diets high in calorie per gram of food, rich in industrially processed foods that are usually high in sugar and fat and low in fiber. In addition, water has been substituted for sugary drinks. The growth of obesity is also explained by the decrease in physical activity.

In view of the number of children who are overweight or obese, the associated detrimental effects on health and the cost to health-care systems, the implementation of programmes to monitor and prevent unhealthy weight gain in children and adolescents are urgently needed throughout Latin America.

Food available on school premises is far from being healthy. As a response, the governments of various countries are regulating the types of food and beverages available, promoting the provision of water, vegetables and fruits, and of dishes made with fresh and healthy ingredients and restricting ultraprocessed foods and snacks and sugary drinks.[4]

Given the high coverage of basic education services in Latin America, schools are a great tool to modulate the formation of healthy eating patterns. In addition, given the scale of the food services they provide, they can become an instrument to generate demand for fresh and healthy food and boost local food systems. For example, Brazil, which provides lunches to over 41.5 million schoolchildren, established a law to norm the supply of food in schools, which states that a high proportion of supply must come from non-processed and fresh food, such as rice, beans, vegetables and fruits, therefore generating demand for healthy food.

Likewise, the law mandates that at least 30 percent of all food comes from local producers, which protects these vulnerable productive sectors.[5]

Schools offer a favourable platform to modify the very factors that lead to obesity and to prevent it from happening early on by offering healthy foods and promoting physical activity. As competences for life are formed at school, healthy eating and an active lifestyle should also be promoted. The experience consolidated in the past years in Latin America sets solid foundations to continue building a future where all schoolchildren in the region have access to healthy food, contributing to protect their present and future health.

[1] Rivera et al., 2014.
[2] Must and Strauss, 1999; Dietz, 1998; Puhl and Latner, 2007.
[3] Serdula et al., 1993; WHO, 2003; Nishida et al., 2004; Lobstein et al., 2004.
[4] Jacoby et al., 2012.
[5] Law 11 947, 2009: www.fnde.gov.br/programas/alimentacao-escolar/agricultura-familiar.

On the other end of the malnutrition spectrum, childhood overweight and obesity are on the rise (Rivera *et al*., 2014). In most LAC countries, undernutrition and micronutrient deficiencies coexist with rising levels of obesity, largely affecting schoolchildren and adolescents. Addressing micronutrient deficiencies and preventing overweight and obesity are two main priorities for action in this age group, including through integrated school meals and nutrition programmes. Many countries have not adjusted their nutrition and food policies and programmes – designed some decades ago for the prevention of undernutrition – to the new epidemiological profile in the region. However, a growing number of countries are implementing national strategies for the prevention of obesity, among them Costa Rica, Ecuador, Mexico and Peru. (See Expert Viewpoint 2)

2.1.3 Education

Despite remarkable achievements throughout the region, high levels of inequality and poverty continue to represent an obstacle to the expansion of and access to quality education in the region (UNESCO, 2014).

Over the last decade there has been significant progress in reducing the number of out-of-school children, but there is still an important gap. According to UNESCO, about 3.6 million children, or 6 percent of primary school age are out of school in LAC, and 61 million worldwide (UNESCO, 2016b).[8] Achieving universal primary education is still a challenge. While the region maintained relatively high net enrolment rates for primary education, there was a setback, from 94.3 percent of enrolled students in 2000 to 92.4 percent in 2013 (UNESCO, 2013). Drop-out from primary education is still a problem in many countries. The Regional Comparative and Explanatory Study (TERCE), published by UNESCO in 2015, also showed that while student performance improved, inequality and other factors continue to affect learning performance (see Expert Viewpoint 4) (TERCE and UNESCO, 2015).

Disparities in pre-primary enrolment rates also persist. There is strong evidence that preschool experience increases school readiness, timely enrolment and better performance in the first grade, and reduces school drop-out and repetition. Early childhood care and education programmes generally do not reach the poorest and most disadvantaged children who stand to gain the most in terms of health, nutrition and cognitive development. There is a general lack of data and information concerning the quality of pre-primary schooling.

Countries remain uneven also in terms of the level of schooling achieved by adolescents and young people. 2.8 million adolescents of lower secondary school age – or 7.7 percent – are out of school (UNESCO 2016b). The number of young people completing secondary education did not show significant increase over the past decade; this appears to be primarily related to high repetition and drop-out rates rather than directly to lack of access or provision (TERCE and UNESCO, 2015).

Interestingly, in terms of gender disparity, both for primary and secondary education, the LAC region shows a quite unique situation. The 2013 gender parity index, which compares boys and girls in terms of the net rate of enrolment in primary education, reached values close to one, which means perfect equality. Furthermore, the few still significant gender disparities found in primary education are mostly against boys (TERCE and UNESCO, 2015). Similarly, regarding access of both genders to secondary education, the disadvantage is mostly for adolescent men. In 2012, the average gender parity index in the net rate of enrolment in secondary education in the region was 1.08 (i.e. 8 percent in favour of women). Disparity against adolescent men was observed in 20 of the 31 countries analysed (TERCE and UNESCO, 2015).

These trends show that in a context where universal access to primary education is nearly achieved, key priorities for national governments include reaching the most vulnerable children who are still not enrolled in primary school and achieving universal secondary education. Other priorities include expanding access to early child-hood care and education programmes and to pre-primary education, and improving the overall quality of education and learning. Social protection and school-based health and nutrition programmes – including school meals – can significantly contribute to this expanded agenda for education (see Expert Viewpoint 3).

Evidence shows that well-designed school meals programmes can contribute to education well beyond enrolment by improving attendance, cognitive performance and learning outcomes, especially in food insecure settings. However, as part of a wider education system, school meals can only contribute if other major elements that have an impact on learning are in place. The TERCE study highlighted the importance of multisectoral programmes to address the barriers to school achievements. Increasing the coverage of compensatory programmes, including free school meals, can help disadvantaged households send their children to school, increase educational options and support children's learning.

[8] *See http://unesdoc.unesco.org/images/0024/002452/245238E.pdf*

Expert Viewpoint 3:

The importance of school health and nutrition interventions to achieve education goals

Andy Chi Tembon (World Bank) and Bachir Sarr (Partnership for Child Development)

A child who is hungry or sick will struggle to complete basic education. In order to achieve global education goals, it is essential that the poorest children, who suffer from ill health and hunger, are able to attend school and learn.[1]

There is a general recognition that school health and nutrition programmes contribute positively to global education goals by improving educational access and quality for the poorest children. For this reason, the Global Partnership for Education in its 2016–2020 strategic plan indicated that "We will work with the health sector because we recognize that education, particularly of girls and women, promotes strong health outcomes and good health improves learning outcomes".

The effects of various health and nutritional problems on children's education interact with one another. Health conditions of school-age children such as malaria or worm infections affect education, resulting in a reduction in enrolment and an increase in absenteeism. The irregular school attendance of malnourished and unhealthy children is one of the key factors in poor performance. Hunger and anaemia, on the other hand, also affect cognition and learning.

Many studies have demonstrated the impact poor nutrition can have on school attendance and absenteeism, and on learning,[2] particularly for the most disadvantaged children. In 1989, Simeon and Grantham-McGregor studied the effects of missing breakfast on the cognitive functions of schoolchildren and found that cognitive functions are more vulnerable in poorly nourished children.[3] In general, improving health and nutrition brings the greatest educational benefits to the poorest and most vulnerable schoolchildren.[4] In 1994, an evaluation of a school meals programme in Burkina Faso showed regular attendance, consistently lower repeat rates, lower drop-out rates, and higher success rates in national examinations, especially for girls.[5] In a study published in 2014, Cheung and Perrotta Berlin show that school meals programmes in Cambodia increased school enrolment in the short run for all the three types of treatment studied (on-site meals, take-home rations and full package including deworming).[6] A meta-analysis of 45 studies of school meals programmes around the world revealed that children receiving a school meal during the entire school year attend school 4-7 days more than children who do not receive school meals.[7]

Schools are a practical platform to deliver an integrated package of interventions, such as nutritious meals or snacks, micronutrient supplements or on-site fortification, infection control, health promotion and life-skills education, to improve schoolchildren health and nutrition. In 2000, at the World Education Forum in Dakar, Senegal, UNESCO, the World Health Organization, the United Nations Children's Fund, Education International and the World Bank launched the FRESH (Focusing Resources on Effective School Health) initiative to provide a set of unifying principles to guide school health policies and programmes globally. FRESH promotes government policies, a supportive school environment, skill-based health education, and health and nutrition services including school meals.

As one of the ranges of school health interventions, school meals programmes are most effectively implemented where a framework for broader school health policies is firmly in place. Furthermore, the impact of a school meals programme hinges, in part, on the quality of the educational services.

[1] Bundy, 2011. [2] Pollitt, 1990. [3] Simeon and Grantham-McGregor, 1989. [4] Vince-Whitman et al., 2001. [5] Ruel and Alderman et al., 2013. [6] Cheung and Perrotta Berlin, 2014. [7] Kristjansson et al., 2016.

2.2 Historical background on school meals programmes in Latin America and the Caribbean

There is a long tradition of school meals programmes in LAC. Today, every country in the region implements a national school meals programme, with the exception of Belize. Some of them, such as the Mexican, Costa Rican and Colombian programmes, are among the oldest in the world and originated at the beginning of the twentieth century. Most programmes covered in this study, as those in Bolivia, Chile, Haiti, Honduras and Guatemala, among others, have their origins in the middle of the twentieth century. In Ecuador and El Salvador, school meals programmes started in the 1980s and in Nicaragua they started in the 1994 (see Figure 2). Paraguay outstands, as the country only had small-scale activities as early as three years ago, and the new national programme launched in 2014 is reportedly reaching 95 percent of primary schoolchildren in 2016.[9]

In most cases, the consolidation of national programmes took at least 10 to 15 years to be completed. The majority of LAC countries started with programmes relying on external funding and implementation support, mainly from WFP, and evolved to national programmes funded and managed by national governments. The transition to national ownership was different in every country, but was generally characterized

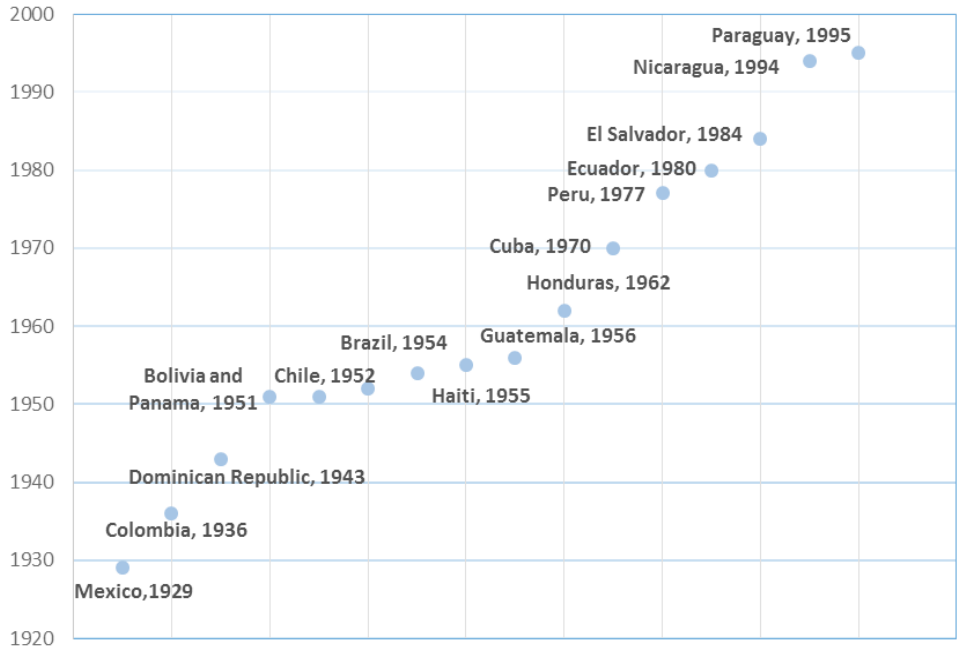
[9] *Website of Paraguay's Ministry of Education and Culture. Accessed 18 September 2015. http://mec.gov.py/cms_v2/entradas/296232-programa-alimentacion-escolar-avance-en-la-construccion-de-la-politica-publica.*

by a process of gradual institutionalization, with national policies and norms and financial and management capacity being progressively developed. Today, all these countries have national programmes. In the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua and Panama, national programmes began between 1995 and 2000. Peru consolidated its national programme in 2012. Started in 2014, the national programme in Paraguay is the most recent. An exception is Bolivia, where school meals are directly managed and financed by local municipalities, while the National School Meals Programme, under the Ministry of Education, provides guidance and technical assistance.

This evolution reflects an effort towards institutionalization and national ownership of school meals programmes that many other countries around the world are trying to achieve.

Partners, including WFP, still operate and provide complementary funding to school meals programmes in Haiti, Honduras and Nicaragua under the overall umbrella of established or nascent national programmes. While in Honduras and Nicaragua partners' support covers a relatively small share of total beneficiaries (13 and 23 percent, respectively), with the majority of the national programme funded by the governments, in Haiti, external partners support 88 percent of total school meals beneficiaries, with WFP school meals counting for over 55 percent of the total coverage. A number of external partners also provide implementation support in some regions of Bolivia, Colombia and Ecuador, among other countries, complementing the national programmes with specific school meals initiatives.

Figure 2: Beginning of school meals in LAC



Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

In recent years, this process of institutionalization has been further consolidated in countries such as Bolivia, Haiti and Honduras, through the approval of specific laws and policies for school meals. Programmes have also evolved over time to adapt to changing development priorities. These issues are further explored in the coming sections.

2.3 School meals beneficiaries and coverage

Today, **a common characteristic of school meals programmes in the region is their universal approach**. This means that all schoolchildren enrolled in the public education system throughout the country, irrespective of their socio-economic status or area of residence, are entitled to receive free school meals. Table 1 shows the school levels covered by the programmes and their targeting approach. Ten out of the thirteen focus countries, plus Brazil, have adopted universal approaches, and most of them are progressively reaching universal coverage at the primary level. One implication is that programmes aim to cover children in both rural and urban areas. The most salient exceptions are Chile and Colombia, where children are individually targeted within schools based on socio-economic criteria. This approach is rather common in most developed countries, where school canteen programmes offer subsidies to those low-income families who cannot pay for meals. In Haiti, the programme is geographically targeted: as part of the scale-up strategy, specific districts are prioritized based on food insecurity and other vulnerability criteria.

This universal approach is specific to the LAC region and closely linked to the rights-based approach that frames most national school meals programmes in the region. Geographical targeting instead is the most common approach in school meals programmes in low and low-middle income countries in other parts of the world, as targeting the poorest areas of a country can ensure that most benefits go to the poor, especially when resources are limited. Universal programmes are more likely to include a higher proportion of non-poor children and often have different objectives that are not only related to income (e.g. promoting nutrition and healthy eating habits for all). In addition, in many LAC countries better-off families often opt for private or semi private education; hence, the school meals programmes provided to public schools already cater for less wealthy sections of the population. In some cases, countries combine geographical and individual targeting. For instance, in Chile, schools are selected on the basis of a school vulnerability index based on household socio-economic data and then children are targeted within schools.

Another common characteristic in LAC is that almost all programmes target pre-primary as well as primary schoolchildren. The inclusion of pre-primary schools provides an opportunity to reach younger children, for which the nutrition benefits are potentially more important (Kristjansson et al., 2007). By comparison, according to the State of School Feeding Worldwide 2013, only about 40 percent of countries globally targeted pre-primary schools in 2012. In El Salvador, the programme also covers children under five in rural areas through the early childhood development centres.

Table 1: Targeting approaches and school levels covered

COUNTRY	PRESCHOOL	PRIMARY EDUCATION	LOWER SECONDARY EDUCATION
Bolivia	Universal	Universal	Universal (not fully achieved)
Dominican Republic	Universal	Universal	Universal (not fully achieved)
Ecuador	Universal	Universal	Universal
El Salvador	Universal	Universal	Universal
Paraguay	Universal	Universal	Not prioritized (vision is universal)
Nicaragua	Universal	Universal	Targeted, only for Saturday schools in rural areas
Peru	Universal	Universal	Geographical targeting
Honduras	Universal	Universal	-
Guatemala	Universal	Universal	-
Panama	Universal	Universal	-
Cuba	Universal	Universal	Universal
Haiti	Not prioritized (vision is universal)	Geographical (vision is universal)	Not prioritized (vision is universal)
Colombia	Individual	Individual	Individual
Brazil	Universal	Universal	Universal
Chile	Geographical & individual	Geographical & individual	Geographical & individual
Mexico	Not prioritized	Geographical & individual	Not prioritized

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

Note: "Not prioritized" means that a few schools may be covered, but in the context of limited resources, these are allocated in priority to other school levels

A number of countries have also expanded their programmes to lower secondary schools, often though with stricter targeting criteria. In Peru, for instance, the national programme was expanded in 2012 to cover secondary schools in the indigenous communities of Amazonia. A few countries also target higher secondary schools. This is the case of El Salvador, Cuba and Brazil. In the latter, the national school meals programme covers all students in public schools from six months up to secondary school. In general, the relatively small coverage at the secondary level in most countries may limit the opportunity to reach adolescent girls, a critical group for nutrition interventions. Nevertheless, it is important to note that in some cases older children can still be attending primary schools. This can happen for a number of reasons, from late enrolment to repetition, among others. In these cases, adolescent girls might be already reached with school meals in primary schools. This was noted for example in Haiti, as well as in rural areas of Bolivia, where "multi-grade" schools enrol children of different ages.

As a result of these policies, in the 16 countries analysed the coverage of national school meals programmes has been generally growing in the past few years, and this has led to an overall increase in the number of beneficiaries. In Haiti, instead,

school meals coverage increased significantly with partners' support in the aftermath of the 2010 earthquake, reaching over 1.3 million beneficiaries in 2011. From 2014, programmes were retargeted to most vulnerable and food insecure areas and decreased in size.[10] Another exception was observed in Chile, where the national school meals programme has experienced a significant decrease in coverage over the past few years (about 40 percent), primarily due to a gradual migration of students towards private and semi-private education institutions.[11]

Some 73.7 million schoolchildren are receiving school meals in the 16 countries covered by the study. Table 2 shows the total number of beneficiaries of school meals programmes. The numbers of children receiving school meals include all beneficiaries, irrespective of their age and education level. They also include those in WFP and other partner-supported programmes when the information was available. Brazil, with 41.5 million beneficiaries, has the second largest programme in the world after India. After Brazil, the largest programmes in the region are in Mexico, Colombia and Peru, with 6.4 million, 4 million and 3.5 million beneficiaries, respectively.

Table 2: School meals beneficiaries

COUNTRY	TOTAL NUMBER OF BENEFICIARIES	YEAR
Bolivia	2 383 408	2013
Colombia*	4 029 869	2015
Cuba	827 070	2015
Dominican Republic	1 739 355	2016
Ecuador	2 873 148	2015
El Salvador	1 300 000	2016
Guatemala	2 535 116	2015
Haiti	876 000	2016
Honduras	1 337 830	2015
Nicaragua	1 200 000	2015
Panama	499 137	2015
Paraguay	1 085 942	2014
Peru	3 537 460	2015
Total	**24 224 335**	
Brazil	41 500 000	2015
Chile	1 620 586	2015
Mexico	6 357 712	2015
Grand total	**73 702 225**	

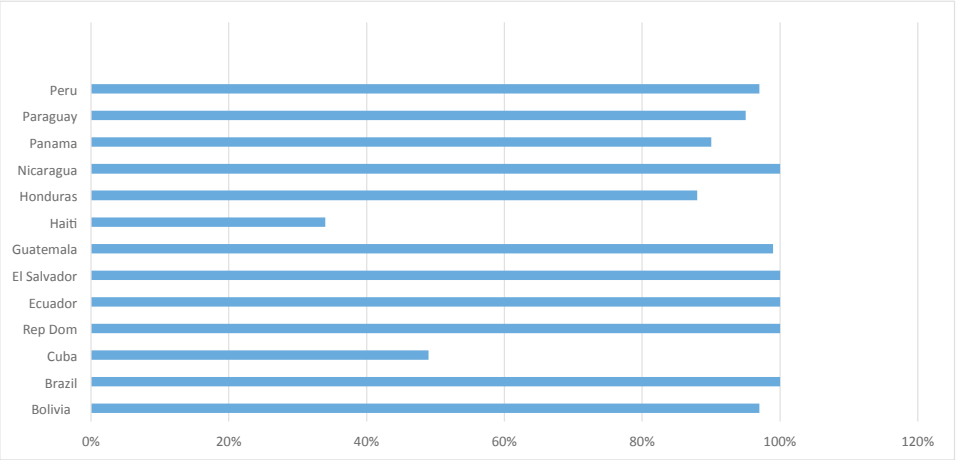
Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

**Number of daily rations provided.*

[10] *Figures from the three largest school meals actors in Haiti (WFP, PNCS and EPT). See Haiti first National School Meals Policy and Strategy: 24–25: www.menfp.gouv.ht/Doc-Alimentation-Scolaire.html.*

[11] *Latin American Network for School Meals. La-RAE, 2016.*

Figure 3: Coverage of school meals programme in primary education



Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

Note: The coverage in each country is estimated as the number of primary schoolchildren receiving school meals divided by the total number of pupils enrolled in public primary schools in the same year, as reported in the WFP School Meals Survey, Latin America and the Caribbean, 2016. In Haiti, the denominator is the number of children enrolled in all primary schools, as the programme in Haiti does not target public schools exclusively. For countries that did not report beneficiary figures by education level, estimated coverage was provided by the government (Bolivia, Dominican Republic, Ecuador, El Salvador, Nicaragua, Paraguay and Brazil). Figures were not available for Colombia, Mexico and Chile.

Nearly all countries that have opted for universal approaches have reached or are about to reach universal coverage at the primary-school level (Figure 3).[12] In most countries, however, programmes do not always manage to provide a meal every school day, mostly due to budget constraints and timely funding. In countries where achieving universal coverage is still a challenge, scale-up strategies usually prioritize primary schools and rural, vulnerable areas. In secondary schools, where children might prefer other options for their meals, especially in urban and less vulnerable areas, the risk of food wasting is higher. In Cuba, for instance, the Government noticed that some food was wasted in secondary schools, as some students did not consume the school meal. As a response, families are now asked whether they want to use the school meal service, or they rather prefer their children to go back home for the school break. This approach has helped optimize costs and limit waste while guaranteeing the right of every student to access the government-provided school meal. In El Salvador, it is estimated that 6 percent of students do not consume the free school meals, mainly in higher grades and urban areas. The Government is currently conducting a detailed study to improve the way resources are prioritized and reduce waste.

Despite the difficulties encountered, the massive presence and coverage of school meals programmes in LAC, as well as their progressive institutionalization, confirm

[12] *The analysis is limited to primary-school students owing to the limited information about the breakdown of beneficiaries by education level.*

that their relevance is not debated anymore. What is at stake is rather how national institutions and their partners can maximize the quality and efficiency in a regional context with persisting pockets of food and nutrition insecurity, and with competing demands for limited public resources.

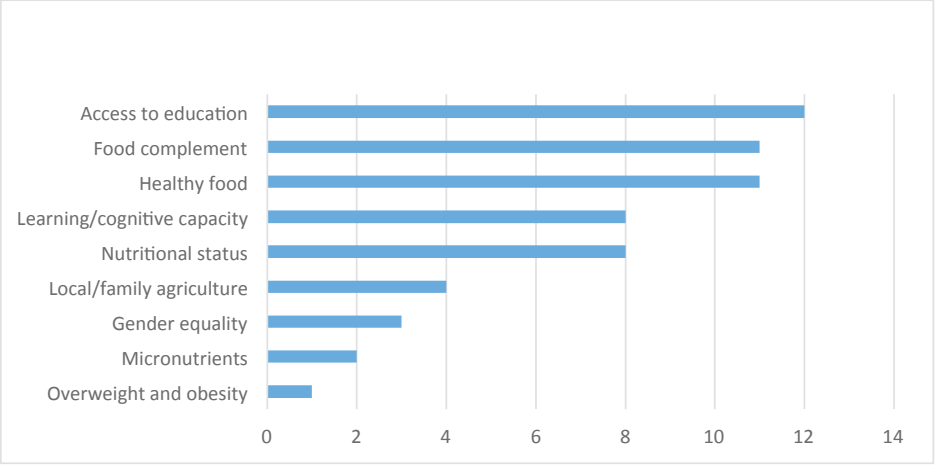
2.4 Roles of school meals programmes

Historically, targeted school meals programmes were framed as food assistance, with two main objectives: provide assistance to schoolchildren suffering from hunger and poverty, and incentivize school enrolment, regular attendance and reduced drop-outs in primary education. Over the course of the years, school meals programmes have been evolving both globally and in the region, where they are increasingly considered flagship safety nets within broader national social protection systems and an instrument to realize the rights to food and education.

While the main goal of the majority of school meals programmes covered in this publication is education, food security and nutrition are becoming increasingly important objectives in most countries. In Cuba and Panama, for instance, the main focus is nutritional. Many countries clearly link education and nutritional objectives, recognizing that education outcomes are critically dependent upon schoolchildren health and nutrition. An interesting case is Bolivia, where local municipalities often set the objectives of their programmes. In a number of municipalities, it was also noted that the link between nutrition and education outcomes is becoming increasingly important. There is also a growing focus on the promotion of healthy eating habits (Table 3).

The specific objectives of the programmes reflect their overall goals (Figure 4). All countries have several specific objectives, confirming that governments are using national school meals programmes to achieve multiple benefits, primarily in education, food security and nutrition.

Figure 4: Specific objectives of national school meals programmes



Source: WFP School Meals Survey, Latin America and the Caribbean, 2016. Sample of 13 countries.

Table 3: Main focus and objectives of school meals in national agendas

COUNTRY	MAIN FOCUS	OBJECTIVES
Brazil	Education and nutrition	To contribute to the psychological, biosocial growth and development of students; improve learning and school performance; promote healthy eating habits; and provide healthy meals covering at least 20 percent of the nutritional needs.
Bolivia	Education and nutrition	Improve academic performance and nutritional status of schoolchildren of the fiscal education units and of the country agreement through adequate, healthy and culturally accepted food, contributing to the right to food and promoting local economic development.
Chile	Education	Provide food services to vulnerable students to improve their school attendance and to contribute to the prevention of school drop-out, allowing vulnerable boys, girls and youth to have equal opportunities in the education system.
Colombia	Education and healthy eating habits	Contribute to access and retention of schoolchildren registered in schools, promoting healthy eating habits through the provision of complementary meals.
Cuba	Nutrition/health and food security	Contribute to improving health through adequate nutrition and healthy lifestyles, starting from good food practices and elaboration. Achieve acceptable levels of food storage, primarily vegetables and fruits in school facilities.
Dominican Republic	Nutrition for education	Improve schoolchildren nutrition and health, improving attendance and retention in school, as well as increasing the learning process.
Guatemala	Education	Support retention in school and strengthen factors contributing to better academic performance.
Ecuador	Nutrition for education	Provide free school meals services in response to a state policy contributing to reducing the gap in universal access to education, improving quality and efficiency while improving schoolchildren nutritional status.
El Salvador	Nutrition for education and healthy eating habits	Contribute to the improvement of schoolchildren nutritional status to create better learning conditions and retention in school through a daily meal/snack with the participation of the education community, strengthening knowledge, capacities and adequate food, nutrition and health practices, as well as implementing school gardens.
Haiti	Nutrition for education	Ensure all schoolchildren with a good nutrition condition to improve learning through the provision of a complementary, healthy and balanced meal in school, with food almost exclusively produced locally and in line with nutritional norms, tackling hunger as a barrier to education.
Honduras	Nutrition and education	Ensure food and nutrition security for pre-basic and primary schoolchildren through access to complementary food rations; increasing attendance and academic performance, reducing drop-out and absenteeism; promoting nutrition, health, hygiene, basic sanitation and healthy habits among schoolchildren and their families; strengthen active community participation in support of the school meals programme and activities.
Nicaragua	Education and food security/ nutrition	Improve quality of education and stimulate school retention, reduce levels of drop-out; contribute to improve nutritional status of schoolchildren in areas of poverty and high levels of food and nutrition insecurity. Ensure schoolchildren the right to adequate food in the framework of competences of the Ministry of Education, regulated under Law 693 "Soberanía y Seguridad Alimentaria y Nutricional" (2009).
Mexico	Nutrition and education	Contribute to the food security of the population attended through the implementation of food programmes that abide by national nutritional quality standards, nutrition orientation actions, and food quality assurance.

COUNTRY	MAIN FOCUS	OBJECTIVES
Panama	Nutrition and education	Contribute to improve nutrition and health status of schoolchildren, complementing their food needs, offering high-quality nutritional products, and supporting teaching and learning process.
Paraguay	Nutrition, education and healthy eating habits/lifestyles	Attend schoolchildren's nutritional needs during their stay in school through generating healthy food habits and lifestyles, contributing to improving school retention and academic performance.
Peru	Education and healthy eating habits	Ensure schoolchildren quality meals during the whole school year, according to their characteristics and the geographical areas where they live. Contribute to improving attention in school, also contributing to attendance and retention. Promote healthy habits among schoolchildren.

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

2.4.1. School meals and social protection

School meals programmes are the most widespread social protection instrument worldwide and in the region (World Bank, 2015). At least 368 million children receive a meal at school every day (WFP, 2013). It is widely acknowledged that school meals as an in-kind conditional safety net contribute to address the immediate food needs of schoolchildren while promoting long-term child development, and act as indirect income transfer to their families. Providing income support through the provision of school meals enhances households' ability to withstand shocks, reduces the incidence of negative coping mechanisms, and contributes to protect livelihoods and build resilience. School meals therefore assume all three key functions of social protection: protection, prevention and promotion (see Box 2). They best act as social protection instruments when integrated in broader national social protection systems and linked to other programmes such as targeted conditional cash transfers, which are widespread in LAC, among others.

In the region, as most countries have adopted universal coverage, the social protection role of school meals is often maximized through differentiated modalities for the most vulnerable schoolchildren. While all schoolchildren are entitled to receive free school meals, in some cases the number or the types of meal change across geographical areas depending on vulnerability criteria. In **Guatemala**, for instance, the budget allocated per child per year varies from USD 25.9 in urban areas to USD 48.5 in priority rural areas based on vulnerability criteria. In **Nicaragua**, in response to the prolonged drought, pre-primary and primary schoolchildren receive a second hot meal per day in the municipalities most affected by rain shortfalls with WFP support (Box 3). Also, in **Haiti**, the school meals programme supported by WFP and other partners has been scaled up after the 2010 earthquake and as a response to other shocks (Oxford Policy Management and WFP, 2016). **Ecuador** receives the highest number of refugees in Latin America, of which 98 percent are Colombians. WFP and local governments provide school lunches to complement the school breakfast provided by the Ecuadorian Government in rural schools with both national and Colombian student populations. School lunches provided by WFP include nutritious, locally grown foods produced by small-scale farmers.

Box 2: Why are school meals a powerful safety net in LAC?

Social protection refers to a broad set of arrangements and instruments designed to protect members of society from shocks and stresses over the life cycle. Safety nets are formal or informal non-contributory programmes designed to provide predictable support to vulnerable people.

Why are school meals a powerful safety net in Latin America and the Caribbean? Because they support and are part of national systems, they are large scale with a wide outreach to the most vulnerable populations, and they are predictable for recipient communities. Parents know their children will receive a nutritious meal every day at school for the whole school year: this predictability allows families to free up other household resources, access different goods and services, save and invest in productive activities. In addition, nutritious school meals promote inclusive human development by incentivizing regular attendance, decreasing health-related absences, improving concentration and learning ability of girls and boys, and ensuring the completion of the school cycle. They normally complement other targeted conditional transfers linked to school attendance. The school meals platform has also been used by governments in the region to respond to crises, such as the prolonged drought in Nicaragua and the earthquake in Haiti. Governments across the region recognize school meals programmes as one of the largest and most reliable safety nets within their national social protection strategies. In some countries, social protection ministries are the lead institution for school meals programmes.

Source: Strengthening National Safety Nets. School Feeding: WFP's Evolving Role in Latin America and the Caribbean. 2015.

The programme contributes to reducing tensions and improving social cohesion between Colombian refugee populations and vulnerable Ecuadorian host communities. In the region, **Brazil, El Salvador, Honduras** and **Peru** are other examples of differentiated approaches to reach the most vulnerable.

While school meals are widely recognized as a social protection instrument in the region, only in a few countries, including Ecuador, El Salvador and Peru, programmes are integrated in social protection laws and policies, and most programmes do not have clearly stated social protection objectives. One implication is that benefits in terms of the economic value of the food transferred are hardly measured. In Nicaragua, however, the 2014 Encuesta de Medición de Nivel de Vida (INIDE, 2016) estimated the contribution of the school breakfast to households' income. It concluded that it represented 2.8 percent of per capita income in rural areas and 4.5 percent of the income of people living in extreme poverty.

In general, school meals programmes in the region are hardly ever designed, reviewed and evaluated in conjunction with other social protection instruments supporting the same target population (such as conditional cash transfers linked to

Box 3: Enhanced school meals programme in the Dry Corridor of Central America

In August 2014, the Government of Nicaragua decided to strengthen its school meal programme in 51 municipalities of the Dry Corridor – the municipalities most affected by rain shortfalls – in order to provide pre-primary and primary school students with a second serving per day. Children receive two food rations per day at school for a maximum of 75 school days, corresponding to breakfast and lunch.

The measure, implemented with partners' support, including WFP, seeks to reduce drop-out rates among children from the most vulnerable households, and to prevent malnutrition and contribute to the physical and mental development of schoolchildren. At the same time, the additional meal contributes to households' income.

The Government decided to continue the strengthened modality in 2015 and 2016 following a study on the nutritional status of school-age children. The results led the Government to strengthen the school meal programme as it is the biggest social protection programme in the country, which covers all public and subsidized schools. In 2016, the strengthened modality reached 126,482 children in 1,988 schools (11 percent of total school meal recipients in the country).

In November 2015, the Government of Honduras expanded the school meals programme in response to the drought and offered meals during the school holiday season. Meals were provided to 1,799 students during 35 days in six municipalities affected by the drought.

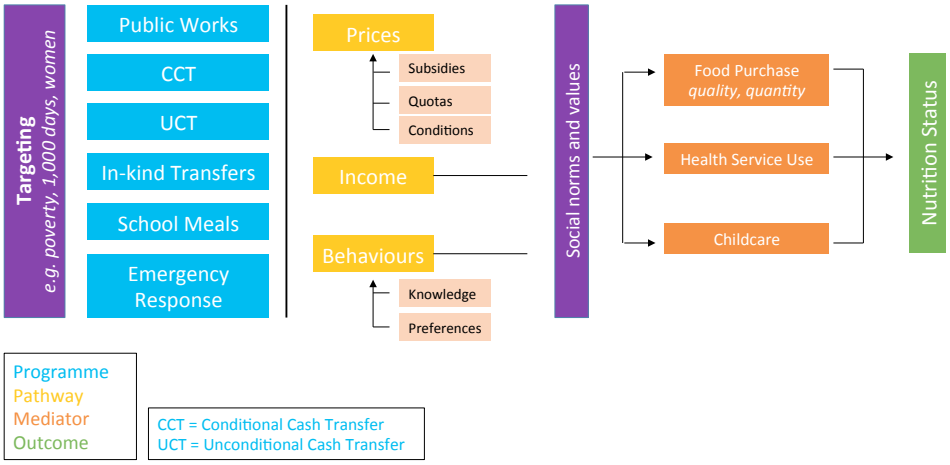
Source: Oxford Policy Management and WFP, 2016.

school attendance). This might represent a missed opportunity to optimize their respective contribution to overlapping social protection objectives, especially in a region on the forefront of both conditional cash transfers and school meal programming. Unique registries and integrated information management systems, which are on the rise in LAC, might contribute to a stronger integration of school meals programmes in the broader social protection system. Links to local agriculture and nutrition-sensitive approaches are also increasingly relevant for the social protection debate in the region and worldwide (see Box 4).

Box 4: Lessons learned from the Global Forum on Nutrition-Sensitive Social Protection Programs

The 2015 Global Forum on Nutrition-Sensitive Social Protection Programs, co-hosted by SecureNutrition and the Russian Federation, drew approximately 150 participants from over twenty countries and provided a space for in-depth conversations about programmes, integrating social protection instruments and nutrition principles. There are different pathways whereby nutritionally vulnerable populations can be targeted through social protection programmes (see Figure 5). The programmes' effects on factors such as income, prices and household behaviours change the degree to which families choose to invest in health and how they do it. As incomes increase – through either earnings or transfers – low-income consumers increase both the quantity and quality of the food they purchase, which contributes to increased food security. Broader social norms and values will influence this decision-making, as will available technology and services that promote health and the skills of households in applying them.

Figure 5: Indicative pathways from social protection programmes to nutrition



Source: Harold Alderman and SecureNutrition

The Global Forum offered the opportunity to distill critical lessons related to effective nutrition-sensitive social protection programmes:

Programme design and delivery. Technical support from both social protection and nutrition specialists is critical, both for safety-net programmes that evolved to become nutrition-sensitive over time and for programmes that were designed as nutrition-sensitive from the start. The most critical elements that contributed to successful design included:

- prioritizing nutritionally vulnerable populations and targeting the first 1,000 days;
- giving benefits to women;

- ensuring predictable payments;
- linking to health services;
- including nutrition education and behaviour change communication;
- designing programmes that can be rapidly scaled up in times of crisis and address not only the pressing needs of the whole family, but the specific nutrition needs of young children; and
- ensuring community engagement/participation.

Behaviour change communication (BCC). Participants singled out the importance of BCC. However, the selection of topics, methods, programme sequence and supportive technology can be a major challenge and influences the effectiveness of the intervention.
Protecting children in times of crisis. No matter the type of crisis addressed by a social protection programme, interventions aimed at addressing the specific needs of children remain important.
Financing. Nutrition-sensitive social protection programmes are both an investment and a step towards equity. Budgetary safeguards to ensure funding and serious discussions around prioritization and targeting of vulnerable groups are necessary.
Targeting. There are clear trade-offs to prioritizing the nutritionally vulnerable first 1,000 days – from a child's conception to their second birthday – versus other groups among the poor, but the rationale for targeting the first group can be explained in human capital terms.
Opportunities in school meals programmes. School meals programmes offer an important opportunity to provide a complete package (e.g. nutrition education, micronutrient supplementation and deworming) not just as a schooling incentive, but also as a programme for nutrition enhancement. They could also provide an opportunity to address the problem of overweight and obesity by introducing better diets and the child-care messages that students will need to care for the next generation.

Note: Box contributed by Aaron Buchsbaum, Leslie Elder, Alessandra Marini and Andrea Spray (World Bank). SecureNutrition works to bridge the operational knowledge gaps between nutrition and all of its underlying drivers. www.securenutrition.org

2.4.2. School meals and education

The main goal of most programmes included in the analysis is educational. Almost all countries have specific objectives related to education, and for Chile, Colombia, Ecuador, El Salvador, Guatemala, Haiti, Nicaragua and Peru, education is the main focus.
Priorities have evolved as enrolment rates increased significantly all over the region. As programmes have been implemented for many years, it is likely that they have contributed to the increase in enrolment. In this sense, one of the main challenges of school meals programmes today is to continue contributing to children's education by improving learning capacity.

Through universal school meals programmes, countries still seek to support equal access to education, with a stronger focus on attendance and retention, especially for vulnerable children. Significantly, in many countries, school meals programmes are managed by units in charge of social assistance within the ministries of education. Among the thirteen countries, eight also seek to enhance children's ability to concentrate and learn, a trend that shows the intention of governments to go beyond increasing attendance and reducing absenteeism (see Figure 4).
As discussed earlier, nutrition pathways are in this regard critical. In fact, many countries explicitly seek to improve schoolchildren's nutrition as a means to achieve learning outcomes. School meals programmes also accompany the expansion of compulsory education to secondary education and the extension of school days from half to full time (jornada extendida).
The TERCE study published in 2015 confirms the strategic importance of this trend by showing that while student performance improves in Latin America, inequality and other social factors continue to affect learning. Enhancing multisectoral policies and programmes is key to address the multiple barriers to school achievement, as well as to better mitigate the impact of different socio-economic barriers in the pursuit of children's academic achievements. In particular, the study highlights that school meals and other social assistance programmes should be established and strengthened, primarily in the schools hosting the most vulnerable children. In this sense, while the effort to achieve universal coverage is a positive progress, the study indicates that certain forms of targeting are still fundamental to address the needs of vulnerable children and their households. School meals should also complement other programmes in support of vulnerable households. Expert Viewpoint 4 explores more in detail the result of the TERCE study.

Expert Viewpoint 4:

School meals and learning

Adriana Viteri and Martín Icaza, UNESCO Regional Office for Latin America and the Caribbean

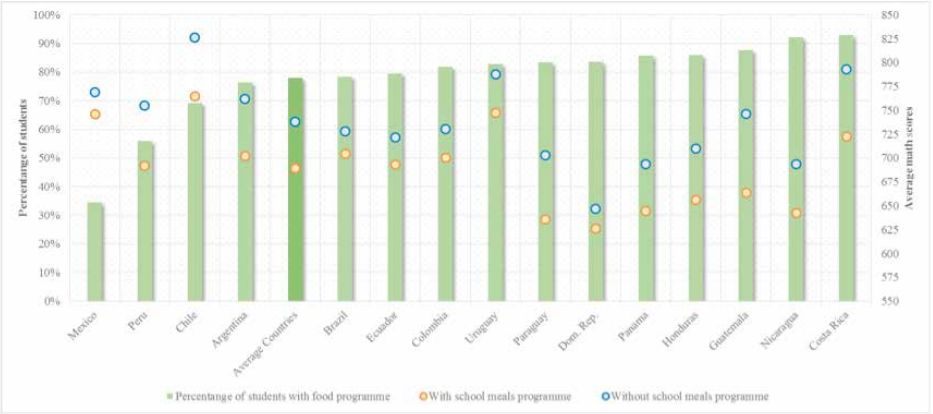
The Third Regional Comparative and Explanatory Study (TERCE, its Spanish acronym), carried out by UNESCO's Regional Office for Latin America and the Caribbean and implemented in 2013, contains a large amount of information on contextual factors that are directly or indirectly linked to students' learning achievements. Following the publication of the study's main results, a series of reports have been prepared since 2015 with in-depth analysis of associated factors.

One of the areas of interest to be analysed is the link between compensatory programmes, such as school meals, and student academic performance.

The SDG 4 Education 2030 Agenda stresses the promotion of lifelong learning opportunities for everyone. Therefore, keeping students healthy is an essential factor that contributes to the learning process. The underlying hypothesis set out in this expert viewpoint is whether complementary health, nutrition and food programmes offered in schools have an effect on children's health and, consequently, on academic performance, particularly programmes geared towards the most socio-economically vulnerable students.[13]

TERCE is an instrument for collecting information on factors associated with learning. As shown in Graph 1, for the countries participating in the study, an average of 78 percent of the students in the region benefit from school meal programmes. In the 15 countries that implemented TERCE, on average, students attending schools with more compensatory programmes such as school meals have learning achievements below schools that do not have these programmes. This is explained mainly by the school population that attends schools receiving this kind of programmes, which attract students who are socio-economically vulnerable. That is, schools with more compensatory programmes are considered to have students of lower socio-economic levels.

Graph 1: Learning and its relationship with school meals programmes.



Source: Prepared using TERCE's database

Other analyses not considered in this viewpoint and which review the effect of the socio-economic level confirm that, considering other types of variables, these programmes have a positive effect in terms of preventing school drop-out and promoting attendance. Students who attend schools with compensatory programmes have lower non-attendance rates and run less risk of being excluded from the school system. The finding is consistent with the literature indicating that compensatory programmes such as school meal programmes often have an effect on student attendance but not necessarily on learning (Fiszbein and Schady, 2009; Rosenberg, 2011).

[13] *For the purposes of this article, the analysis focused on sixth grade in the field of mathematics. Further complementary studies may be carried out as part of future research.*

If one considers the educational system as a whole and analyses all the variables that favour student learning, school meals can contribute to learning achievements only if other factors associated with learning are present; for example, the quality of teaching or the availability of school materials, among others. Compensatory programmes alone do not manage to reduce the gaps in learning, but contribute when other conditions are in place.

Based on these analyses, the Educational Policy Recommendations in Latin America based on the TERCE recommend that compensatory programmes focusing on schools that serve vulnerable students, such as school meals programmes, additional transfers, educational material or free textbooks, continue to be set up as they contribute to reduce the gaps in academic achievement.

This also has a direct effect on associated learning factors, as presented in the report of the UNESCO Regional Bureau for Education in LAC (2014), which shows that these kinds of measures succeed at reducing the differences observed in the academic achievements of lower income students as it promotes better school conditions.

References: Fiszbein and Schady, 2009; Hobbs and Vignoles, 2007; Mullis et al., 2009a; Mullis et al., 2009b; Rosenberg, 2011; UNESCO, 2014; UNESCO, 2016a.

2.4.3. School meals and nutrition

The use of schools as a vehicle for policy action on nutrition is key. While, on the one hand, by the time children enter primary school the most effective window to intervene for the prevention of undernutrition has already passed, on the other, there are strong reasons for policymakers and increasing interest to consider the potential of school meals to contribute to nutrition outcomes throughout students' life cycle (see Expert Viewpoint 5).

Healthy and nutritious school meals, integrated with complementary initiatives, can have positive impacts on micronutrient status, adolescent girls' nutrition and obesity prevention, three priority areas of concern for school-age children. There is also growing attention to their potential to serve as a platform for promoting healthy eating habits in combination with food and nutrition education and regular physical activity.

Today, LAC countries generally see school meals as a key instrument to guarantee access to nutritious, healthy foods and to promote healthy eating habits. The rising rate of childhood overweight and obesity is a new factor that brings governments to focus on the quality and composition of school meals. Energy dense and unhealthy meals may also contribute to overweight. High- and middle-income countries are redesigning their programmes with this concern in mind, including in the region (Ruel and Alderman et al., 2013).

In addition to education, all 13 focus countries reported at least one specific objective related to nutrition (see Figure 4). Nutritional goals are the main focus in Cuba and Panama. In most countries, the objective is to foster healthy diets

through the provision of nutritious and/or diversified meals. Regarding food consumption, 11 countries have reported their programmes aim at enhancing children's food intake by providing a complementary meal. Eight countries reported improving the nutritional status of schoolchildren. However, few countries spell out objectives that are more specific: Honduras and Panama have objectives related to children's micronutrient status; only Panama reported a specific objective related to overweight and obesity. On the other hand, technical documents often mention obesity, which is obviously a concern for many countries, such as Mexico and Peru, even if they do not spell out a specific objective in their policies. In some countries with high stunting rates, the focus remains on undernutrition, as in El Salvador and Guatemala (Pehlke *et al*., 2015).

From a nutrition perspective, and also in terms of gender equality, ensuring that both boys and girls receive adequate nutrition and education is a crucial objective for school meals programmes. The study shows that in the region, programmes often lack stated objectives related to gender equality, and that they do not usually address specific needs, for example, of adolescent girls. This may be because parity in access to primary education has been generally achieved in the region, and because programmes have traditionally focused on primary schools. As a result, gender equality is hardly considered in design and implementation strategies. The expansion of school meals programmes to secondary schools in some countries creates new opportunities to better serve groups with specific nutritional needs, such as adolescent girls, while better integrating gender strategies within and beyond the school environment.

Expert Viewpoint 5:

The pathways of nutrition-sensitive school meals programmes and implications for programme design

Harold Alderman, Senior Researcher, International Food Policy Research Institute (IFPRI)

There are three pathways by which a programme of school meals can reach its potential as a nutrition-sensitive intervention. The first is to address underlying determinants of childhood nutrition – in particular, food consumption. The second is to incorporate specific nutrition goals and actions. Third, school meals programmes can serve as delivery platforms for nutrition-specific interventions by including components that are not within the traditional purview of a school meals programme, but which may encompass convergence with nutrition-specific interventions.

By virtue of their coverage and through their ability to scale up in times of economic downturns, school meals programmes are a proven tool to assist in individual and household food security. Thus, they serve the first function of a nutrition-sensitive

intervention. There is, however, some ambiguity in regard to this role; it is not entirely clear how to interpret evidence of the weight gain that is often observed among beneficiaries of school meals. While rapid weight gain among children with small frames may contribute to the obesity epidemic, school meals may lead to improved growth among younger, more vulnerable siblings of students by increasing overall household resources, as has been documented in Burkina Faso.

There is less ambiguity about the role of school meals when they are designed to increase diet diversity and augment the nutritional quality of meals. Moreover, programmes enhance the nutrition sensitivity when the meals are fortified with micronutrients. Fortification can be achieved at scale with measurable improvements noted in settings as diverse as displaced persons camps in Uganda and the regular midday meal programme in Gujarat State in India. However, fortification is occasionally set aside when programmes transition from WFP support to truly nationally financed and managed sustainable programmes. Ironically, by adding support to local agricultural development through the home-grown school meals movement to the traditional objectives of school meals programmes in terms of improved education and nutrition poses a new challenge to micronutrient fortification. It is more convenient and cheaper to fortify wheat and maize at central mills or to mix extruder rice at a single factory than to do this in a decentralized manner. Solutions – such as commissioning small mills or with premixes added during preparation – add to the management and logistic challenges that all programmes face.

Finally, schools can be a platform for other nutrition programmes outside the meal schedule, for example, iron supplementation with weekly or biweekly distribution. Such supplementation has led to improved test scores in China. Principals in that country also responded favourably to incentives to reduce anaemia in schools. Similarly, albeit not without some debate, schools can provide a platform for regular deworming.

However, one further possible use of school meal programmes as a platform has yet to come close to reaching its potential. There is accumulating evidence on school-based modules for nutrition education, particularly in encouraging healthy eating and exercise with the aim of preventing obesity, and there is also some experience with encouraging hygiene and hand washing. But there is also one glaring omission: I have not seen experimentation or guidelines on curricula for teaching nutrition for childcare in schools, even if most students will shortly take on the role of caregiver. General knowledge of literacy and numeracy surely improves parenting skills, but evidence shows that nutrition-specific knowledge enhances this foundation.

2.4.4. School meals and local agriculture

In LAC, as well as worldwide, there is a continued and ever-growing interest on the potential of school meals to support broader benefits for smallholder farmers, communities and economies through local food purchases, which, in return, can also improve the quality of school meals.

The distinctive feature of what are increasingly known as home-grown school meals programmes (HGSM) with respect to traditional school meals programmes is the aim of boosting local agriculture, strengthening local food systems, and maximizing the benefits for smallholder farmers and local communities (see Box 5 and Expert Viewpoint 6). The demand from schools for a diversified food basket can stimulate a diversification of agricultural production, potentially increasing consumption of locally produced food. Ultimately, it may help to improve the income, food security and resilience of farmers, and strengthen the food supply at local levels. Local procurement can also be a strategy to diversify school meals with fresh, perishable commodities, and promote healthy eating habits among schoolchildren. Empirical evidence from Brazil suggests that linking the national school meals programme with local small-scale producers can increase the variety and quantity of healthy foods such as vegetables and fruits offered in schools (Sidaner, Balaban and Burlandy, 2013; Soares *et al*., 2017).

In many LAC countries, governments are increasingly prioritizing this approach in their national policy frameworks. Brazil has been a pioneer and a model. Four countries (Bolivia, Haiti, Honduras and Paraguay) have explicitly linked their school meals programmes to food security through the promotion of local purchases in their national policies. In practice, however, all countries are trying to source the programmes as locally as possible, with a view to enhancing market opportunities for smallholder farmers and contributing to long-term food security. These approaches are underpinned by the priority that many governments have given to food and nutrition security and sovereignty in their national development agendas. Examples are further explored in section 3.5.

While the potential benefits for pupils and farmers are clear, implementing HGSM programmes is a complex task. In some cases where a more reliable supply of food for school meals would be provided by non-local sources, this may be preferred. More research is needed to understand the benefits for local and small-scale farmers and communities in terms of income, food security and nutrition.

Box 5: Resource framework on home-grown school meals

Many governments are increasingly sourcing food for school meals locally from smallholder farmers in a bid to boost local agriculture, strengthen local food systems, and move people out of poverty. As home-grown school meals (HGSM) effectively augments the impact of regular school meals programmes with economic benefits for local communities, governments have identified HGSM as a strategy to contribute to the achievement of the Sustainable Development Goals to end poverty (SDG1) and hunger (SDG2). HGSM programmes also facilitate inclusive and equitable quality education (SDG4) and contribute to the empowerment of girls (SDG5), inclusive and sustainable economic growth (SDG8), and the reduction of inequality within and among countries (SDG10). Finally, they help forge partnerships for sustainable development (SDG17). However, designing and implementing a home-grown programme is a complex task. As more national governments initiate and scale up investments in HGSM, global partners are responding to the need to provide technical assistance for delivering effective, efficient and high-quality programmes. WFP, the WFP Centre of Excellence against Hunger, the Food and Agriculture Organization of the United Nations (FAO), the Global Child Nutrition Foundation, the Partnership for Child Development, and the New Partnership for Africa's Development (NEPAD) have joined forces to create a Resource Framework for the design, implementation and scale up of government-led home-grown school meals programmes.

The main goals of the Resource Framework are to:

1. clarify the key concepts, scope and goals;

2. harmonize existing guidance materials; and

3. provide technical reference to governments to design, implement and scale up effective, efficient and sustainable home-grown approaches.

The Resource Framework harmonizes the existing knowledge, tools and expertise of the partners. It is therefore a great example of a collaborative effort to help governments achieve their goals. It includes the main considerations and elements that should be taken into account when designing and implementing the programme, which is the result of an iterative and collaborative process. The Resource Framework is divided into four modules:

Module 1 - Understanding HGSM – defines and explains the concepts, benefits, beneficiaries and pre design requirements.

Module 2 - Planning HGSM programmes – provides guidance for the planning of HGSM programmes that are well integrated in the national context and linked to local agriculture and nutrition.

Module 3 - Designing and implementing HGSM programmes – includes guidance on different implementation options, including ways to ensure that programmes are delivered in a nutrition-sensitive manner.

Module 4 - Monitoring, evaluating and reporting – identifies which indicators to monitor and evaluate in the domains of education, health and nutrition, market access and agriculture production.

Expert Viewpoint 6:

School meals and improved diets through the purchase from family farming

Najla Veloso and Vera Boerger, Coordinators, Project FAO-Brazil (Strengthening School Meals Programmes in Latin America and the Caribbean)

Recently, there has been a growing focus on the importance of agriculture´s contribution to nutrition. That is how the term "nutrition-sensitive agriculture" emerged as an approach that seeks to reduce malnutrition indicators by redefining investments in agriculture in order to strengthen the effectiveness of food systems and improve nutrition.

This new approach implies a paradigm shift in the overall food system, intended as essential for improving the quality of foods available to the community, thus helping to overcome malnutrition and micronutrient deficiencies and, at the same time, ensuring natural resources and healthy ecosystems in the future. The Food and Agriculture Organization of the United Nations (FAO) has embraced this holistic approach to address malnutrition, especially seeking to incorporate nutritional objectives in agriculture, health, education, economic and social protection policies through various strategies of action, including school meals.

Both FAO and Brazil recognize that school meals programmes are key components to ensure access to healthy foods and the development of healthy eating habits and to promote local economies through the direct purchase from family farming, as well as being a tool for the effective realization of the human right to food.

In that sense, since 2009, FAO and the Government of Brazil have partnered to promote sustainable school meals policies and to strengthen national and regional capacities in the Latin America and the Caribbean region to operate sustainable school meals programmes. In particular, they have developed initiatives with national governments that take into account local realities and the important involvement of the school community and local family farmers.

The initiative Sustainable Schools seeks to establish a reference model for sustainable school meals programmes through an integrated approach that includes: (a) learning school gardens; (b) food and nutrition education; (c) provision of adequate and healthy meals; (d) adequate infrastructure and equipment for school meals; (e) direct purchase of food products from local family farmers; and (f) training and capacity development of parents, school community, local authorities and local farmers, including farmers' associations and cooperatives.

Through the implementation of Sustainable Schools in Costa Rica, Dominican Republic, El Salvador, Grenada, Guatemala, Honduras, Paraguay, Saint Lucia and other countries, healthy, adequate and culturally appropriate menus were developed, which take into consideration the students' nutritional status and eating habits and the availability of fresh and seasonal products from local family farming. In El Salvador, for instance, additional funds are provided to 77 schools for purchases from local food producers and cooperatives in order to diversify the food basket with fruits, vegetables and eggs.

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This process has shown that buying directly from local farmers and supplying schools with quality food generate positive benefits and satisfaction for all the actors: for the farmers, who have better opportunities for income generation and employment in rural areas, and for the students, who have access to healthy and fresh foods.

Results demonstrate that school meals is a policy that can catalyse local dynamics and collaborative actions through the collective and social construction of sustainable school meals programmes with the involvement of local governments, farmers, cooperatives and local communities, enabling linkages between education, nutrition and agriculture.

At the national level, FAO has collaborated with national governments to promote the coordination of the various ministries involved and to favour agricultural policies linked to nutritional strategies.

More information on the Sustainable Schools Initiative is available online:
www.fao.org/in-action/program-brazil-fao/projects/school-feeding/en and
www.fao.org/in-action/programa-brasil-fao/proyectos/alimentacion-escolar/es

3 Nutrition-sensitive school meals: programming and implementation

Chapter 3

LAC countries are increasingly embracing nutrition objectives in their national agenda for school meals. Nevertheless, while these benefits have been demonstrated in a number of studies, they are by no means granted outcomes. Rather, they depend on the design and implementation features of a given programme. Four key elements appear to contribute to make school meals programmes more nutrition-sensitive:

- the **nutrition quality and safety** of the food provided;
- promoting **complementary school health and nutrition interventions**, such as deworming;
- linking with **school-based food and nutrition education** activities, including school gardens;
- linking with **smallholder agriculture and local food systems**.

In addition, as for other social protection programmes, incorporating explicit nutrition-related objectives and indicators in the monitoring and evaluation systems of school meals programmes can greatly enhance their nutrition sensitivity. Programmes that give specific attention in reaching adolescent girls and preschoolers, as well as strengthening focus on gender aspects, are also likely to improve nutrition indicators. Nonetheless, evidence found in this study shows that it can be challenging to combine all these elements and that governments often need to consider the different trade-offs in programme design.

3.1 School meals modalities, food baskets and nutrition norms

The composition of school meals – in terms of quantity and nutritional quality – is a key determinant of their potential to contribute to children's nutrition. Healthier meals should be promoted, keeping in mind undernutrition, overweight and obesity trends. There is indeed potential for unhealthy meals to contribute to the rising prevalence of overweight among children.

In the programmes analysed for this study, four broad types of food modalities have been identified:

- ready-to-consume snacks served as breakfast or as a mid-afternoon snack, composed of a beverage (milk, milk-based or cereal-based drinks, juices, fortified or not) and a "dry" food product such as bread, cookies, granola and sometimes fresh fruit;
- cooked meals, served as breakfast or as a mid-afternoon snack;
- cooked lunches; and
- lighter snacks, usually served in addition to the modalities mentioned above, or in urban areas.

These modalities often coexist in a given country. For instance, several countries are expanding their programmes to provide two meals a day in full-day schools, such as in Colombia, Dominican Republic, and Panama.[14] Brazil, Ecuador, Guatemala,

[14] *While, in general, primary and secondary students go to school either in the morning or in the afternoon, several countries are progressively introducing full-day programmes.*

Nicaragua and Peru enhance the school meals or provide more meals per day to the most vulnerable schoolchildren.[15] Table 4 summarizes the main modalities provided in each country and the meals' nutritional value, as per existing national guidelines.

Box 6: School meals in Mexico City

Gustavo Gamaliel Martínez Pacheco, Director-General, National System for Integral Family Development, Mexico City

Through the System for Integral Development of Families in Mexico City (DIF-CDMX), the Government of Mexico City implements several programmes to ensure the rights of girls, boys and adolescents, particularly the right to food, through the "Mexico City Food and Nutrition Security System".

In addition, other elements are incorporated in order to ensure this right. For example, in 2016, the Government of Mexico City launched in the Legislative Assembly of the Federal District the initiative to create the Safe Baby Law, which would ensure economic resources for food and medicine, benefiting approximately 7,500 children between 0 and 12 months old, with an annual budget of 36 million pesos (USD 1.8 million).

Likewise, one of the pillars of the DIF-CDMX in relation to food is the School Breakfast Programme, which serves a daily population of almost 670,000 children with the support of some 26,000 parents. The participation of civil society ensures that food is consumed preferably at the beginning of the school day and contributes to monitoring the proper washing of fruits and hands as well as breakfast consumption. The logistics carried out to ensure that breakfast reaches each of the beneficiaries is an extraordinary task, considering that Mexico City is one of the largest and most populated cities in the world – such that vehicles in charge of distribution travel an average of 8,000 km every week, ensuring coverage of 70 percent of the target population.

Importantly, the breakfast design complies with Federal Law NOM-043SSA2-2012 on "Basic Health Services and Health Promotion and Education Related to Food", which defines a healthy diet and stipulates nutritional standards for school meals. Food products are continuously evaluated by a food quality technology laboratory of the National Autonomous University of Mexico to verify their safety, quality and nutritional content.

Currently, the registration of beneficiaries and elaboration of a beneficiary registry is being systematized; this will allow to generate an immediate response to service schools, committees and beneficiaries, and will allow a more efficient distribution.

Based on the above, we can state that operating food programmes for schoolchildren represents a daily challenge for this city, as it entails thorough monitoring of the preparation, storage, distribution, quality and safety of the food to be consumed by beneficiary children.

[15] *See Section 2.4 on objectives, and specific country fact sheets in the annex for more detailed information about these programmes.*

Table 4: Main school meals modalities and ration energy content

COUNTRY	MODALITY	NUTRITIONAL CONTENT
Bolivia	Ready-to-consume snacks in urban areas; cooked breakfast/afternoon snacks or lunch in rural areas.	As the programme is fully decentralized, national nutritional guidance is rarely implemented at municipal levels.
Colombia	Generally breakfast/afternoon snack or lunch; breakfast and lunch in full-day schools.	- Breakfast/afternoon snack: 20 percent of recommended nutrition intake (RNI) (337–500 kcal depending on age group). - Lunch: 30 percent of RNI (541–812 kcal depending on age group)
Cuba	Lunch and two snacks in preschools; Lunch in primary and secondary schools.	- 60 percent of RNI for pre-schoolchildren – 1 to 5 years of age (644 kcal for children under 3 and 982 kcal for 3–5 years). - 30 percent of RNI for primary and secondary schoolchildren (630 kcal for 7–13 years and 783 kcal for 14–17 years).
Dominican Republic	Breakfast or afternoon snack (in urban areas, a nutritious cookie or bread with milk or fruit juice; in rural areas, cooked rations, including fresh products in some areas). Breakfast, lunch and snack in full-day schools.	- 25–30 percent of RNI depending on the programme (550–660 kcal, based on an average recommended energy intake of 2,200 kcal). - 60–70 percent of RNI (varies by age group with an average of 1,400 kcal).
Ecuador	Preschool: ready to consume breakfast (fortified drink and a cookie) and snack (200 ml of flavoured full milk). General Basic Education and Millennium Educational Units: ready to consume breakfast or snack (fortified drink or 200 ml of flavoured full milk and different types of cereal products).	- 396 kcal. - On average, 377 kcal for breakfast and 257 kcal for snacks.
El Salvador	Cooked meal (non-perishables).	No nutritional guidelines, guidelines provide sample menus.
Guatemala	Cooked meal. Indicative guidelines have been developed to increase the food diversity and include fresh products.	Indicative food-based guidelines: 25 percent of RNI for primary schoolchildren (388 kcal) and 14.5 g of protein.
Haiti	Lunch (fixed food basket, non-perishables). Main programme, not including HGSM pilots	40 percent of average RNI (640 kcal).[16]
Honduras	Cooked breakfast (fixed food basket, non perishables). Basic ration, not including fresh food component for some areas.	36 percent of RNI for pre-schoolchildren (464 kcal) and 26 percent for primary schoolchildren (575 kcal).
Nicaragua	Cooked snack (fixed food basket, non perishables).	An estimated 30 percent of RNI for primary schoolchildren (540 kcal, no updated nutritional guidelines for the programme).
Panama	Snack (fortified biscuits and a milk-based drink or fortified cereal blend) and lunch in full-day schools.	330 kcal (22 percent of RNI for primary schoolchildren), 10 vitamins and 3 minerals and Omega-3 for snacks.

[16] *The new National School Meals Policy and Strategy for Haiti calls for a snack and a hot meal, amounting to 1,040 kcal/day, or 65 percent of the daily food intake.*

Paraguay	Ready-to-consume breakfast or afternoon snack (includes milk), and in some schools, lunch.	Breakfast/afternoon snack: 20 percent of average RNI (360 kcal); lunch: 25 percent (450 kcal); snack: 15 percent (270 kcal).
Peru	Cooked/ready-to-consume breakfast and lunch in the poorest districts (non-perishable products exclusively).[17] Cooked/ready-to-consume breakfast or lunch in the rest of the country (non-perishable products exclusively).	Between 55 percent and 65 percent of RNI (at least 713 kcal in preschool; 1,012 kcal in primary school and 1,249 kcal in secondary school. - Between 20 percent and 25 percent of RNI for breakfast (at least 259 kcal in preschool; 368 kcal in primary school, and 454 kcal in secondary school). - Between 35 percent and 40 percent of RNI for lunch (at least 454 kcal in preschool; 644 kcal in primary school, and 795 kcal in secondary school).

Notes: Author's compilation with data from the 2016 WFP School Meals Survey and national guidelines and other regulatory documents. Daily recommended nutritional intakes vary in each country and are usually spelled out in national dietary guidelines, which explains discrepancies between kilocalorie values and percentages of recommended nutrient intakes. Details for each country are provided in the respective fact sheets.

Data show that there is a trend in the region to improve the nutritional quality of meals, to diversify the food basket and introduce fresh products, and to limit sugar and fat content following the examples of countries such as Brazil, Mexico and Peru.

A number of countries have been successful in diversifying the meals provided at school and have enhanced their nutritional quality, even when they do not have specific nutrition objectives stated such as Honduras and Peru, among others. In Ecuador, the government has also diversified the meals provided, with different types of snacks. However, in most countries, it appears that efforts are still needed to fully achieve this goal.

Most countries reported that the menu varies frequently, thanks to a diversified food basket and possibility to combine different foods in local recipes. Programmes that are managed centrally tend to offer a fixed food basket, such as in Nicaragua, or a limited number of options that are alternated during the week, in El Salvador, for instance.

One important element to ensure the nutritional quality of the food provided is the existence of school nutrition guidelines that specify the school meals' content in terms of both macro- and micronutrients, as well as the types of foods and portions to be served. Most countries have reported having nutritional guidelines for school meals. These guidelines are usually based on national dietary guidelines that specify the daily nutritional requirements of the population by age groups and gender. Brazil (see Box 7) and Mexico offer good examples for the region. Guatemala provides an example of food-based guidelines that focus on diversified, healthy school menus, but their application is not mandatory (see Box 8). Nonetheless, even where guidelines are in place, quality and actual implementation vary greatly and this is an important area of improvement in several countries.

[17] *Breakfast and lunch can be alternated during the week.*

Box 7: The nutrition-sensitive school meals programme in Brazil

Since 2003, Brazil has adopted a global strategy to tackle hunger and malnutrition that articulates a range of programmes. The National School Meals Programme (PNAE) and the Food Acquisition Programme (PAA) are the two major Brazilian large-scale initiatives that purchase food from smallholder farmers. These programmes are nutrition-sensitive social safety nets with nutrition-specific components.

The PNAE exists since 1954. Initially, the programme aimed exclusively at providing food for school meals.[1] In 2003, the focus was expanded to have greater emphasis on nutrition, including the provision of complementary food to children under 5 years. The PNAE is today a decentralized programme whereby each state and municipality of the country must have a nutritionist responsible for the design of school menus. In 2009, the school meals law established the articulation between smallholder farmers and food and nutrition education.[2] School menus provide nutritionally balanced options for every age group, offering both cooked and fresh food purchased as much as possible from smallholder farmers (minimum 30 percent) while avoiding processed foods with high levels of sodium, fat and sugar.[3] The programme provides up to 70 percent of the daily nutritional requirement for students attending full-time classes.

The PAA purchases food from smallholder farmers through a simplified public bidding process.[4] The PAA was designed to create a market dedicated to smallholder farmers, purchasing food to those who offer the better price on the market according to legislation. The main objectives of PAA are to strengthen family farming, strengthen local marketing, encourage organic and agro-ecological food production, encourage food diversity, and encourage smallholder farmers to be organized as cooperatives. Fresh foods with little or no processing are the most important products purchased from smallholder farmers, which promotes healthy eating habits and food sovereignty at the community level.

These programmes have become an international reference on how to combine and articulate different interventions to improve nutrition of groups that are often among the most vulnerable populations.

Box contributed by Mariana Rocha, Laura Lyra e Daniel Melo, WFP Centre of Excellence against Hunger, Brasilia.

[1] *Leal Sá, 2007.*

[2] *Leal Sá, 2007.*

[3] *Brasil. Lei n. 11947, de 16 de junho de 2009. Dispõe sobre o atendimento da alimentação escolar e do Programa Dinheiro Direto na Escola aos alunos da educação básica. [Accessed 14/12/2015].*

Available at: www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l11947.htm.

[4] *Ministério do Desenvolvimento Social e Combate à Fome. Programa de Aquisição de Alimentos – PAA. [internet homepage]. Brasília, DF. [Accessed 14/12/2015]. Available at: http://mds.gov.br/acesso-a-informacao/perguntas-frequentes/seguranca-alimentar-e-nutricional/aquisicao-de-alimentos-da-agricultura-familiar*

Box 8: Recommendations for healthy menu design in Guatemala

Ensuring that schoolchildren receive healthy meals can be particularly challenging for decentralized programmes operated at the local level and where the food basket is not standardized. In Guatemala, schools are responsible for managing the funds and preparing school meals using locally procured foods, based on a daily budget allocation that varies across the country depending on vulnerability criteria. While there are no official nutritional guidelines for school meals, the "Recommended Menus for School Meals" have been updated with technical support from WFP with the purpose of enhancing the quality of meals by using ingredients with high nutritional value.[1]

The recommendations include 30 practical menus, five of them designed for specific regions based on the daily budget allocation per child. Feasibility criteria and children's acceptability were also taken into account. However, complying with the objective of providing 25 percent of recommended nutritional intakes for schoolchildren, as defined by the Institute of Nutrition of Central America and Panama (INCAP, 2012), proved not to be feasible within the allocated budget. The sample menus cover, on average, 65 percent of the calorie target value and 61 percent of the proteins. In this context, the recommendations also propose a general formula to combine different food groups to prepare balanced meals within a given budget, which includes a higher number of fruits and vegetables portions and a reduction in sugar content. They also promote the use of low-fat milk and plain water as beverages.

[1] *Ministerio de Educación de Guatemala, Programa Mundial de Alimentos (2015): "Recomendaciones de Menús para la Alimentación Escolar".*

The data in this review show that most programmes seek to provide between 20 and 30 percent of the total recommended nutritional intakes for school-age children. As recommended nutrient intakes vary from country to country depending on national dietary guidelines, it is important to consider school meals' nutritional content itself. Regarding energy, programmes can be divided in two broad categories:

- In the upper range, Colombia, Cuba, Dominican Republic, Haiti, Honduras and Peru seek to provide between 550 and 650 kilocalories per day, in line with WFP recommendations for school meals programmes for half-day schools.
- On the lower range, other programmes aim to provide between 330 and 400 kilocalories per day. In between, Nicaragua and Paraguay provide 500 and 450 kilocalories per day, respectively.

Countries are also introducing norms to **limit or forbid the use of food with high sugar and fat content**. Eight countries, including Brazil and Mexico, reported this type of restriction.

The adequacy of the ration provided by any given programme depends on many criteria, including existing nutrient gaps, the timing in serving food, and the contribution

Box 9: WFP nutritional requirements for school meals programmes

WFP school meals standards: Macronutrients					
PROPORTION	DURATION OF SCHOOL SESSIONS	DAILY REQUIREMENTS			
AGE GROUP	TYPE OF SCHOOL	ENERGY (KCAL)	CARBOHYDRATES (G) (55-75 PERCENT OF ENERGY)	PROTEIN (G) (10-15 PERCENT OF ENERGY)	FAT (G) (15-30 PERCENT OF ENERGY)
Pre-primary 3-5 years	Daily RNI*	1300	179-244	33-49	33-49
	Half day	30-45% / 390-585 Kcal			
	Full day	60-75% / 780-975 Kcal			
Primary 7-12 years	Daily RNI	1850	254-347	46-69	35-62
	Half day	30-45% / 555-830 Kcal			
	Full day	60-75% / 1110-1390 Kcal			
Secondary 13-17 years	Daily RNI	2600	358-488	65-98	44-88
	Half day	30-45% / 780-1170 Kcal			
	Full day	60-75% / 1560-1950 Kcal			

**Reference Nutrient Intake*

WFP school meals standards: Micronutrients				
PROPORTION	DURATION OF SCHOOL SESSIONS	DAILY REQUIREMENTS		
AGE GROUP	TYPE OF SCHOOL	MICRONUTRIENTS		
		IRON (MG)	IODINE (M)	VITAMIN A (Л RE)
Pre-primary 3-5 years	Daily RNI*	12	90	450
	Half day	30-45% of RNI of MNs		
	Full day	60-75% of RNI of MNs		
Primary 7-12 years	Daily RNI	17,80	120	500
	Half day	30-45% of RNI of MNs		
	Full day	60-75% of RNI of MNs		
Secondary 13-17 years	Daily RNI	29	150	600
	Half day	30-45% of RNI of MNs		
	Full day	60-75% of RNI of MNs		

**Reference Nutrient Intake*

of the meals to the total children's food intake, among others. It is also important to reiterate that energy-dense and unhealthy meals can contribute to a rising prevalence of overweight among children.

The specific needs schoolchildren of different age groups are taken into account to varying degrees. Cuba and Honduras, for instance, provide a differentiated food basket and a higher portion of children requirements in pre-primary schools. In Colombia and Peru, nutritional guidelines require that an equal percentage of nutritional needs is covered by the ration and provide specific guidelines by age group. Overall, this is an area that would deserve more attention in the future. Particularly, specific nutritional needs of adolescents – primarily adolescent girls – do not appear to be adequately considered in the strategies of programmes targeting secondary schools beyond adjusting ration sizes.

It is important to note that in nearly half of the countries providing a daily meal compliant with national guidelines is still a challenge. Funding limitations appear to be the main constraint, as reported in countries such as Bolivia, Colombia, El Salvador, Guatemala, Haiti and Honduras. As a result, in some cases, the meals are not provided regularly throughout the year, or the rations do not always comply with national standards. This can undermine the benefits of school meals for schoolchildren.

Increasing micronutrient content is a particular challenge, even in countries where nutrition objectives are a priority, such as in Cuba and the Dominican Republic (see Expert Viewpoint 7). Countries use several strategies to improve school meals variety and nutritional quality. In Cuba, all preschool children have access to fortified food; fortified staples or multi-fortified food commodities are included in school meals. **Food fortification** is a proven, cost-effective strategy to address micronutrient deficiencies. Table 5 provides information on nutrient-rich commodities provided in school meals programmes. Nine countries reported to be providing **multi-fortified commodities**, such as fortified cereal blends and cereal bars or fortified drinks. Ecuador, Panama, and the Dominican Republic, for instance, have paid particular attention in the last few years to enhancing the nutritional quality of the snacks provided in schools and have developed new micro-fortified snacks and beverages with lower fat and sugar content in partnership with the private sector and research institutions. These snacks have been made available in the general market, such as in Panama. El Salvador is testing a new fortified beverage with lower sugar content, but efforts are still needed to reduce it to acceptable levels while maintaining acceptability. Point-of-use fortification, in particular through **micronutrient powders**, is currently not used in national school meals programmes in the region, although they have proved to be a cost-effective option. Pilots to introduce micronutrient powders in school meals have been carried out in the past years (e.g. Bolivia, Haiti), but there is no current example of this approach being scaled up in the region. This seems mainly due to implementation constraints and concerns over sustainability, as well as a preference for a combination of food fortification and incorporation of vegetables and other fresh products to prevent micronutrient deficiencies.

Lastly, **bio-fortified commodities offer new opportunities** for school meals programmes and are being introduced on a pilot scale in some countries such as Honduras and Nicaragua.

Table 5: Provision of multi-fortified foods and drinks, milk, fresh fruits and vegetables

COUNTRY	MULTI-FORTIFIED FOOD PRODUCTS	FORTIFIED DRINKS	MILK AND MILK-BASED BEVERAGES	FRESH FRUITS AND VEGETABLES
Bolivia	Yes	–	–	Yes
Colombia	–	Yes	Yes	Yes
Cuba	Yes	Yes (secondary schools)	Yes (pre-primary schools)	Yes
Dominican Republic	_	Yes	Yes	Yes
Ecuador	Yes	Yes	Yes	In some areas
El Salvador	_	Yes	Yes	In some areas
Guatemala	Yes	Yes	Yes	Yes
Haiti	–	–	–	In some areas
Honduras	–	–	In some areas	In some areas
Nicaragua	Yes	–	–	–
Panama	Yes	Yes	Yes	In some areas
Paraguay	–	–	Yes	Yes
Peru	–	–	Yes	–
Chile	N/A	N/A	N/A	N/A
Brazil	–	–	Yes	Yes
Mexico	–	–	Yes	Yes

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

Another strategy is the provision of animal products and fresh fruits and vegetables in the food basket. Eleven countries provide milk or fortified milk-based beverages. Thirteen countries already provide fresh fruits and vegetables in their programme at different scale. A number of countries also provide other animal products; for example, Honduras is increasingly including eggs, as well as fish in some coastal areas. Nearly all countries are testing new modalities at different scales to diversify the food basket with fresh products through direct local procurement or transfer of funds to local institutions. In Cuba and Honduras, for instance, some schools can purchase fresh products locally to complement non-perishables purchased at the central level. Introducing fresh products, however, brings additional challenges to guarantee food safety. This seems to be the main reason why many programmes still prefer to rely mostly on non-perishable products.

Expert Viewpoint 7:

The importance of micronutrients in school meals

Hector Cori, Nutrition Science Director Latin America, DSM Nutritional Products

The most recent assessment of micronutrient status in Latin America[1] provides two fundamental lessons: (a) that despite economic growth in the region, several micronutrients remain a public health problem; and (b) that there is still very little nationally representative data about micronutrient status. In other words, we are faced with the paradox that the available information indicates that there are major health problems resulting from micronutrient deficiencies, but often no measures to address the situation can be executed given the lack of more comprehensive information.

While some nations have improved their micronutrient status, others have unfortunately regressed, particularly with regards to vitamin A deficiency. Another important paradox is that in a predominantly sunny region like Latin America, the evidence points to significant deficiency in vitamin D. In Mexico, its deficiency or inadequacy affects almost half of women and children.

The impact of micronutrients deficiencies is already widely known; iron deficiency anaemia impairs cognitive development and can subtract up to 25 percent of physical capacity. Vitamin D deficiency not only compromises bone health, but is also a predictor of osteoporosis in adulthood and can compromise immunity, cardiovascular health and possibly the risk of diabetes. Vitamin A deficiency compromises eye health, children's immunity and can prevent normal absorption of dietary iron, another factor adding to the risk of anaemia.

Latin America has been a pioneer in school meals. There are numerous nutritional advantages of school meals programmes when they include fortified foods. Chile eradicated the last pockets of iron deficiency by fortifying the milk distributed through the national supplementary meals programmes with iron, zinc and copper.[2] The economic return of nutrition is estimated at 8–30 times the money invested.[3] The cost of micronutrient fortification does not exceed 1 percent of the cost of food and does not impact the consumer's economy in more than 1 United States dollar per year. Finally, the addition of micronutrients to food is an extremely safe practice.

Some studies have shown that the impact of fortification can be very fast, almost as rapid as with supplementation.[4] Similarly, point-of-use fortification, usually delivered in sachets containing micronutrients that are added to already prepared food, get an equally good effect as traditional fortification or supplementation, allowing for better targeting of the desired population and reducing the challenges associated to centralized fortified food production.

Improving the nutritional density of school meals in the region is the logical step given the situation of micronutrients in Latin America conjointly with how economic, safe and simple it is to add micronutrients. Local regulations and specifications that establish the nutritional quality of school meals should look after guaranteeing nutritional density by setting the micronutrient content of school rations and identifying the most stable and bioavailable forms of micronutrients to maximize impact.

[1] López de Romaña, Olivares and Brito, 2015. [2] Torrejón et al., 2004. [3] Horton, Mannar and Wesley, 2008. [4] Hernando Flores. Rice Fortification in Brazil. Personal communication.

3.2 Nutrition education, complementary school-based health and nutrition services, and the school environment

To achieve their objectives and contribute to improve nutrition outcomes, school meals programmes need to be complemented by other interventions that enable a safe school environment, protective of children's' health. **Food and nutrition education, as well as school-based health and nutrition services, is essential to support children's health and overall development and key for effective school meals programmes.**[18]

Food and nutrition education is often defined broadly as a holistic programme that includes a number of information-related interventions aimed at increasing knowledge of what constitutes good nutrition. The ultimate goal is a change in behaviour, with individuals choosing more nutritious diets and healthier lifestyles. Such programmes may include elements of nutrition training, public information campaigns and regulation of advertising and labelling. They often also include s**chool garden programmes with education purposes** (see Box 10). Most countries are supporting the establishment of school gardens as an effective pedagogical tool and vehicle for food and nutrition education, in particular the promotion of diet diversity and healthy eating habits. This approach is generally supported by WFP and FAO, as school gardens have been recognized as a good practice for a range of education activities.

Box 10: School gardens as an education tool in El Salvador

The School Meals and Health Programme (PASE, its Spanish acronym) managed by the Ministry of Education in El Salvador covers about 1.3 million children. It puts a strong emphasis on promoting healthy eating habits, as it recognizes that adequate nutrition fosters better learning.

One of the main strategies of PASE is the implementation of school gardens, a practical learning tool on food production that also stimulates youth's entrepreneurial vision. The school gardens strategy goes beyond a simple productive action, and has four main components:

(a) Production and the environment: every school receives a tool package, including seeds and other agricultural inputs. Capacity is provided in school gardens' management and maintenance from an agro geological perspective in order to produce food in an environmentally friendly manner.

(b) Education: teachers are trained on the use of school gardens within the school curriculum.

(c) Food security and nutrition: capacity is strengthened in this area for teachers, parents, students and school shop personnel, with a focus on healthy eating habits and consumption of fruits and vegetables.

(d) Prevention: taking action to reduce and prevent risks for schoolchildren and their families, helping to create a school community free from violence.

[18] *See also the WFP/UNICEF Essential Package based on the FRESH Framework.*

There are different approaches to food and nutrition education in the region. **In all the LAC countries covered by this study, food and nutrition education activities are implemented in parallel to the delivery of school meals to different degrees.**

Nicaragua implements education activities related to the national school curriculum in food and nutrition security through workshops, talks, demonstration activities, school gardens and school kiosks. To that end, the Ministry of Education has worked in partnership with the Ministry of Health, United Nations agencies and INCAP. Cuba has also incorporated nutrition education in the school curriculum and has implemented, since 1997, the Framework Programme for Health Promotion and Education in the National Education System. One of its seven thematic focuses is nutrition education and food safety. The new national school meals programme in Paraguay has a strong pedagogical basis oriented towards the right to food, and one of its objectives is to promote food and nutrition education. Its health component also includes nutritional monitoring in schools and health education, among others. However, the nutrition education and health components still need to be fully developed and implemented. In other countries, such as Bolivia, Colombia, Dominican Republic and Ecuador, food and nutrition education activities related to school meals programmes appear to be less systematic. In Haiti, activities are mostly carried out by non-governmental organizations (NGOs) and partners in the schools they support. In most countries, activities reach the community through school management committees or more specific school meals committees. Some experiences, in particular trainings for school community members (parents, teachers, cooks, students, etc.) still need to be institutionalized, systematically developed and implemented at scale.

A review was carried out in 2014 to identify the effectiveness of education interventions conducted for the prevention of overweight and obesity in schoolchildren between 6 and 17 years in Latin America (Mancipe Navarrete et al., 2015). Twenty-one case studies were conducted on different types of educational interventions, including nutritional campaigns, physical activity practice and environmental changes. According to the review, mixed approaches combining these interventions were the most effective. Educational interventions that combined adequate nutrition and the promotion of physical activity practice were more effective for preventing overweight and obesity.

A number of countries have developed integrated school health and nutrition strategies that include food and nutrition education together with the provision of school meals. The strategy Healthy Learning (Aprende Saludable) in Peru is a good example (see Box 11). Another example is the Strategy for Healthy Schools in Guatemala, coordinated by the Healthy Schools National Commission (CONAES, its Spanish acronym), which promotes healthy and diversified diets, healthy lifestyles, water and sanitation, and personal and food hygiene education.[19] The strategy includes the provision of healthy school meals and training in themes related to nutrition for students, teachers and parents. Some 1,200 school gardens

[19] *CONAES (2015). Lineamientos y Criterios Básicos para la Implementación de la Estrategia de Escuelas Saludables en Guatemala.*

Box 11: *Aprende Saludable* in Peru: An example of intersectoral coordination to address schoolchildren's education, health and nutrition needs

In 2014, the Ministry of Education, the Ministry of Health, and the Ministry of Development and Social Inclusion (MIDIS) of Peru developed the intersectoral initiative Healthy Learning, or Aprende Saludable. The main purpose was to address health problems affecting schoolchildren, in particular the emerging problem of obesity and overweight. One in four children aged 5 to 9 is overweight or obese in Peru.

A permanent multisectoral commission was created, responsible for the design, follow-up and evaluation of intersectoral initiatives in education, health and social protection. The Healthy Learning initiative aims to benefit and foster learning among the country's schoolchildren, guaranteeing reception of different programmes and social services offered by the different sectors in public educational institutions in a coordinated manner. The initiative includes student health evaluations and promotes healthy diets, good hygiene habits and physical activity. The Ministry of Education leads the initiative and makes institutional arrangements to ensure the quality of education; the Ministry of Health implements the School Health Plan in educational institutions; and MIDIS implements the national school meals programme Qali Warma. Aside from the food service, Qali Warma has an educational component whose aim is the improvement of eating habits and promoting good food handling practices both within schools and in family households through school meal committees.

Likewise, the Law on the Promotion of Healthy Food for Boys, Girls and Adolescents serves as the basis for the promotion of healthy nutrition in schools and the encouragement of physical activity. Finally, there is a ministerial resolution (No. 908-2012-MINSA) whereby the list of healthy foods is approved for the sale of food in educational institutions. The idea behind this series of activities is to allow improvement of living conditions and the functioning of schools, and this is reflected not only in better living conditions for the population, but also in better learning outcomes.

As a related initiative, the national school meals programme Qali Warma decided to review the situation of food consumption among students who were participating in the school meals programme in metropolitan Lima and the effect of servings in the programme. The consumption study, carried out with WFP and other partners, concluded that Qali Warma did not contribute to worsening the problem of overweight in the city. On the contrary, children who consumed the programme servings showed better coverage rates of their energy and fat requirements. The study also determined the nutritional status of schoolchildren in accordance with anthropometric and biochemical markers.[1]

[1] *WFP, Qali Warma, UNDP. 2016. Estudio: Caracterización del consumo alimentario de los usuarios del Programa Nacional Qali Warma y la contribución de la ración entregada por el programa, escolares en Lima Metropolitana.*

have also been implemented as part of this strategy. While the strategy shows strong national commitment, it still needs to be fully implemented. Both examples illustrate the importance of multisectoral strategies and coordination to support child health and development through school meals programmes.

School-based health interventions, including deworming, immunization and micronutrient supplementation, as well as water and sanitation activities, are renowned and important complementary interventions for schoolchildren to fully benefit from the food provided in school. Nine countries reported implementing deworming activities. In Bolivia, Dominican Republic, Honduras, Nicaragua, Paraguay and Panama, for instance, annual deworming campaigns reach all schools countrywide. In other countries, campaigns are less systematic and may be limited to some areas, as in Haiti. Micronutrient supplementation to complement school meals programmes is not very common in the region according to the information reported, similarly to point-of-use fortification through micronutrient powders (see Section 3.1).

Importantly, the **school environment** in which school meals programmes operate may contribute to reach the stated objectives, or undermine its efforts. School meals programmes are implanted in school environments where other sources of foods are also available, in particular from food selling points such as school cafeterias and food kiosks, and in many countries where marketing of unhealthy food and beverage products is pervasive (see Box 12).

Among the studied countries, the only one where selling food in all schools is forbidden is Cuba, except for some cases in pre-university levels in addition to some states in Brazil. **About half of the countries studied have provisions to regulate the food sold on school premises**, including Brazil, Dominican Republic, Ecuador, Honduras, Mexico, Nicaragua, Paraguay and Peru. Discussions are ongoing in Panama in this regard. In Ecuador, the 2009 Organic Act on the Food Sovereignty Regime forbids selling food products of low nutritional value on school premises and their use in food assistance programmes for vulnerable groups.[20] In Peru, a resolution from the Ministry of Health issued in 2012 approves a list of recommended healthy foods to be sold on school premises.[21] A similar regulation has been introduced in Costa Rica, where food sold in schools is regulated through a 2012 decree enacted by the Ministries of Health and Education. In Nicaragua, mandatory technical norms focus on food hygiene and safety.[22] In addition, a few countries have non-mandatory guidelines, such as El Salvador. The country is currently drafting a new education law that will regulate school kiosks and forbid some unhealthy foods. Overall, further efforts are needed to strengthen national regulations and ensure compliance.

[20] *Ley Orgánica del Régimen de Soberanía Alimentaria (2009).*

[21] *Ministry of Health (2012). Resolución Ministerial N°908-2012-MINSA. www.minsa.gob.pe/portada/Especiales/2012/kiosko/archivos/RM908-2012-MINSA.pdf.*

[22] *Nicaragua: Guía de nutrición e higiene para kioscos escolares + Norma Técnica Obligatoria Nicaragüense de Kioscos y Cafetines de los Centros Educativos 03 08509, la que establece los requisitos Higiénicos-Sanitarios.*

Box 12: Marketing of unhealthy food and beverage products in schools in LAC

Marketing of unhealthy food and beverages (products containing high amounts of fat, sugar and/or salt) directed to children is a key component of the social and economic context to be addressed to reduce the risk of childhood obesity and the related risk of non-communicable diseases during adulthood.

UNICEF realized in 2015 an exploratory study, in collaboration with the Institute of Nutrition of Central America and Panama (INCAP), on marketing and advertising of food and beverages targeted to children. One component of the study focused on targeting children in 12 schools in Argentina, Costa Rica and Mexico.

The study found that indirect marketing and advertising of unhealthy food and beverages was the most common type of promotion found inside schools. In the previous three years, half of the schools evaluated had companies promoting activities, such as taste tests, free sample distribution to students during special events (e.g. Children's Day, football tournaments), plays, active breaks, informative sessions given to parents or students by nutritionists and free cinema or food vouchers.

All school kiosks had unhealthy food and beverages available to children (e.g. salted snacks, crackers, cookies, cakes and/or chocolate bars). Seven schools had refrigerators for beverages or ice cream with a brand or product logo. Furthermore, 58 percent of schools had kiosks or street vendors outside their facilities and 25 percent of them had some type of external promotion and publicity.

Even though the region has made significant progress in establishing government regulations, promotion and advertising techniques of unhealthy foods and beverages targeting children, it appears that children in schools are exposed to marketing of unhealthy products. UNICEF recommends further development of comprehensive public policies and programmes that regulate and protect children and adolescents from direct and indirect marketing of unhealthy food and beverages, improve the availability and accessibility of healthier foods options in schools, and prohibit products with high contents of fats, sugar and/or sodium.

Box provided by UNICEF Regional Office for Latin America and the Caribbean.

3.3 Supply chains for school meals

Implementation arrangements, including the organization of the supply chain and logistics, are critical to programme quality and effectiveness. Supply chains that include local procurement from smallholder farmers may provide opportunities to diversify food baskets, support local food production and food systems, promote the production of nutrition dense-foods, and contribute to household food security and livelihoods. This is another entry point to address underlying causes of malnutrition.

Building on the supply chain models they adopt (Gelli et al., 2012), school meals implementation models can be broadly characterized in terms of decentralization in their supply chain management (procurement, transportation and distribution), and the use of third parties – generally private companies – to perform these activities (see Table 6).

Table 6: Implementation and supply-chain management

COUNTRY	GENERAL IMPLEMENTATION APPROACH	OUTSOURCING
Nicaragua	Centralized	_
Panama	Centralized	_
El Salvador	Centralized	_
Haiti	Mostly centralized	_
Ecuador	Centralized	Limited to lunch modality in Millennium Educational Units
Dominican Republic	Centralized	Limited to some full-day schools
Honduras	Mixed system: centralized for non perishables, decentralized for fresh products (at different levels)	_
Cuba	Mixed system: centralized for non perishables, decentralized for fresh products	_
Peru	Decentralized at the district or provincial levels	_
Bolivia	Decentralized at the municipal level	Different models, including outsourcing
Colombia	Decentralized at the municipal level	Different models, including outsourcing
Paraguay	Decentralized at the governorate and municipal levels (with the exception of schools in the capital city)	Fully outsourced
Guatemala	Decentralized at the school level	–

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016. Sample of 13 countries.

A variety of approaches are found in the region, with different implications for their potential to achieve nutrition outcomes. Programme management is centralized in most countries. Supply chain management and control takes place at the national level and is performed by the government. In most cases, these programmes adapted the centralized processes established in the past by WFP. Cuba and Honduras have recently adopted mixed approaches whereby the supply chain for the core food basket (non-perishable commodities) is managed at the central level, while fresh products are supplied at the local level by the schools or through groups of municipalities and cooperatives. In five countries, supply chain management takes place at the regional/local level: generally local governments are responsible for food procurement – in Peru with the participation of civil society and in Guatemala with school meals committees. As an exception, programme implementation is outsourced to private companies in Paraguay, similarly to the Chile model. In Bolivia and Colombia, different

approaches coexist, and in some areas local governments outsource programme implementation to private companies, especially in urban and peri-urban localities.

At the school level, food management, preparation and distribution generally rely on school management committees or school meals committees. Parents and other community members prepare the meals, normally on a voluntary basis, and in a few cases they receive an incentive to perform this task. In several countries, school teachers are also involved in the distribution of school meals. The additional demands that school meals management puts on schools and teaching staff when meals are prepared in schools, especially when there is a strong involvement of teachers and in environments with poor school infrastructure, have raised concerns over possible unintended effects on the quality of education. In addition, while community participation is an important element of programme quality and sustainability, there are growing concerns about the risk to overwhelm the community, especially women. In Colombia and Cuba, the programme includes budget lines to hire staff to prepare and distribute the meals.

Decentralized programmes tend to be more flexible and have more diversified meals and snacks. They usually present additional challenges in terms of food safety control. Ensuring that all entitled schoolchildren across the country consistently benefit from the same quality of service may be an additional challenge, as demonstrated by the examples of Bolivia, Colombia and elsewhere in the world. Centralized models tend to include more micronutrient fortified products and provide more opportunities for improved quality control and economies of scale. They may have higher transportation and management costs, and providing diversified and fresh products may be more challenging.[23]

Evidence collected in this study shows that a number of countries are moving towards, or considering mixed strategies, where centralized school meals programmes are complemented by decentralized purchases, as this helps to improve quality and efficiency. Optimizing alternative sourcing channels may also provide benefits in terms of risk management.

3.4 Home-grown school meals

As mentioned in Section 2.4.4, all countries in the region are seeking to source the food for their school meals programmes as locally as possible. In addition to supporting local agriculture, **the opportunity to leverage nutrition-sensitive approaches through home-grown school meals (HGSM) is increasingly recognized**: they allow the diversification of the food basket with fresher and less processed foods which are culturally acceptable and promote healthy eating habits at school as well as at home. It is through HGSM approaches that **many countries have introduced locally produced fresh vegetables and fruits, eggs, milk and dairy products** in their school meals menus at different scale. Governments are at

[23] *For more information on centralized models, see Gelli et al., 2012*

the forefront of these attempts, increasingly supported in recent years by partners such as WFP and FAO (see Section 4).

Nearly all countries reported procuring commodities within the boundaries of the country. In Nicaragua, for instance, all food commodities are procured on the domestic market from large food suppliers, including, when possible, the state grain company, which procures from local producers and cooperatives.

Countries that provide ready-to-consume snacks and fortified commodities have been adapting their food baskets to include more national products, as Ecuador, Peru, Honduras and El Salvador. In the latter, for example, 85 percent of the UHT milk is procured on the domestic market. Honduras is also buying fortified maize meal, as well as planning to purchase fortified oil, both locally. The potential for schools meals programmes to procure locally or in-country processed and packaged foods continues to grow. For instance, in Guatemala, schools can procure Incaparina, a local fortified corn and soy blend, which is, however, costly given the budget allocated.

All countries are implementing or testing new modalities to foster the links with local agriculture, in particular with smallholder farmers. These modalities include technical support and investment in the production side, and at times they face some challenges in scaling up from pilot phases to national coverage. Honduras is experimenting several approaches to identify the best experiences and bring them to scale (see Box 13), while Haiti is piloting an innovative HGSM model in one area, namely the Nippes Department, before testing it at larger scale. Other successful examples include the lunch programme for schools that hosts Colombian refugee children in Ecuador and for boarding schools in Colombia, both with WFP support, and the integrated approach Escuelas Sostenibles implemented in several countries through pilot programmes with technical support from FAO and Brazil (see Expert Viewpoint 6). In Bolivia, local purchases schemes for school meals programmes were successfully implemented between local municipalities and smallholder farmers in the Mancomunidad of Chuquisaca (see Box 20). WFP's Purchase for Progress (P4P)[24] initiative in Central America represents a strong example of an initiative that provided a solid platform to expand these links with institutional markets and increase the proportion of basic grains for school meals sourced from smallholder farmer associations. A similar approach is now expanding to fresh products and to other social protection programmes.

However, sourcing the food for school meals locally from smallholder farmers is a complex task. Practical experience reveals that scaling up and sustaining these programmes requires a strong emphasis on:

- **Maintaining a stable supply of food to schools.** Local production may not meet the full requirements, both in terms of quantity and quality. This issue is found everywhere, but is particularly critical in food insecure and disaster-prone areas. Procurement from producer organizations can be riskier and costlier than procurement from private traders. In addition, when programmes are highly decentralized, food requirements may not be large enough to provide a stable

[24] *For more information on WFP's P4P initiative worldwide, see: https://www.wfp.org/purchase-progress/overview.*

market and be attractive for local farmers and companies. Finally, food prices may vary greatly across regions, calling for different implementation strategies and regular monitoring of food prices.

- **Ensuring food quality and safety** through effective monitoring of produce quality and by setting and maintaining minimum nutritional standards. Local capacities in the processing of fortified food may be limited. Technical support and research are invested in some countries to link the local culture of nutritious foods to school meals. The growing volume of in-country food processing represents an opportunity for schools to procure easily handled and prepared foods – including healthy, fortified commodities, but also unhealthy processed ones. Local procurement can be an opportunity to provide more diversified and tasty fresh foods, but these imply additional challenges to guarantee food safety.

  Some smallholder farmers are now growing bio-fortified varieties of local crops, such as maize, beans and sweet potatoes. Bio-fortified crops are traditionally bred to contain higher quantities of micronutrients. In Nicaragua, efforts are under way to introduce two varieties of bio-fortified beans produced by the Nicaraguan Institute for Agricultural Technology (INTA). The beans, which contain 60 percent more iron and zinc than traditional varieties, will be purchased by WFP and used in school meals.

- **Supporting small-scale farmers and investing in the production and post-harvest management of food.** This is where the support from the agriculture sector is needed. Farmers need access to inputs, credit, and technical and organizational skills. Successful programmes have included complementary interventions that address the weaknesses in the food system and have linked agriculture programmes with school meals programmes. This sort of coordination, however, is not always easily achieved.

- **Ensuring procurement processes that allow purchases from smallholder farmers.** Complex procurement procedures combined with high nutritional and food safety standards tend to exclude small-scale farmers and enterprises from bidding processes. Several countries have adapted their procurement processes to favour procurement from smallholder farmers. In Brazil, the 2009 school meals law stipulates that at least 30 percent of the resources for school meals should be used to procure from smallholder farmers. In Colombia, this percentage is 20 percent. In Chile, a new policy to be gradually implemented in 2017 stipulates that school meal service providers should supply at least 15 percent of food inputs from local suppliers. In the Dominican Republic, minimum amounts can be specified in the bidding documents. In Peru, suppliers receive additional points in the bidding process when they commit to procure local commodities. Additionally, in Bolivia, specific tender processes have been designed for small family farmers. Cuba and Honduras are decentralizing part of the budget management to favour the procurement of fresh commodities from local farmers.

Box 13: Scaling up home-grown school meals models in Honduras

The Government of Honduras, with the support of WFP and other partners, is incorporating different home grown models into the national school meals programme, which covers some 1.3 million children, primarily through the introduction of fresh food supplied by local smallholder producers. The Government has a clear vision to strengthen the link between school meals and local agriculture in order to maximize the benefits in schoolchildren's nutrition, as well as for small farmers and communities.

The Government has invested about USD 1.3 million to complement the regular food basket of the national school meals programme with local fresh produce, reaching over 142,500 pre-primary and primary schoolchildren in 2016. The Government has prioritized the provinces north of Choluteca, El Paraiso, La Paz, Lempira, Gracias a Dios and Santa Barbara as priority areas to test new home-grown school meals models. The fresh food component includes different types of fresh vegetables and fruits, depending on the season, as well as eggs. Vegetables are served from Monday to Friday, while eggs are provided twice a week. Fresh fish is also served in some schools of the coastal province of Gracias a Dios. The inclusion of dairy products is also being tested in the southern provinces of Choluteca.

Five different home-grown school meals models are currently being implemented:

- **Direct cash transfers to schools:** Cash is transferred to schools to buy the fresh produce they need directly. This scheme is currently being piloted in 133 primary schools in eight municipalities in the southern province of El Paraiso, benefiting over 8,000 primary schoolchildren with fresh vegetables and eggs. Through this modality, the Government and WFP transfer cash to approved bank accounts owned by schools. The amount of cash transferred is calculated on the basis of the average cost of a ration of vegetables and eggs ration multiplied by the number of enrolled children. School directors, together with or endorsed by school committee representatives, take care of food procurement.
- **Mancomunidades:** This model entails an intermediary role of the mancomunidades, authorities formed by groups of municipalities. Through this scheme, resources are transferred to this intermediate level linking the central government with schools. The mancomunidades plan the demand of fresh food products based on the local offer and are in charge of undertaking agreements with smallholder producers, coordination and distribution to schools. WFP is currently working with six mancomunidades in three provinces: La Paz, Choluteca and Santa Barbara.
- **Municipalities:** While this third model is very similar to the previous one, in this case the intermediaries between the central level, schools and local producers are two single municipalities in the western province of Lempira. Municipalities are responsible for procuring fresh food from local producers and coordinating distribution to schools.
- **Cajas rurales:** Under this model, WFP and the Government have signed agreements with three cajas rurales, which are small socio-economic organizations and self-financing entities active in rural communities. The cajas rurales are responsible for buying fresh food from smallholder farmers and local producers, both members and non-members of the caja itself.
- **Smallholder producer associations and cooperatives:** This last model implies the direct engagement with local producer associations or cooperatives that are responsible for providing fresh food directly to schools. Currently, the Government and WFP are testing this model with five cooperatives.

Lastly, regarding food baskets, **several programmes explicitly seek to provide foods that are part of the traditional food culture and adapted to regional characteristics.** In Ecuador, school snacks now include traditional crops such as quinoa, and in Colombia this product is also being reintroduced (see Box 14). In El Salvador, the food basket has been diversified and is used to prepare recipes that are part of the country's food culture. In Guatemala, the guidelines include regional menus. In Bolivia and Ecuador, genetically modified organisms are forbidden.

An interesting and innovative project linking traditional Andean potato varieties with school meals programmes was carried out by WFP in Bolivia. In partnership with the International Potato Center, WFP promoted applied research on the impact on the consumption of potato varieties in school meals programmes. The project also entailed training for parents, teachers and schoolchildren about the nutritional benefits of potatoes. New varieties resistant to climate change were also tested, alongside with providing training to smallholder farmers in post-harvest and use of biopesticides.

Box 14: Quinoa: A seed that nourishes the future

WFP in Colombia is aligned with the national Government's priorities and complements its actions to build inclusive peace in the country. Boarding schools, supported by WFP, are the only alternative for the vulnerable population located in a dispersed rural area historically affected by violence and conflict to have access to and remain in the formal education system.

In 2015, in order to make rapid progress in improving the nutritional status of schoolchildren enrolled in the Department of Putumayo's boarding schools and to foster dietary diversity, WFP included a native food with a high nutritional value – quinoa – as a complement to the local food basket of fresh and nutritious foods supplied. Despite its pre-Hispanic nature, quinoa had disappeared from Colombian tables and was in many cases not even known. For this reason, WFP strengthened the technical capacities of food preparation in all boarding schools supported to ensure the inclusion of quinoa in school recipes and to ensure greater use of its nutrients by mixing it with fresh foods produced in school vegetable gardens.

This is an example of how WFP strengthens social protection programmes with a nutrition-sensitive approach using ancestral food practices.

Quinoa was bought from a processing company made up of families affected by the armed conflict and managed by mothers who are heads of households in order to stimulate local economies. This is one example of how WFP strengthens social protection programmes by promoting and supporting a nutrition-sensitive approach that revamps ancestral food practices.

3.5 Monitoring, evaluation and quality assurance systems

Monitoring and evaluation (M&E) systems are essential for learning and accountability, as well as to inform decision-making and improve programme quality. Accordingly, in order to ensure optimal efficiency and effectiveness of nutrition-sensitive school meals programmes, M&E systems should oversee whether due progress is being achieved towards specific nutrition-related objectives.

M&E appears to be one of the main challenges of most school meals programmes in the region, and nutrition-related indicators are rarely included in M&E systems. Furthermore, there is a lack of comprehensive school meals impact evaluations in the region, which hampers the ability to assess their actual nutritional benefits for schoolchildren and communities.

Based on the information collected and analysed in this study, one of the possible explanations for this shortcoming is the **general gap that exists globally in terms of validated and internationally recognized indicators for the monitoring of nutrition outcomes, in particular for school-age children** (e.g. diet diversity for this age group). This gap represents an obstacle for governments that need to monitor the achievement of nutrition objectives within their national school meals programmes, and is an important area for future research.

In terms of routine monitoring, out of the 13 countries for which data were collected, six reported having an established monitoring system for school meals and, among them, some are not fully functional nor include nutrition-specific indicators. As part of the food-quality assurance system, five countries monitor the compliance of the food distributed in schools with national nutritional norms (Colombia, Cuba, Dominican Republic, El Salvador and Panama). Paraguay reported monitoring nutrition-related indicators. In the Caribbean, Cuba and the Dominican Republic outstand, as they developed systems to regularly monitor the nutritional quality of the foods served and consumed at school, as well as the nutritional status of schoolchildren (see Box 15). Another example is the consumption study carried out recently within Peru's Qali Warma programme (see Box 16). It is noteworthy that even in countries such as Brazil, Chile, Ecuador and Mexico that have advanced information management systems comprehensive M&E for school meals seems to be a challenge.

The study shows that **the involvement of nutritionists in the school meals management process** is an essential element to ensure the nutritional quality of the meals and support compliance with nutritional guidelines at implementation levels. All programmes have reported including nutritionists among their staff, although often only at the central level (Brazil is a notable exception). However, more research is needed to assess the adequacy and further understand this important aspect.

Guaranteeing the safety of the food provided in schools is a main challenge in the region, as in other parts of the world. Ensuring food safety is particularly challenging when perishable products are included in the food basket. This explains why some national programmes only include non-perishable commodities in their

Box 15: Cuba's Food Security and Nutrition Monitoring System (SISVAN)

Cuba has developed an advanced surveillance system for its national school meals programme, including information on the quantity and frequency of food consumption, nutritional value and dietary diversity.

Since 1977, Cuba implements a national Food Security and Nutrition Monitoring System (SISVAN, its Spanish acronym), a first step towards the development of programmes and policies tackling malnutrition. SISVAN provides information on food availability, access and consumption, and nutrition status. This information reveals what the challenges are along the food chain, when and where the obstacles appear, and who the most vulnerable groups are. This allows for effective and informed decision-making. One of the main aspects of this system is its multisectoral approach.

One of the main components of SISVAN is the surveillance of food consumption in "collective food centres", primarily in institutions where national school meals programmes are implemented. This helps to assess the food that is offered and its consumption in a relevant sample of institutions. Random selections of the food offered is assessed through weighting during the school meals service. On the other hand, consumption is measured through visual appreciation. Data are processed through an automated information system, making information available at the province and municipality levels on a monthly basis. Every six months, information is consolidated at the national level.

The methodology allows to look at food consumption indicators in schools, as well as the nutritional content of diets: for instance, the average per capita or school consumption levels for each food item or group, or the percentage of adequacy of energy and nutrients intake, allowing the classification of the intake as insufficient (less than 70 percent), deficient (between 71 and 90 percent, optimal (91 percent to 109 percent) and excessive (above 110 percent).

In the future, SISVAN should integrate data on the nutritional status of children in schools, as well as the benefits of school gardens and other forms of fresh products supply. The overall information system is being improved to facilitate information flows and decision-making.

school meals programmes, such as in Ecuador and Peru. Notably, all countries but Guatemala reported having food safety quality assurance systems. These include technical food specifications, generally embedded in the procurement processes, as well as food quality and safety controls. Peru developed a comprehensive quality assurance system for Qali Warma (see Box 16). Food safety is an area where national school meals programmes require cross-cutting support along the supply chain (see Expert Viewpoint 8).

Box 16: "Qali Warma" in Peru: Ensuring food quality and safety

In Peru, ensuring the safety of food distributed within the Qali Warma National School Meal Programme has been an absolute priority. The programme has chosen not to deliver perishable products to avoid potential safety hazards.

Qali Warma started operations in 2013 with the goal of providing safe and healthy food to girls and boys at the early learning level (from the age of 3) and grade school levels of public educational institutions throughout the country. It provided care to over 3.5 million children in 2015.

Although Qali Warma has no nutritional goals, its design takes into account the nutritional needs of schoolchildren. The challenge is to find non-perishable products that meet children's food requirements. In urban areas, an enriched milk with grains and bread or biscuits are usually delivered on a daily basis. The extensive and rugged territory of the country complicates daily delivery of food in certain rural areas, where they deliver products that are subsequently prepared in the schools. Working hand in hand with the private sector, a food basket has been developed and delivered to the most remote schools, including innovations such as dehydrated eggs.

Qali Warma has developed a series of standards and instruments to ensure the nutritional quality and safety of food provided within the programme. Fact sheets for the production of servings and food established by Qali Warma are based on current national regulations. In order to ensure food quality control and safety, Directorate Resolution No. 033-2016-MIDIS-PNAEQW was issued with the purpose of providing procedures for the supervision of facilities where bread and biscuits are prepared, the storage of non-perishable products, and the sanitary conditions of the means of transportation.

Within the framework of Law No. 30021 – Law Promoting Healthy Eating among Boys, Girls and Adolescents – Qali Warma has, since 2015, opted for a gradual reduction of the sugar content, mainly in industrialized direct consumption products. Likewise, this law states that, according to their field of competence, the Commission for Overseeing Unfair Competition of the National Institute for the Defence of Competition and Protection of Intellectual Property (INDECOPI, its Spanish acronym), the Ministry of Education, regional governments and local educational management units are responsible for overseeing and establishing the corresponding penalties.

On a national level, with regard to food quality and safety, work is being done within the framework of the Regulation on Surveillance and Sanitary Control of Food and Beverages and Sanitary Standards for Application of the Hazard Analysis and Critical Control Points System (HACCP, its Spanish acronym) in the preparation of food and beverages, among others. These standards seek to ensure the production and delivery of healthy and safe food and drinks and to facilitate their safe trade.

The programme has trained staff to verify that the hygiene and sanitation conditions of supplier facilities meet the established requirements; also, visits are made to schools to verify the preparation and consumption, with protocols for supervision and monitoring. Training of this staff is mainly provided by specialists from the country's health authorities.

Expert Viewpoint 8:

Food safety in school meals programmes

Manuel Espinoza, President, Latin American Network for School Meals

School meals programmes aim to improve the learning conditions of the most vulnerable children in the region, allowing to fulfil fundamental rights such as education and food, improve the health status of schoolchildren, the social development of the communities, equity, and the quality of life. On the other hand, they generate a series of externalities, such as the improvement and development of small-scale agriculture, local economies, access to healthy foods in the market, the development of quality control tools and technologies, and other benefits.

In Latin America and the Caribbean and other regions, school meals programmes are usually implemented in areas with poor health and sanitary conditions. They target the most vulnerable children in our countries, meaning children who live in areas with poor access to adequate environmental conditions, infrastructure, basic sanitation, health services, safe water and food, and nutrition and food security. This fundamental aspect, has been often discussed in the Regional School Meals Seminars and in the 6th Meeting of the Pan American Commission on Food Safety (COPAIA 6) held in 2012. One of the key recommendations was to "extend the access and availability to adequate and safe nutritious food to the most vulnerable populations in the region by supporting policies related to the right to safe, healthy and nutritious food, and education to create equity." This concept was also reflected in the 16th Inter-American Meeting at the Ministerial Level on Health and Agriculture (RIMSA 16): "it adheres to the COPAIA recommendation 6, aimed at establishing multisectoral public policies that promote equity and strengthen food safety systems to ensure safe, healthy and nutritious food with an emphasis on vulnerable populations." School meals programmes are a key instrument to achieve this objective and promote safer and healthier food for the most vulnerable. To support this area, they require cross-cutting support at the national level as well as from international agencies, academia, private industries, and all those involved in the execution of these programmes.

The Codex Alimentarius, which includes international food standards, guidelines and codes of practice (Food and Agriculture Organization of the United Nations/World Health Organization), is the recommended instrument for all country regulations, but its scope does not cover all aspects related to school meals programmes for vulnerable population. This requires more specific and dedicated attention by all stakeholders.

4 Policies and systems for nutrition-sensitive school meals

Chapter 4

Systems for school meals – in terms of policies and institutions – are important determinants of programme implementation quality, effectiveness and sustainability. Quality school meals programmes have been found to have, in addition to sound design and implementation systems, the following in place: (a) a national policy framework; (b) stable and predictable funding; (c) sufficient institutional capacity for implementation and coordination; and (d) community participation (Bundy et al., 2009). This section explores these four elements in the selected countries and analyses how they contribute to further support nutrition goals and nutrition-sensitive approaches.

4.1 Legal and policy frameworks

The importance of having well-articulated national policies and regulatory frameworks for school meals, as for nutrition and food security more broadly, is well documented (Bundy et al., 2009; Singh, 2013; Acosta and Fanzo, 2012, Drake et al, 2016). The degree to which school meals are articulated in national policy and legal frameworks varies from country to country, and there is not a single model in this regard, but a policy basis for the programme helps strengthen the potential for sustainability and accountability as well as the quality of implementation. Policies articulate national priorities and the role of different interventions to address them.

Latin American and Caribbean countries have established strong legal and policy frameworks for school meals, and continue adapting and strengthening them. This has been critical to forge programmes' sustainability. **All countries included in the study have policies and norms to regulate school meals programmes.** In 14 countries – all except Haiti and Nicaragua – school meals programmes also have a legal underpinning through specific or general laws, decrees or even the Constitution, as in Bolivia, Brazil, Cuba, Ecuador and Panama. However, the regulatory framework for school meals is often fragmented, and in some countries, as in Guatemala and Nicaragua, the policy basis for the programmes is relatively more limited.

The integration of school meals in national development plans and in relevant sectoral policies and strategies is particularly important. These documents show the commitment of sectors and provide a framework for resource allocation and accountability. Insertion in nutrition and food security regulatory frameworks, as well as in the ones of health and agriculture, is of particular relevance to support nutrition-sensitive approaches. Table 7 shows how school meals programmes are integrated in national development strategies and sectoral laws, policies and strategies.

Table 7: School meals in national development plans, laws and policies

COUNTRY	LEGAL BACKING	NATIONAL DEVELOPMENT PLAN	SOCIAL PROTECTION	EDUCATION	NUTRITION AND FOOD SECURITY	HEALTH	AGRICULTURE
Bolivia	Yes	Yes	No	Yes	Yes	No	Yes
Colombia	Yes	Yes	No	Yes	Yes	No	No
Cuba	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dominican Republic	Yes	Yes	No	Yes	No	No	No
Ecuador	Yes	Yes	Yes	Yes	Yes	No	No
El Salvador	Yes	No	Yes	Yes	Yes	No	No
Guatemala	Yes	No	No	Yes	Yes	No	No
Haiti	No	Yes	No	Yes	Yes	Yes	Yes
Honduras	Yes	Yes	Yes	No	Yes	No	No
Nicaragua	No	Yes	No	Yes	Yes	No	No
Paraguay	Yes	No	No	No	No	No	No
Peru	Yes	Yes	Yes	Yes	Yes	No	No
Panama	Yes	Yes	Yes	Yes	Yes	Yes	No
Total	**11**	**10**	**6**	**11**	**11**	**3**	**3**
Brazil	Yes	N/A	Yes	Yes	Yes	Yes	Yes
Chile	Yes			Yes			
Mexico	Yes	Yes	Yes	No	Yes	Yes	No

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016. Sample size: 16 countries.

Among the 13 focus countries analysed, nine mention school meals in their national development plans, which shows the high priority of these programmes in the national agenda. In line with their objectives, 11 countries have school meals programmes embedded in their education sector documents.

The link between school meals and nutrition and food security is widely formalized in the region through the different nutrition and/or nutrition and food security laws, policies and strategies, which by definition are multisectoral. In Bolivia, for instance, school meals are fully inserted in the national nutrition and food security framework. The 2011 Law 144 of the Productive, Communal and Agricultural Revolution defines school meals as an important means to improve schoolchildren nutrition, access to education, smallholder production and food sovereignty, while the draft Food and Nutrition Policy commends the coordination of multisectoral activities to provide a food complement in schools countrywide, giving priority to local food produced. A reformed public procurement law establishes that food procured for school meals programmes and other food security initiatives must come from national producers [25]

[25] *Gobierno del Estado Plurinacional de Bolivia (2009): Decreto Supremo 0181 de 2009, el cual establece las Reglas Básicas para la Adquisición de Bienes y Servicios.*

The inclusion in national agriculture and health policies is, however, more limited. At the moment, school meals programmes are not always fully included within wider social protection policies and strategies. The exceptions are Honduras and Peru, where the programme is under the Ministry of Development and Social Inclusion. In other cases, such as Ecuador, the Ministry of Development and Social Inclusion has a strong inter-ministerial coordination role, which facilitates the inclusion of school meals within the national social protection policies.

Another consideration is whether the countries have specific policies and legal instruments to regulate school meals programmes comprehensively. Seven countries included in the study, as well as Brazil, have them. The first country in the study to have adopted a specific law for school meals is Panama. A law in 1995 establishes the provision of milk and fortified biscuits or fortified creams in all pre-primary and primary schools of the country. Bolivia and Paraguay adopted school meals laws in 2014. Following the example of Brazil, both laws have specific provisions to prioritize procurement from smallholder farmers. In Colombia, Ecuador and Peru, school meals are regulated by specific decrees. Haiti adopted its first school meals policy and strategy in January 2016, while Honduras adopted a national school meals law at the end of the same year. In the remaining five countries – Cuba, Dominican Republic, El Salvador, Guatemala and Nicaragua – regulations regarding school meals are fragmented in different documents and can be incomplete, which compromises efficient implementation. Draft laws are being prepared or discussed in Colombia, El Salvador, Guatemala and Peru.

In general, the process of formulating school meals laws and policies has articulated political will and generated political debate and public awareness, which has provided further impetus for programme development. In Haiti, for instance, the policy formulation process has generated fruitful debate on programme implementation and objectives, and on the roles and responsibilities of different actors. On the contrary, a lack of policies in both Bolivia and Haiti had in the past hampered coordination and alignment of efforts and compromised service delivery quality.

Regional institutions and bodies have also recognized the importance of school meals programmes as a social protection instrument and an effective means to realize the right to food and education, and they have developed legal instruments specifically for school meals that promote linkages with nutrition and food security.

The Latin American Parliament (Parlatino), a regional, permanent organization composed of representatives of congress and legislative assemblies of Latin American and Caribbean countries, approved in 2013 the School Feeding Framework Law (PARLATINO, 2013), which provides a reference legal framework to member countries to regulate school meals with the view to realize the right to food. This law builds on the Framework Law on the Right to Food, and Food Security and Sovereignty adopted in 2012 (PARLATINO, 2012). In Central America and the Caribbean, the Foro de Presidentes de Poderes Legislativos de Centroamérica y la Cuenca del Caribe (FOPREL), which reunites nine member countries,[26] is advocating, since 2013, for a framework law for adequate school

[26] *Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Dominican Republic.*

food and nutrition.[27] While these instruments are not legally binding, they provide an incentive and practical frameworks for member states to draft their legal instruments for school meals and for harmonizing approaches on the continent in a nutrition-sensitive manner.

Another significant regional initiative that has been supporting the development of school meals legal instruments is the Frente Parlamentario contra el Hambre de América Latina y el Caribe, a regional platform of legislators that work in the legislative realm to fight undernutrition and malnutrition. National parliamentary fronts have been established in 15 countries.

Finally, the Plan for Food Security, Nutrition and Poverty Eradication 2025 of the Community of Latin American and Caribbean States (Comunidad de Estados Latinoamericanos y Caribeños, or CELAC) prioritizes the extension of school meals programmes as a means to promote nutritional well-being and ensure adequate nutrient intake for all vulnerable groups.

4.2 Institutional arrangements and multisectoral coordination

Institutional arrangements refer to the provisions within a government for the management and implementation of its school meals programmes. Essentially, this is how the programme is organized — who does what and how the different actors coordinate their work to deliver the service. Providing appropriate food to targeted schoolchildren throughout the school year requires a number of activities to be performed at different levels of government. Often, non-governmental actors such as the private sector, international organizations, NGOs, and other actors from civil society are also involved. Effective implementation thus depends on good articulation between actors across different sectors, from central to school levels (Drake et al, 2016).

In the region, ministries of education are usually responsible for the management of school meals programmes, often in association with other ministries, such as the Ministry of Agriculture in Ecuador, among several other examples (see Table 8). Peru and Honduras are important exceptions: Qali Warma is managed by the Ministry of Development and Social Inclusion, and the national school meals programme in Honduras is primarily managed by the Ministry of Social Development and Inclusion together with the Ministry of Education. This finding is not surprising as the role of school meals in the country's development agenda is an important determinant of which sector is mandated with school meals. It is consistent with data from other regions of the world, showing that in 86 percent of countries, the Ministry of Education is primarily responsible for the school meals programmes (WFP, 2013).

[27] *XXXI Reunión Ordinaria de Presidentes, San José, Costa Rica, 18 de marzo de 2014. Proyecto de Ley Marco sobre el Derecho a una Alimentación y Nutrición Adecuada Escolar.* http://centrogilbertobosques.senado.gob.mx/docs/seriealatina71.pdf

Table 8: Institutional arrangements: principal ministries and collaborating ministries

		COLLABORATING MINISTRIES				
COUNTRY	PRINCIPAL MINISTRY	EDUCATION	SOCIAL PROTECTION	HEALTH	AGRICULTURE	OTHER
Bolivia	Education	-	No	Yes	Yes	Yes
Colombia	Education	-	No	No	No	No
Cuba	Education	-	No	Yes	Yes	Yes
Dominican Republic	Education (INABIE)	-	No	Yes		Yes
Ecuador	Education	-	Yes	Yes	Yes	Yes
El Salvador	Education	-	No	Yes	Yes	Yes
Guatemala	Education	-	No	Yes	Yes	Yes
Haiti	Education (PNCS)	-	Yes	Yes	Yes	Yes
Honduras	Social Development	Yes	-	No	Yes	Yes
Nicaragua	Education	-	No	Yes	No	No
Panama	Education	-	Yes	Yes	Yes	No
Paraguay	Education	-	No	Yes	Yes	No
Peru	Social Development and Inclusion	Yes	No	Yes	No	No
Mexico	Social Protection (DIF)	-	No	Yes	No	Yes
Brazil	Education	-	No	No	Yes	No
Chile	Education	-	Yes	Yes	No	Yes

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

A number of countries have established autonomous institutions linked to the leading ministry with the purpose of managing the school meals programmes or social programmes for schoolchildren more largely (e.g. Dominican Republic, and Brazil and Chile). In Mexico, the school meals programme is the responsibility of the institution in charge of social and food assistance programmes, the National System for Integral Family Development, which forms part of the health sector and the social cabinet of the president.

Institutional arrangements are dynamic and have been evolving over time. Centralized approaches are predominant in the studied countries. However, there is a general trend in the region, as elsewhere in the world, towards more decentralized approaches. The programmes in Brazil and Mexico, for example, were initially centralized and were then progressively devolved to states, districts and communities as the wider decentralization of public services took place.
In Guatemala, programme management is fully decentralized at the school level. Other programmes that seek to include more local, fresh products are at least partially decentralized, as in Honduras.

In Colombia, since 2011, the programme has been transferred to the Ministry of Education and decentralized, with the objective to achieve universal coverage. In Ecuador, the double leadership of the Ministry of Education and Agriculture is being reconsidered, as this organization poses additional challenges for planning and coordinating activities.

School meals programmes are multisectoral in nature. In the countries studied there is important collaboration among different sectors. In all programmes, at least one sector in addition to education is involved. Two sectors are particularly important to support nutrition-sensitive programming: health and agriculture. In the studied countries, the Ministry of Health is involved in eleven programmes, the Ministry of Agriculture in nine, and both in eight of them (by comparison, at the global level, among countries where the Ministry of Education is responsible for school meals, the Ministry of Agriculture, the Ministry of Health, or both, are involved in 56 percent) (WFP, 2013). The involvement of the agriculture sector has increased in the past few years, as countries seek to link school meals programmes with local agriculture production. In Cuba and Guatemala, the ministries responsible for food security are also involved. These figures show the importance of school meals in the countries' food and nutrition security agendas.

Other ministries engaged include the Ministry of Development and the Ministry of Environment. In Cuba, the Ministry of Economy and Planning establishes the norms and plans for the foods to be provided, which are then distributed through the Ministry of Internal Trade. The Office of the President and the Office of the Vice-President are involved in El Salvador and the Dominican Republic, respectively.

Programmes may also involve non-state actors. In Paraguay, the supply chain is entirely outsourced to private companies, while in Honduras it has been outsourced to WFP, who is implementing the national programme on behalf of the Government. In Guatemala, communities are in charge of managing the programme at the school level through the school meals committees, in collaboration with education authorities. Some countries, as Colombia, also delegate some monitoring and oversight functions to private institutions.

Effective coordination across sectors and stakeholders supports programme quality and effectiveness and is essential to ensure the close articulation of activities across different sectors. The examples of Brazil and Peru, where intersectoral collaboration appears to be particularly effective, indicate that the following factors are instrumental to support collaboration and making the results of the programme a collective responsibility, increasing their potential to achieve nutrition-related outcomes:

- **Establishing multisectoral coordination mechanisms** to formulate policies, plan, monitor progress and share information. Out of the thirteen countries for which data were collected, only six have established multisectoral coordination committees for school meals (see Table 9). Haiti is one recent and successful example where a dedicated technical multisectoral working group was established to ensure proper coordination of the school meals efforts, and developed the first national school meals policy and strategy in the country (see Box 17). In seven

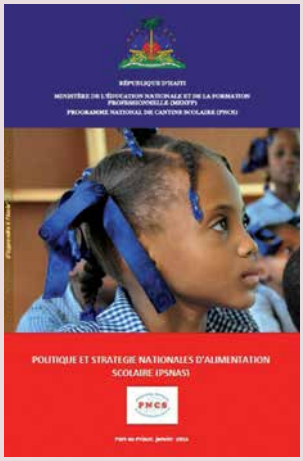
countries, as in Brazil and Mexico, school meals issues are also discussed in larger coordination mechanisms for food security.

- **Including school meals in national multisectoral policies and strategies.** In Brazil, school meals are a key component of the country's integrated food and nutrition security strategy that links agriculture, health and social protection. In the vast majority of countries, school meals are included in national nutrition and food security policies, strategies and laws (see Expert Viewpoint 9).
- **Defining clear roles and responsibilities** for the different sectors in regulatory documents.
- **Strong leadership and commitment at the highest political levels.**

Table 9: Coordination mechanisms for school meals		
COUNTRY	**MULTISECTORAL COMMITTEE FOR SCHOOL MEALS**	**SCHOOL MEALS DISCUSSED IN NUTRITION AND FOOD SECURITY COORDINATION MECHANISMS**
Bolivia	Yes	Yes
Colombia	No	Yes
Cuba	No	Yes
Dominican Republic	No	No
Ecuador	No	No
El Salvador	No	Yes
Guatemala	Yes	Yes
Haiti	Yes	No
Honduras	Yes	No
Nicaragua	No	Yes
Panama	No	Yes
Paraguay	Yes	No
Peru	Yes	Yes

Source: WFP School Meals Survey, Latin America and the Caribbean, 2016.

Box 17: The School Meals Sectoral Group in Haiti



In Haiti, development partners continue to support the Government and are funding and implementing the majority of school meals activities in the country – over 90 percent in the period 2015/2016. In this context, the formulation of a national school meals policy and its gradual implementation required the establishment of a Government-led platform where all key actors are represented to guide the collective efforts towards a common vision.

In June 2015, the Minister of Education established a Working Group to develop the **first National School Meals Policy and Strategy** through a consultative process. The group was composed of members of the Ministry of Education (MENFP), the National School Canteens Programme (PNCS), the Ministry of Social Affairs and Labour, the Ministry of Agriculture, the Ministry of Health, as well as technical and financial partners (Canada, the United States Agency for International Development, WFP, World Bank, UNICEF, among others), NGOs, civil society and the private sector. The Working Group was co-presided by MENFP and Canada with the support of WFP technical experts.

The Working Group gathered on a weekly basis to review evidence in the sector and discuss different aspects of the policy and strategy; it also organized workshops with external participants and carried out field visits to different school meals models in order to elaborate and agree on a comprehensive vision and strategy. By January 2016, a national policy and strategy document was approved by the Government.[1]

Following the endorsement of the policy document, the Ministry of Education rapidly moved into the creation of a formal coordination platform. In July 2016, the **"School Meals Sectoral Group"** was officially launched with the mandate of orienting the funds and operations of international partners along the lines of the national policy. The Sectoral Group is composed of 40 institutions, including line ministries and parastatal agencies, territories, universities, technical and financial partners, NGOs, civil society and the private sector. The Sectoral Group meets on a monthly basis and receives the support of WFP technical experts. In parallel, the Ministry of Education has drafted a government decree for the creation of a permanent National School Meals Commission that brings together key government institutions. The Commission would act both as a board of directors and a coordination platform between line ministries for the government-funded school meals operations.

The establishment of these platforms allowed WFP to scale up its technical assistance to the Government of Haiti with a view to gradually reducing its operations and increasing its technical support to mandated national institutions.

[1] www.menfp.gouv.ht/Doc-Alimentation-Scolaire.html

Expert Viewpoint 9:

How to ensure multisectoral coordination of nutrition-sensitive programmes: lessons from Brazil

Daniel Balaban, Director of the WFP Centre of Excellence against Hunger

The Brazilian school meals programme is globally recognized for its universal coverage and large number of beneficiaries: over 40 million children. While the programme has 62 years of existence, it has undergone a major revamp in the past decade, when school meals were connected to broader food and nutritional security frameworks.

The Zero Hunger strategy was adopted by the Brazilian Government in 2003 to bring the fight against hunger to the forefront of the national political agenda. The strategy consisted of four main intervention pillars: (1) access to food; (2) strengthening smallholder farmers; (3) income improvement; and (4) coordination and civil society participation. Under each pillar, several programmes were articulated in a coordinated and mutually reinforcing manner – food distribution, conditional cash transfers, facilitated access to credit and inputs for smallholder farmers and school meals, to name a few.

The strategy was innovative in explicitly recognizing and building upon the interdependence between access to food and agriculture and nutrition, in addition to creating coordination mechanisms among the involved ministries. It led to the establishment of a Food and Nutritional Security System (SISAN) aimed at organizing the government's interventions and its relationship with civil society in this field.

One of the guiding principles of SISAN is social participation in the elaboration, implementation, monitoring and evaluation of food and nutritional security actions. This is an important feature of the system because it strengthens government's capacities at different stages of intervention: to understand diverse realities and respond to their demands when creating policies, to increase programmes execution oversight, as well as to better assess the impacts and shortcomings of existing initiatives.

Another key institutional innovation to advance coordination was the creation of the Inter-ministerial Food and Nutrition Security Chamber (CAISAN), which gathers 19 ministries responsible for programmes under the Zero Hunger strategy and the overall elaboration of the national food and nutrition security policy. CAISAN provides a unique space for common goal setting and strategic alignment by the different ministries, in addition to facilitating coordination with other levels of government.

Brazil's experience brings up three important lessons for multisectoral coordination of nutrition-sensitive programming. First, coordination should start at the highest

level in order to permeate all dimensions of a programme and engage all the actors involved in its implementation. Actions by different ministries should be aligned to achieve joint nutrition objectives and guide the design and management of programmes. Second, establishing mechanisms to institutionalize coordination efforts warrants consistency and stability to such efforts, and guarantees their sustainability in the long term. If coordination is not institutionalized, it remains dependent on the willingness of the actors to work together and collaborate. Third, the participation of civil society throughout the programming cycle is decisive to creating programmes that respond to the needs on the ground and are implemented effectively to deliver positive impacts to their beneficiaries.

4.3 National school meals programmes' costs and funding[28]

The cost of school meals programmes is one of the most crucial considerations for governments when they make choices regarding programme design and implementation. Often, governments need to consider trade-offs to keep school meals costs at a sustainable level. Scaling up and consolidating school meals programmes requires considerable resources and a steady flow of funds: **in middle-income countries, school meals programmes on average cost approximately USD 80 per child per year** (Gelli and Daryanani, 2013). Thus, assessing expenditures on school meals is an important component of programme monitoring and accountability systems.

However, information on actual expenditures for school meals is not available for most countries. Recent experience indicates that during the scaling up of school meals programmes in low- and middle-income countries, investments in monitoring and evaluation are often overlooked (Gelli and Espejo, 2013). Moreover, school meals programme design and implementation is complex and programmes exhibit different context-specific models or configurations (Gelli and Suwa, 2013). Different approaches can even coexist within the same country, where, for instance, programme implementation is owned by decentralized institutions (e.g. individual states and municipalities in Brazil), where entitlements vary according to vulnerability criteria (e.g. Guatemala), or where agencies like WFP are complementing the national programmes (e.g. Haiti). Finally, the costs of school meals services stem from many sources. The largest source of costs is typically the food commodities, while other significant costs include transport, operations, and monitoring and oversight. The costs and cost structures of school meals will, to a large degree, also depend on the operating models involved.

Countries reviewed demonstrate a strong financial commitment to sustain their school meals programmes. **The annual investment for school meals in the 16 countries covered in the study is at least USD 3.5 billion.** The PNAE in Brazil

[28] *Contribution by Aulo Gelli, Research Fellow, IFPRI.*

accounts for one third of this amount (USD 1.13 billion), and the programmes in the 13 countries of the core sample for another third (USD 1.10 billion). The estimates are based on the information on expenditures for all school meals programmes reported through the regional school meals survey conducted in 2016. The budget estimates are mainly national-level figures; in most countries, contributions from the regional level have not been accounted for. Furthermore, there are no estimates on the costs borne at the community level (e.g. parental contributions). As a result, total investments on school meals programmes are generally underestimated.

The bulk of the investment for school meals comes from government budgets. National governments have been steadily investing financial resources to provide school meals to their schoolchildren, and often budgets have significantly increased over time to improve school meals quality and coverage. **External development assistance is a minor contributor to overall expenditure for school meals**, accounting for less than 2 percent (5 percent in the 13 focus countries). The proportion of donor funding is underestimated, as resources of national budgets can come from internal revenues (e.g. taxes and other sources, such as the royalties from the oil industry and revenues from the privatization of public companies), or from external sources of funding channelled through national budget support. In many countries, regional and local authorities complement central-level funding. For instance, in Paraguay, regional and local authorities met around 80 percent of programme costs in 2016, and in Mexico, state governments met around 9 percent of programme costs in 2012. Finally, in most programmes, parents and communities contribute crucial yet unaccounted resources such as food commodities, financial contributions, and voluntary labour to manage and implement the programmes.

Funding mechanisms for school meals are well established in almost all countries. In the five countries of Central America, for instance, there is a budget line for school meals programmes in the general budget laws. Some countries have established innovative funding mechanisms. In El Salvador, for example, a law passed in 1999 established that the proceeds of the privatization of the national telecommunications company would be put in a trust fund and that the interest generated would be allocated to social programmes including school meals.

Despite the significant financial efforts, in several countries funding still falls short of the needs, and school meals are not provided every school day of the year or are not able to ensure the optimal nutritional quality. About half of the countries covered in the survey reported shortfalls.

By combining programme budgets with data on scale and implementation days, the study estimated the per child investments in school meals (standardized over a 200-day period) by governments across the Latin American region (see Table 10). Though these data are not estimates of actual expenditures and are thus not to be considered equivalent to the costs of delivering school meals, they can provide some preliminary pointers in terms of cross-country comparisons. Building on Bundy et al. (2009), the study also compares school meals investments to government expenditure in education and to existing benchmarks (from Gelli and Daryanani, 2013) to draw some insights on the sustainability of programme investments (see Figure 6).

Table 10: School meals budgets per child and school meals budgets as a ratio of primary education investment, by country (2013-2016)**

COUNTRY	INCOME CLASSIFICATION	STANDARDIZED SCHOOL MEALS BUDGET PER CHILD ÙPER YEAR***	SCHOOL MEALS BUDGETS AS A RATIO OF THE COST OF PRIMARY EDUCATION INVESTMENT
Bolivia	Lower-middle income	45	0.04
Brazil	Upper-middle income	27	0.01
Chile	Upper-middle income	N/A	N/A
Colombia	Upper-middle income	75	0.03
Cuba	Upper-middle income	N/A	N/A
Dominican Republic	Upper-middle income	148	0.07
Ecuador	Upper-middle income	52	0.03
El Salvador	Lower-middle income	24	0.03
Guatemala	Lower-middle income	32	0.05
Haiti	Low-income	119	N/A
Honduras	Lower-middle income	25	0.03
Mexico	Upper-middle income	82	0.03
Nicaragua	Lower-middle income	49	0.09
Panama	Upper-middle income	71	0.05
Paraguay	Upper-middle income	103	0.08
Peru	Upper-middle income	119	0.08
Cost benchmark		173	0.33
Cost benchmark for middle-income countries		82	0.19

Analysis by IFPRI, 2016.

*** The figures captured in the table are based on available national budgets for school meals. The ratios capture the overall budget allocated for school meals, including the fresh food locally purchased for those countries where home-grown school meal schemes are in place. However, it was not possible to differentiate between the two components.*

**** The standardized school meals costs per child per year are based on an average of 200 school days. However, given the unavailability of data on planned versus actual school days, in some countries figures are the closest approximation based on available data.*

It is important to note that obtaining comprehensive and accurate cost-per-child estimates from existing systems across the countries included in this analysis was challenging, highlighting an important limitation of this analysis and a gap in terms of programme monitoring and accountability that will require attention from policymakers and programme implementers.

Across the 15 countries that reported data in the survey, per-child investments were generally within the ranges reported in the literature. As also documented in the literature, there were large variations in the per-child investments in school meals per year, ranging from a minimum of USD 14 in El Salvador and Honduras to USD 148 in the Dominican Republic. Some of this variation, particularly at the lower end, is likely explained by the variation in food and nutrition delivered by the programmes, and by the partial reporting of investments that are likely to result in underestimates of full investments occurring at the different implementation levels along programme supply chains (see Gelli et al., 2012, for examples).

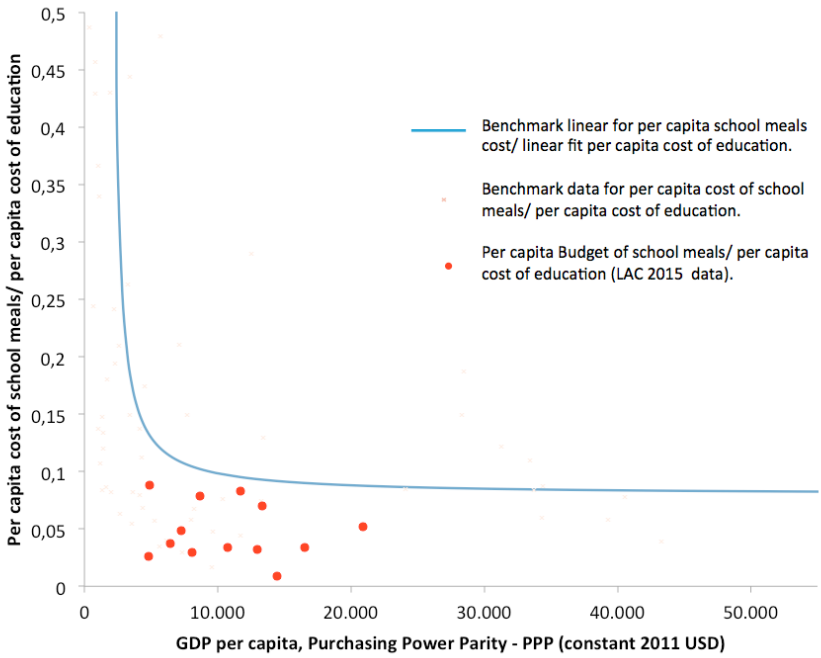
Figure 6 shows the cost per child of school meals (national programmes) as a proportion of the cost per child of education plotted against GDP per capita, including both data from global benchmarks and countries across Latin America and the Caribbean. **The relative cost of school meals versus education across the region is below the benchmarks, in the range of 1 to 9 percent, compared to an average of 33 percent globally and 19 percent for middle-income countries.** There is a trend for the costs of school meals to become a smaller proportion of education costs as GDP per capita rises, a finding that is consistent with previous studies.

Survey findings suggest that school meals investments across the region are equivalent to only a fraction of the overall investment in education, highlighting the potential sustainability of programmes.

Ensuring adequate funding all over the year remains a challenge for a number of countries. **Funding challenges increase as countries strive to expand coverage, enhance the nutritional quality and diversity of meals, and link programmes to local economies through local procurement.** Governments may have to make trade-offs to ensure the sustainability of programmes.

Furthermore, **additional funding would be required for non-food expenditures**, in particular for adequate equipment and infrastructure needed to ensure food safety, for monitoring, evaluation and training, and for food and nutrition education and other related activities that could make the programmes more nutrition-sensitive.

Figure 6: Ratio of school meals costs per child in relation to cost of basic education per child versus GDP per capita in LAC (2013–2016) compared to global benchmarks (Gelli and Daryanani, 2013)



4.4 Community participation in school meals programmes

Local ownership and the active involvement of local communities and civil society more broadly are essential elements of successful, accountable and sustainable nutrition-sensitive school meals programmes. In turn, local communities have also benefited from school meals programmes beyond the direct benefits for their children enrolled in school.

The LAC region has a long tradition of community participation in school meals programmes. The roles of communities and the modalities of their involvement are specific to each country and can also vary within the same country. This section provides some general trends and particular examples from the countries covered in the analysis.

Resources and engagement from the communities – whether in the form of direct contributions, labour or creativity of the community members – are often instrumental to meeting the objectives of school meals programmes. Experience shows that for a range of different actors to actively participate and contribute to school meals programmes their roles must be clearly delineated

through policies and guidelines and supported by adequate training (Drake and Woolnough, 2016). Established mechanisms for community participation, such as school meals committees, are also important.

In the region, parents, teachers and other community members usually participate in the management of school meals programmes through parent-teacher associations, school management committees, **or committees specifically established for school meals, known as school meals committees.** All countries except for Cuba and El Salvador reported having such formal structures in place (in El Salvador, where the community plays an important role in the implementation, the schools are responsible for coordinating activities with the communities).

The functions of these school-level structures include:

- Managing food stocks; organizing the preparation of snacks and meals and supervising their distribution to schoolchildren. This is the main area of community involvement.
- Monitoring and overseeing programme implementation to ensure compliance with standards and procedures.
- Managing all facets of the programme, including resource management, food procurement and preparation, and reporting (only in Guatemala and some municipalities in Bolivia, where municipal authorities have delegated this responsibility to school committees).

In some countries, communities and civil society organizations can participate in school meals activities through other mechanisms as well. In Peru, they are also involved in food procurement through school meals procurement committees (see Box 18). In Bolivia, communities are involved in programme planning through the elaboration of municipal annual operation plans, where the budgets for school meals are allocated (see Box 20).

Generally, managing the food at the school level and preparing school meals for the children are considered by the governments and by the communities themselves an important voluntary community contribution, for instance, in Bolivia, El Salvador, Guatemala, Honduras and Nicaragua. Parents and other community members take turns to prepare the meals and are active members and leaders of the school meals committees. In some cases, as in bigger rural schools in Ecuador and in most schools in Haiti, parents may also contribute to a fund to pay an incentive to cooks. In most areas, communities also contribute in-kind resources such as additional foods, condiments and cooking fuel and help with food commodity transportation from local warehouses to school premises. They play a pivotal role to ensure the sustainability of school meals, and their contribution represents a very important, although unmeasured, investment. The only notable exceptions are Cuba and Colombia, where parents are not involved in food management and preparation, and Paraguay, where food management is outsourced to private companies. In these three countries, community contributions are seen as conflicting with the right to free education.

Box 18: Qali Warma: The co-management path in Peru

Since its inception in 2012, the Qali Warma programme´s main objective has been to ensure food service every day of the school year and to help improve student concentration during class hours.

The current model of the school meal programme has a co-management component that envisages the participation of local stakeholders, public entities and civil society. Together with the national school meals programme Qali Warma, these stakeholders are responsible for carrying out the purchasing process and school meal service management, organizing some through a procurement committee that acts on a district or provincial level and a school meal committee that acts in each educational institution served by the programme.

The procurement committee makes the calls for tenders under the guidelines of a revised manual and clear regulations, ensuring participatory and transparent public processes.

School meals committees made up of parents, a teacher representative, and the principal of each educational institution organize the distribution and are in charge of verifying the proper management and monitoring of the provision of food service.

It has been ensured, through the educational component, that the stakeholders in the co-management model develop skills and participate with empowerment. School meals committees are trained by Qali Warma national school meals programme's local management supervisors during the school year on different matters related to the responsibilities that they have assumed, and in the case of the procurement committees, they are trained by specialists at headquarters.

Both committees are made up of different members of society, allowing coordination between the levels of governments, guaranteeing the necessary experience in technical matters and ensuring strong community participation. The co-management structure also allows for constant supervision and monitoring throughout the programme process. Both the procurement process and the food delivery process are supervised; schools are monitored by 1,200 national supervisors who do this work randomly.

With regard to social monitoring, over 301 observers have been accredited in the different institutions. Suppliers have also been informed of the procurement and bidding mechanism in each of the territorial units.

Opportunities for community participation are more important when prepared meals are provided. In Ecuador, for instance, participation has decreased with the introduction of school snacks. At present, the communities are responsible for preparing the fortified drinks, for providing complementary food and supplies, and for monitoring food stocks. Parents enhance fortified drinks with fresh fruits, spices and sugar. Programmes that are locally sourced also seem to have stronger community engagement.

Beyond contributing to programme implementation, communities should be involved in programme design and oversight. School-level structures are involved at least to some extent in programme oversight and control in seven

countries, including Bolivia and Peru; this is an area that could be strengthened in many countries. In Bolivia, as in Brazil, school meals committees validate programmes' accounts. In the latter, the establishment of school meals committees composed of representatives of local entities, parents and organized civil entities are mandatory for states and municipalities to receive school meals funds from the federal government.

While the strong emphasis on community participation has contributed to build ownership and sustainability, it also raises some concerns about the risk to overwhelm the community, in particular women. Indeed, in all countries, these tasks fall more on women than on men even if stakeholders advocate for increased participation of men. For instance, fathers/grandfathers are those who take care of baking the bread for breakfast in some areas of Bolivia, or who bring cooking fuel and organize transport in other countries. There needs to be a detailed analysis of the extent to which the existing programme set-up in each country overburdens women and men, disrupts them from regular activities, and perpetuates a system of unpaid caring work. Possible unintended effects on household care practices or repercussions on income-generating activities should also be better understood.

On the other side, school meals programmes have created a number of development opportunities for the participating communities. Mothers, fathers and community members have benefited in many indirect ways from the programmes besides the direct education, health and nutrition benefits for pupils. Training and sensitization in different areas, including food and nutrition, have been provided to school committee members and the wider community. School meals programmes have also been used as a platform for community outreach activities. In Panama, for instance, for the parents that choose to prepare lunch boxes for their children, the Ministry of Education has developed a practical illustrated tool that shows how to prepare 30 different and healthy snacks for 30 school days. The tool, called Disco-Loncheras, has been distributed in all the schools of the country.

In some countries, including Colombia, Cuba, Ecuador, Haiti and Paraguay, employment opportunities have been created, especially for women who work as cooks and canteen staff and also for local farmers. Where programmes are outsourced to private companies and cooperatives, there may be opportunities for the development of local catering services, as in Chile. Home-grown school meals models can also result in greater benefits for communities. In Ecuador, for instance, WFP promotes local procurement projects targeting, in particular, women organizations (see Box 19). In some countries, such as in Cuba and Haiti, smallholder farmers have received complementary inputs and training to improve agricultural techniques and value chains, with the aim of improving the ability of communities to provide the food for the school meals programme.

In general terms, the surveyed countries did not report any specific gender analysis, approach or strategy for their national school meals programmes (whether focused on the boys and girls in schools and/or the women and men involved in the programme), a clear gap that would require deeper understanding. An exception is Cuba, where the school meals programme at the primary level was intentionally developed to allow women to work and contribute to equal

Box 19: Creating opportunities for women farmers in Ecuador

***Tierra del Sol* Farmer Association, Ecuador**

Alexandra Bejarano, from the Imbabura Province in northern Ecuador, presides over the small farmer association Tierra del Sol. When she helped create the association in 2012, she was 24 years old. In becoming a WFP partner and providing fresh fruits and vegetables to schools, Alexandra and her association have found new markets and have improved the way they work. In the process of delivering food to schools, they have to comply with strict quality requirements. This has been useful, since the association can now make offers in government tendering processes. Farmers have also changed their family economy: now they have more stable incomes. Alexandra became a community leader and is providing an example for other women farmers.

Source: WFP (2015).

opportunities for women and men. With the school meals programme, working mothers do not need to worry about their children's midday meal.

In some places, school meals have contributed to positive territorial dynamics by fostering better coordination of actors at the local level around joint projects and common objectives. The Mancomunidad de Alimentación Escolar de Chuquisaca (MAECH) in Bolivia is a strong example in this sense (See Box 20).

To conclude, communities can contribute to and benefit from school meals programmes in a range of ways along the supply chain, from food production and trading, processing and distribution to schools, to food preparation and distribution to children and beyond, through complementary and outreach activities.

However, "participation" often equates to direct contributions and voluntary labour, while mechanisms for active community participation in the design, control and supervision could be strengthened in most countries for programmes to be really accountable to and owned by communities. Social audit is indeed a strong function of communities in some countries. Participatory approaches, together with communication and advocacy efforts on nutrition, through public awareness campaigns, community mobilization and outreach activities could be strengthened to contribute to generate public awareness and generate community support and ownership for nutrition-sensitive interventions.

Box 20: Community participation in Chuquisaca, Bolivia

Bolivia is an example of a highly decentralized school meals programme. The provision of school meals is a competence of municipal authorities,[1] who are responsible for planning and budgeting resources through their annual operational plans. Implementation arrangements and modalities vary across the country, and communities always play a pivotal role through the social community education councils: they manage and run school meals programmes and constitute an essential community control mechanism. Community education councils organize school meals preparation and distribution; when cooked meals are provided, the parents or the people designated by the councils prepare the meals. Training courses have been developed for them. In some cases, the community also takes part in identification of food suppliers and contributes to ensure that small producers and minorities participate in the food supply. Communities also contribute resources: in rural areas, parents provide fresh vegetables and other perishables, kitchen equipment and cooking fuel (gas or wood). In some schools, they pay a financial contribution to cover cooks' salaries and purchase other items such as sugar and meat. Communities are also involved in programme design through the consultations on municipal annual operational plans. Lastly, Bolivia's strong community organization tradition – common to Andean countries – has fostered social control of programmes such as school meals: community education councils control municipalities' execution of financial resources. Social community education councils are exclusively composed of parents and community members and function on a voluntary basis with no remuneration.

An interesting example of collaboration of different actors at the local level, including the communities, is the Mancomunidad of School Meals of Chuquisaca (MAECH), an area of low population density and high food insecurity levels. Eleven municipalities formed a group of municipalities (mancomunidad) in 2008 to administer school meals in Chuquisaca, pool resources and improve efficiency. The mancomunidad acts as a school meals implementing agency. Municipalities transfer the financial resources allocated to school meals to the mancomunidad bank account, and the mancomunidad technical team manages all programme implementation, including procurement, logistics, monitoring, training and oversight. It is governed by a General Assembly formed by the mayors of member municipalities. The mancomunidad procures the food and distributes it to community education councils. Some products are procured from peasant and community organizations. This model proved to be efficient, as technical staff are available to guide implementation and provide technical advice and training to community education councils, for instance, in cost analysis, priority setting, and on complementary activities to consolidate the school meals service. Supporting activities include the promotion of local production, school gardens and energy-saving stoves.

[1] *Congreso Nacional del Estado Plurinacional de Bolivia (1999). Ley N°2028 de Municipalidades, del 28 de octubre de 1999. The 1994 Popular Participation Law (Ley de Participación Popular) had transferred to municipalities the resources and responsibility for the implementation of food-based programmes, including school breakfasts.*

5 Partnerships, south-south cooperation and networks

Chapter 5

A multisectoral, integrated approach linked to complementary interventions is essential for school meals to deliver education, nutrition and social protection benefits. This calls for strong partnerships at the policy, strategic and operational level. Well-established, long-standing partnerships are key to make school meals programmes more nutrition-sensitive.

Regional dialogue and cooperation around school meals, including through South–South cooperation, have a long history in Latin America and the Caribbean. In the last few years, there has been an evolution in the type and level of participation of partners in school meals activities in Latin America as elsewhere in the world: United Nations agencies, multilateral organizations, NGOs, academic institutions and the private sector. As national governments take increased ownership in funding and implementing school meals programmes, the role of partners, particularly in the region, has changed significantly in the last decade, as illustrated by the changing role of WFP from direct implementer to government partner (see Box 21).

Box 21: WFP's evolving role in supporting school meals programmes in LAC, La-RAE and the Regional School Meals Seminars

School meals programmes have been a feature of WFP's work for over 50 years. WFP implements large-scale school meals programmes in a variety of contexts worldwide. In LAC, WFP provides nutritious school meals to more than 2 million boys and girls in 27,000 schools and six countries, complementing and supporting national programmes, with a growing focus on home-grown school meals models and nutrition-sensitive approaches. In addition to this direct assistance and building on its renowned operational expertise, WFP also provides technical assistance based on government requests to help improve the quality and sustainability of their school meals interventions. This falls within an overarching capacity and institutional strengthening strategy which has contributed over time to transition programmes to national ownership and helped build sustainability.

Regional cooperation on school meals started more than fifteen years ago. The first regional network for school meals in the world was established in Latin America in 2005 with the support of WFP: the Latin American Network for School Meals (La-RAE). La-RAE supports school meals programmes in the region through knowledge-sharing and learning and promotes country-to-country cooperation. From the beginning, La-RAE promoted the integration of nutrition in the regional school meals agenda. The example of La-RAE has inspired the more recent creation of regional networks for school meals in Africa and Asia.

For ten years, the Regional School Meals Seminars organized jointly by La-RAE, WFP and rotating hosting governments have provided a unique opportunity to share experiences, discuss successful approaches and common challenges, and foster South–South cooperation for more sustainable and effective programmes. The 2014 seminar in Mexico and the 2015 seminar in Peru saw high-level participation from more than 18 countries and a wide number of international and regional partners and experts. The VIII Regional School Meals Seminar for Latin America and the Caribbean will take place in April 2017 in Mexico City.

See *Strengthening National Safety Nets. School Feeding: WFP's Evolving Role in Latin America and the Caribbean.*

Box 22: Supporting South-South cooperation: WFP Centre of Excellence against Hunger

The WFP Centre of Excellence against Hunger sprouts from the joint engagement of Brazil and WFP to spur South–South cooperation and strengthen the global efforts to end hunger. Culminating in a partnership to support governments in Africa, Asia and Latin America to forge sustainable solutions of their own, the WFP Centre is a global hub for South–South cooperation, and for knowledge-building, capacity development and policy dialogue regarding food and nutrition security, social protection and school meals.

The Centre was established in Brasilia in 2011, and currently supports some 30 countries on a continuous and long-term basis. Tools and activities include technical missions for countries, support to regional workshops and international seminars, engagement in regional and global networks, and knowledge production and exchange for countries to share challenges and innovative approaches to address the multidimensional issues of poverty and hunger.

The African continent, where most of the Centre's support is currently concentrated, has achieved an important milestone in early 2016. The heads of states, during the African Union Summit held in January 2016, approved a recommendation from the African Union Commission for Education, Science and Human Resources to bolster school meals programmes throughout the continent and recognized the integration with local production of smallholder farmers as a fruitful vector of inclusive development. A continental network of governments for school meals was also established in 2015, combining efforts with the African Union to support governments to improve or create their national school meals programmes. Such achievements underpin stronger government-led policies to tackle hunger and poverty.

In Latin America, the Centre has worked closely with WFP offices and counterparts, has hosted several study visits including government officials of Haiti and members of parliament of Bolivia, and participated in national and regional consultations on school meals such as the National Forum in Honduras, a Brazil–Cuba exchange in Cuba, and the Regional School Meals Seminars in Mexico and Peru.

The WFP Centre is looking forward to engaging in regional networks and exploring all South–South cooperation opportunities to support countries worldwide and move forward on the Sustainable Development Goals.

Increasingly, partners' support moves towards policy advice and technical assistance to national programmes. As a result, partners have strengthened their collaboration at the global level over the years to develop common approaches and tools and provide consistent, evidence-based support (see Box 23).

Today, successful experiences in LAC have become a model for other countries in the region and around the world. As a result, South–South and triangular cooperation has been increasing, with development partners often facilitating connections. The Government of Brazil, primarily through the Centre of Excellence against Hunger established with WFP, has emerged as a

champion on school meals programmes linked to local agriculture and integrated into wider food and nutrition security strategies (see Box 22). In addition, at the regional level, the Government of Brazil and FAO have established a partnership to provide technical assistance and strengthen national policies on the continent, with a focus on the links with local agricultural production and the promotion of healthy diets through school gardens and nutrition education programmes (see Expert Viewpoint 6). Chile, Mexico and other countries have also been proactive providers of South–South cooperation and some sub-regional exchanges have also taken place in Central America as well as in the Caribbean.

Regional bodies have also played an important role in promoting school meals programmes as an instrument to realize the right to food and to education (see Section 4.1). **A regional approach to school meals is emerging from this collaborative work, which builds on successful country experiences. The Latin American experience also contributes to global initiatives and partnerships for school meals.**

At the global level, the Global Child Nutrition Forum is the only global forum on school meals. Since 2013, the Forum partners with the WFP Centre of Excellence against Hunger. Linkages with local agriculture and nutrition are systematically promoted. Nutrition was the core topic of the annual forums in 2014 and 2015, showing the growing concern for nutrition-sensitive approaches (see Expert Viewpoint 10).

A wide range of partners are involved in school meals at the country level and this collaboration is critical to develop more nutrition-sensitive approaches. In addition to financial and implementation support, areas of involvement include research and technical assistance, as well as strengthening national capacities and links with local agriculture.

Where it exists, financial and implementation support by development partners and NGOs is generally provided within national systems and programmes, with a few exceptions. In the few countries where international organizations and NGOs still play a funding and implementation role in school meals, their financial support usually complements governments' efforts in the most vulnerable areas, or fill specific gaps. Catholic Relief Services, World Vision, Project Concern International and Caritas are among the NGOs contributing to the provision of school meals in the region. However, compared to other parts of the world, the role of international NGOs is less prominent in Latin America and the Caribbean, while civil society, local NGOs and communities take a more active role. In Haiti, for instance, the Government and WFP work mostly with national NGOs.

Increasingly, governments are also partnering with the private sector to increase operational capacities to deliver school meals. The private sector is an essential player in the provision of food to schoolchildren. Private companies are the main suppliers of food and provide a number of logistic services for school meals. Chile is an example of a private-public partnership that uses innovative bidding mechanisms to improve efficiency, and of how checks and balances ensure the integrity of financial flows. Private companies also play an important role in Paraguay and in some regions of the Dominican Republic and Bolivia (primarily urban areas).

Expert Viewpoint 10:

The evolution of nutrition-sensitive and home-grown approaches to school meals

Arlene Mitchell, Executive Director, Global Child Nutrition Foundation

The path to nutrition-sensitive and locally sourced national school meals programmes around the world has been fraught with challenges. Developments in the past twenty years are promising, however: countries once dependent on foreign food aid managed by non-governmental organizations and by WFP are now taking charge of their own school meals programmes and are increasingly focusing on nutrition and links to local agriculture.

Since 1997, the Global Child Nutrition Foundation has offered an annual Global Child Nutrition Forum where school meals practitioners and partners from all over the world can share, learn, plan and collectively advocate. The Forum changes locations each year and typically includes about 250 participants – primarily high-ranking government officials – representing more than 40 countries. Each Forum has had themes and presentations related to nutrition, national ownership and management, and South–South cooperation; local purchasing or home-grown school meals have been a theme since 2003.

There is little doubt that the Forums have contributed to the growth of home-grown school meals and nutrition-sensitive programmes. These excerpts from the Communiqué of the 2015 Forum in Cabo Verde exemplify the emphasis. In the participants' own words: "…The Forum recognizes that: 1. School meals programme is an important tool to ensure the right to food, promote healthy eating habits and improved child nutrition; 2. School meals programme effectively contributes to the development of human capital and also the local economy through the creation of jobs and local purchase mechanisms, empowering smallholder farmers and women…". Further, they recommended "…That governments should address food and nutrition education in the design of the school meals programme".

The 18th Global Child Nutrition Forum was held in September 2016 in Yerevan, Armenia. The theme was "Building Powerful and Durable School Meal Programmes". Nutrition and home-grown school meals were once again high on the agenda. One of the main issues discussed was the importance of regional school meals networks for sharing best practices and lessons learned among countries facing similar challenges.

Box 23: Partners' tools and guidance for school meals

Over the years, development partners have jointly developed guidance and tools to support evidence based policy dialogue and programme design of national school meals programmes.

A global partnership between WFP, the World Bank and the Partnership for Child Development (PCD) was established in 2009 in response to the 2008 food and financial crises. The partnership has the objective of improving the quality of programmes by applying a more rigorous, evidence-based approach to school meals and providing coordinated support to countries. New partners have joined this collaborative effort, in particular FAO, the Global Child Nutrition Foundation, the New Partnership for Africa's Development (NEPAD), and the WFP Centre of Excellence against Hunger. The partnership has contributed to strengthening the knowledge base through joint research projects and publications. Practical tools and guidance have been jointly developed to support programme quality and collaborative action at the country level, with a strong focus on multisectoral approaches.

The World Bank education sector worked with governments, WFP, PCD, UNICEF and other partners to develop the **Systems Approach for Better Education Results tool for school health and school feeding (SABER-SF)**. Effective school meals policies and systems provide the foundation for strong nationally led and sustainable programmes that ensure schoolchildren receive the nourishment they need. SABER-SF uses an evidence-based approach to analyse the school meals policies using five internationally agreed policy goals. This tool helps identify strengths and gaps, fosters policy dialogue among stakeholders, and therefore assists in planning capacity development activities and road maps with governments. **SABER-SF has been used in more than 30 countries worldwide with the support of WFP, including six countries in Latin America and the Caribbean: Bolivia, Cuba, Guatemala, Haiti, Honduras and Peru.**

In collaboration with the World Bank, PCD and the International Labour Organization, WFP is currently developing the **Assessment-Based National Dialogue for School Feeding**, a larger framework that focuses on more operational considerations. Based on the results of a SABER-SF diagnostic, a list of in-depth assessments is set by the government. Assessments are chosen by the national authorities among the following five critical assessment areas: (a) alignment between school meals programme objectives and existing impacts; (b) cost efficiency; (c) supply chain efficiency; (d) existing and potential synergies with social protection activities; and (e) monitoring and evaluation systems. The approach is currently being piloted in Egypt and Zambia. One of the main objectives is to achieve better integration in national social protection schemes.

Box contributed by Andy Tembon (World Bank), Bachir Sarr (PCD); Giacomo Re and Omar Benammour (WFP).

Partners also contribute to enhance the nutritional quality and safety of school meals. In several countries, such as Ecuador, El Salvador, Guatemala and Panama, private companies together with research institutions have supported the development of nutritious snacks with lower fat and sugar content for schoolchildren. In Guatemala, INCAP supported the formulation of a local corn-soy blend fortified with vitamins and minerals, called Incaparina, which is now commercialized by the foundation of a private company. In collaboration with Tetra Pak, UHT milk is provided in Dominican and Salvadorean schools, and also in Peru. DSM Nutritional Products, a world leading company in the development of nutrition products, has a long-standing partnership with WFP at the global and regional level. The objective of this partnership is to further improve children's nutrition through increasing micronutrient content and overall quality of WFP's existing food products, drive innovation and new nutritional solutions, build capacity, and raise awareness. In Honduras, WFP and the Government are establishing a partnership with Kerry Foods Group to support dairy producers who provide milk and dairy products to the school meals programmes and improve the quality and safety of school meals.

With the increased focus on home-grown school meals, **farmers' associations and cooperatives** are becoming key partners of school meals programmes. In Cuba, for instance, the Government works with agricultural cooperatives and farmers who take part in the Urban and Suburban Family Farming Project to supply food to the programme. In Brazil, the National Foundation for Education Development (FNDE, its Portuguese acronym) has developed an innovative approach to enhance capacity at the local level through **partnerships with universities**. In partnership with federal universities in eight different states, it established Collaboration Centres for School Meals and Nutrition (CECANEs) to provide more support to local programme managers in nutrition, monitoring and programme implementation.

Development partners and research institutions have also provided technical expertise to develop nutritional guidelines for school meals. INCAP dietary guidelines have been used as a reference to design nutrition guidelines for school meals in Guatemala and Panama, among other countries. In Mexico, the development of the guidelines for food-based assistance programmes, including the national breakfast programme, was also done in collaboration with universities. In the Dominican Republic, the National Institute of Student Wellbeing (INABIE, its Spanish acronym) partnered with a research institution to conduct a study on the nutritional status of school-age children to inform school meals programme design and serve as a baseline to measure impact (see Expert Viewpoint 11).

Another area of collaboration is school-based nutrition education, an essential component of nutrition-sensitive approaches. For instance, in Colombia, the Ministry of Education is working with the Foundation Nutresa, UNICEF and WFP to design and implement a strategy to foster healthy lifestyles in selected education institutions. The strategy focus is to strengthen institutional capacity, and the target audience are the education community, school meals operators and the Ministry of Education staff at decentralized levels. FAO also provides technical assistance in this areas in a number of countries in the region.

Expert Viewpoint 11:

The power of public-private partnerships in the Dominican Republic

Rafael Fabrega, Director, Food for Development, Tetra Laval AB

School meals offer a wide range of benefits to schoolchildren and communities; however, in Latin America and the Caribbean, school meals programmes still face constraints in terms of implementation and institutional capacity.

The Dominican Republic is one example of a public-private partnership between the Government and Tetra Laval Food for Development to respond to technical assistance needs. In support of the national school meals programme, Tetra Laval has executed four technical assistance missions between 2007 and 2013.

The support from Tetra Laval was linked to a broader collaboration between the Ministry of Education and the United Nations Development Programme, UNICEF and WFP to improve school meals quality, safety and impact. In June 2011, the Government invited all stakeholders involved in school meals to participate in a joint workshop and agree on common goals and key areas for improvement. These included a stronger focus on local production and purchasing from local suppliers, enhanced supervision, and systemized data gathering to demonstrate impacts. As a result, important actions were taken by the Government with support from its partners, such as the elaboration of implementation manuals for all of the schools and programme supervisors and the development of quality control and food safety protocols. Furthermore, programme supervision has been strengthened and more community involvement has been achieved. The Ministry of Education has now developed an information system for the school meals programme to manage the entire implementation.

The Government has prioritized funding for the school meals programme, which is today the country´s largest social initiative. In 2012, the Government created the National Institute of Student Wellbeing (INABIE, its Spanish acronym), an autonomous institution attached to the Ministry of Education, to manage school meals together with school health and nutrition and other assistance programmes. The programme now covers all pre-primary and primary schoolchildren. Each year, some 50 million litres of UHT fortified milk in portion packages, as well as fortified biscuits, are procured locally.

INABIE also started collecting data with the support of partners to showcase the nutritional impact, as well as the academic improvements related to the programme. In 2013, the Ministry of Education commissioned the second National Survey on Micronutrients among schoolchildren to inform school meals nutritional content and provide a baseline to measure their nutritional impact. The study was conducted

by the National Centre for Maternal and Infant Scientific Research (CENISMI, its Spanish acronym), in coordination with INCAP and the three United Nations agencies. The study indicated that the incidence of anaemia among children aged 6–14 had fallen from 44 percent in 1993 to 16 percent in 2012. It also showed a decrease in other micronutrient deficiencies, as well as of chronic malnutrition (down to 1.9 percent).[1]

This example highlights the value of building partnerships with all stakeholders and experienced organizations such as Tetra Pak, who has over 50 years of supporting school milk programmes worldwide.

[1]INABIE, 2013.

PREFEITURA MUNICIPAL

6 Summary of findings and opportunities ahead: towards more nutrition-sensitive school meals

Chapter 6

Over the course of the years, school meals programmes have been evolving in Latin America and the Caribbean to respond to changing needs. School meals are increasingly seen as key components of national social protection systems, as well as an instrument to realize the rights to food and education. While the main goal of the majority of the programmes covered in this publication is ensuring equitable education opportunities for all children, food security and nutrition are becoming increasingly important complementary objectives. **Many countries clearly link education and nutritional objectives, recognizing that education outcomes are critically dependent upon schoolchildren health and nutrition.**

The problems schoolchildren and adolescents face today are not the same as a few decades ago. On the education side, key priorities are the expansion of education services to pre-primary children and secondary school-age adolescents, and enhancing the quality of education for all children, ensuring that no one is left behind. In the face of the **double burden of malnutrition**, priorities for school-age children appear to be promoting good nutrition and healthy eating habits, addressing and preventing micronutrient deficiencies, and tackling the specific needs of adolescent girls and other vulnerable groups, three priorities to which school meals can contribute.

Countries have embarked in an ambitious journey to reform and redesign their school meals programmes with these concerns in mind. This review shows that LAC countries are increasingly committed to strengthening the nutritional quality, cost-efficiency and sustainability of their school meals programmes while linking them to smallholder farmers and local economies in a bid to achieve multiple complementary objectives. In all countries, there is a growing concern for the promotion of healthy diets, as governments have realized the tremendous potential for school meals to contribute to nutrition goals, but also to be part of the problem if due attention is not paid to their nutritional quality.

In the last decade, many countries have been successful in diversifying the meals provided at school with local products in an effort to enhance their nutritional quality and sustainability, even when they do not have nutrition objectives stated. Importantly, many countries have introduced new standards and procedures to improve the variety and nutritional quality of meals provided in schools and limit the total energy. Several countries have developed new fortified snacks and beverages with lower fat and sugar content in partnership with research institutions, international organizations and the private sector.

One strategy is the provision of animal products and fresh fruits and vegetables in the food basket to increase schoolchildren's access to healthy and nutritious foods. Home-grown school meals can be an opportunity to provide more fresh and unprocessed foods, a rationale for many countries who have started to decentralize part of the school meals supply chain.

The following sections highlight **six key areas of findings and opportunities to continue investing on quality, nutrition-sensitive school meals programmes**. Depending on context and national priorities, governments and other partners will find some opportunities more relevant and applicable than others, or will identify possible areas requiring specific research and analysis at the country level.

1. Smart investment on quality school meals programmes that maximize their contribution to nutrition. Strong focus on micronutrient deficiencies, overweight and obesity, promotion of lifelong healthy eating habits, and special approaches for adolescent girls and pre-primary schoolchildren.

Findings

- The review shows that **LAC school meals programmes have advanced remarkably in the last decades**. Despite these undisputed achievements, **the nutritional potential of school meals is often underutilized and could be optimized** with some key investments to the current large-scale programmes.
- **In general, food baskets and menus are being diversified and improved, an area of great achievement in LAC** compared to programmes in other regions of the world**.** In several countries, more attention needs to be paid to the **micronutrient content of meals and fortification options**.
- **Most countries have nutritional guidelines for school meals, but their quality and application varies.** Even where norms and guidelines are in place, their implementation and monitoring face several challenges, especially in the most vulnerable areas. Resource constraints for their systematic implementation also represent a widespread reality on the ground.
- **The surging rates of overweight and obesity have triggered a strong focus on the schools' potential to promote healthy eating habits and lifestyles.** School meals, combined with nutrition education and the promotion of physical activity, are a cornerstone of this approach. Overall, the countries covered in the study implement school-based food and nutrition education, and school meal programmes contribute significantly to these efforts. However, activities implemented in the framework of school meals programmes are not always systematic.
- **Home-grown school meals approaches are being increasingly implemented in the region to foster more diversified school meals that use local fresh products and support smallholder farmers and**

local economies. A number of countries in the region have shown to be creative. Countries that provide ready-to-consume snacks and fortified commodities have adapted them to include more local products. All countries are implementing or testing new implementation modalities to foster the links with local small-scale farmers and ensure the inclusion of local products in the meals provided at school. Some are testing hybrid models that combine centralized supply chains for basic grains and decentralized supply chains for local fresh products. In order to favour procurement from smallholder farmers, several countries have adapted their procurement processes and laws. Ensuring the quality and safety of the meals when fresh produce is provided is an important challenge, but governments and partners are coming together to propose practical solutions and tools to scale up safe and sustainable home-grown school meals models.

Opportunities

- **Including more explicit nutrition objectives for school meals, aligned with school-age children and adolescents' needs and reflected in M&E frameworks.** Nutrition objectives are often worded in general terms, and only a few programmes have explicit objectives related to schoolchildren and adolescent micronutrient status, or overweight and obesity. Clearly stated and prioritized objectives and relevant indicators help to make decisions about different trade-offs in the design and implementation of programmes.
- **Addressing the specific needs of different age groups, in particular pre-primary children and adolescents.** Higher enrolment rates in pre-primary and secondary education offer an opportunity to reach younger children and adolescent girls – two groups particularly relevant for nutrition. Given the recognized challenge of reaching the most at-risk adolescent girls, school meals are unique platforms to achieve broad impact.
- **Enhancing the micronutrient content of meals, particularly iron and zinc.** The meals should meet a significant portion of the nutritional requirements of school-age children. Cost-effective approaches include food fortification, which can easily be achieved with staples – including rice – and snacks and beverages, and the diversification of food baskets with micronutrient-rich foods such as animal products and fresh fruits and vegetables. Progress in food bio-fortification opens new opportunities to enhance the nutritional value of school meals. Technical options should favour the more stable and bioavailable forms of micronutrients to optimize impacts.
- **Strengthening guidelines and norms, and ensuring their dissemination and compliance.** National norms that define the nutritional quality of school meals should pay particular attention to their nutritional density and establish their micronutrient content. They also need to be realistic and matched with adequate funding. In half of the countries covered

in the study, insufficient budget allocations compromise effective compliance with guidelines. In addition, comprehensive nutrition-sensitive regulatory frameworks should encompass all food sold on school premises. Several countries in the region provide inspiring examples in this regard.

- **Promoting healthy and sustainable eating practices through nutrition education:** Successful experiences show that school meals programmes are powerful platforms, so far underutilized, to introduce and expand nutrition education. Messages should be tailored to each age group and encompass the prevention of obesity through the promotion of both healthy diets and physical activity. School gardens are also a well-established tool for education purposes.
- **Linking programmes with school-based health services.** More comprehensive and integrated approaches to school health and nutrition would be required. Deworming in areas of high prevalence and access to safe water at school are particularly relevant in the context of school meals, as they are also a precondition to school meals effectiveness.
- **Bringing successful home-grown models at scale**, carefully balancing nutritional value, costs, local habits, and availability of local fresh products. Many governments have started HGSM programmes through pilots. This gradual approach reduces implementation challenges, minimizes costs and risks, and generates insights from all stakeholders in the supply chain. The next step is bringing successful experiences to scale. In most cases, national strategies still need to be formulated and operationalized. In most countries, this entails formulating policies and laws that facilitate local and regional procurement of foods from small-scale farmers.

2. Continued political and financial commitment to advance the quality of service provision.

Findings

- **Over the past decade, political commitment to school meals programmes has been a common strong feature in the region.** Legal and policy frameworks have contributed to the sustainability of programmes. This is a dynamic area, and policies and legal instruments continue to be developed and adapted, with a growing emphasis on the right to adequate food and the promotion of healthy diets. The policy analysis shows that the articulation with food security and nutrition is being enacted through policies and other instruments; this has been crucial to support nutrition-sensitive approaches. National regulatory frameworks have proved to be critical to create a platform for cross-sectoral interaction. While regulations certainly do not guarantee implementation, they establish a visible mandate to be realized and set standards for service delivery.
- **However, in several countries, regulations are still fragmented or**

incomplete. Only half of the countries have specific policies and legal instruments to regulate school meals programmes comprehensively. While adequate regulatory frameworks for school meals depend on the national legal system, specific instruments that cover all aspects of school meals entitlements and implementation are recognized as a good practice. Furthermore, comprehensive nutrition-sensitive regulatory frameworks should encompass the food sold on school premises.

- **A main challenge remains the consistent compliance with norms and guidelines by all actors.** This requires corresponding institutional capacity to implement at all levels, with strong accountability mechanisms and adequate funding. In the past decade, countries have strengthened their institutions to manage school meals, and different arrangements have proved to be efficient. These respond to each country's institutional environment, to the programme objectives, and to implementation considerations.
- **National governments have also demonstrated strong financial commitment to school meals.** Most countries have a budget line for school meals, and sustained funding has been allocated over the years. Survey findings suggest that school meals investments across the region are equivalent to only a small fraction of the overall investment in education, highlighting the potential sustainability of programmes and that they are not competing with but rather strengthening other education investments.
- **However, ensuring adequate funding remains a challenge for a number of countries.** Funding challenges increase as countries strive to expand coverage, enhance the nutritional quality and diversity of meals, and link programmes to local economies. Trade-offs are always needed to ensure the sustainability of programmes and prioritize between different objectives. Furthermore, additional investments are often required for non-food expenditures, in particular for the equipment and infrastructure needed to ensure food safety, for monitoring, evaluation and training, as well as for food and nutrition education and other related activities.
- **Despite challenges, governments have made tremendous efforts to expand the coverage of school meals programmes.** The wide coverage of national school meals programmes is a major achievement and key feature in LAC, demonstrating the high political and financial commitment of national governments.
- **Most countries have adopted a rights-based approach to school meals**, **and have achieved or are about to achieve universal coverage at the primary school level.** This is a key achievement compared with other regions. A few countries are now expanding their programmes to secondary education, although generally with stricter eligibility criteria. However, this universal approach also entails some trade-offs in terms of cost and efficiency. The steady increase in the number of beneficiaries might have partly compromised the nutritional quality or the steady provision of

school meals in countries with budgetary constraints. Some countries are testing new options to continue guaranteeing the right to school meals to all children, but at the same time to ensure more equity by providing a differentiated service based on need.

- **Ensuring quality service provision all year round is a challenge in several countries.** As programmes expand and seek to cover all days of the school calendar as well as longer days at school (sometimes providing more than one meal per day), they are required to find new innovative solutions for funding and targeting to maintain or enhance the quality of their programmes.

Opportunities

- **Providing differentiated food baskets based on vulnerability criteria** is an interesting approach increasingly adopted in the region's national school meals programmes, whereby children attending schools in particularly vulnerable areas are entitled to more or different food (permanently or temporarily). Accurate and updated vulnerability assessments, which include food security and nutrition data, are required to ensure that this form of targeting is based on local needs and helps to optimize resources. It is also important to ensure that basic rations provided to all children are adequate and nutritionally balanced, and, on the other end, that enhanced rations for children in more vulnerable areas ensure optimal nutritional balance and do not contribute to overweight**.** In both cases, focusing on the nutritional quality is key.
- **Targeting free meals in the most deprived areas while introducing a subsidized cost within less deprived communities, or requesting better-off families to contribute to the costs**, might be the next step in some countries, depending on the policy and legal framework of the programmes. In high-income countries, for instance, school meals are generally available to all children, ensuring the right to food; however, some children pay for their meals while others receive them free or pay less (WFP, 2013). The consolidation of social protection systems, and the development of national social registries based on household data, may facilitate the implementation of cost-recovery mechanisms that are applicable to the context.
- **Monitoring service take-up is important**; some countries have already started implementing it to optimize resources. As income levels increase, not all children need the free school meals, and some households may choose not to take advantage of the service. It is important to recognize and monitor this trend to limit food waste and optimize resources while continuing to guarantee the universality of the programme.

3. Strengthened monitoring and evaluation systems to support the expansion of school meals programmes.

Findings

- **Monitoring and evaluation systems are key for effective school meals programmes, but they are often still weak, with some exceptions**. **Nutrition-related indicators specific to school-age children are rarely included.** This is also due to a general gap that exists globally in terms of validated and internationally recognized indicators for the monitoring of nutrition outcomes for this age group (e.g. diet diversity). This gap represents an obstacle for governments that need to monitor the achievement of nutrition objectives within their national school meals programmes, and is an important area for future research.
- **Detailed studies on the role, scale and impact of food and nutrition education and school-based health and nutrition services linked to school meals programmes are scarce.** Information available is limited, but shows an increasing interest and notable experiences to provide a package of complementary interventions for better results on school-age children nutrition and health.

Opportunities

- **Enhancing data collection and nutrition surveillance at the school level.** The scarcity of data on the nutritional status of school-age children presents a challenge to design, monitor and evaluate school meals activities. This calls for more comprehensive needs analysis and surveillance systems. Nutrition and health indicators covering micronutrient deficiencies, intestinal parasites, as well as coverage of relevant nutritional and health services provided to school-age children should be included, alongside a range of other socio-economic indicators on poverty and food insecurity. Some of the innovative country experiences presented in this study could be inspiring for others.
- **Developing internationally recognized indicators for monitoring nutrition outcomes for schoolage children calls for different actors to join efforts.** Governments, partners and academia could work together to fill this technical gap.
- **Monitoring cost-per-child of national schools meals programmes** is important for programme improvement and accountability and will require attention from policymakers and programme implementers.
- **Independent impact evaluations of national school meals programmes** would represent an invaluable investment and would contribute to showcase advancements, assess the nutritional benefits of the programme, and identify priority adjustments for better results.

- **An area for future research is the cost effectiveness of different modalities and implementation approaches**, in particular regarding nutrition outcomes.
- **One issue that has not been assessed yet is the impact of school meals programmes on the environment.** Areas of work and analysis include efficient and renewable energy sources, waste management, organic foods and endogenous crops and biodiversity, among others.

4. Nutrition-sensitive school meals programmes integrated within wider national social protection systems and linked to other social protection instruments.

Findings

- While this study shows that **school meals are generally recognized as powerful safety nets** and important components of national social protection systems in most countries of the region, only in a few cases they are integrated in national social protection laws and policies or have clearly stated social protection objectives. They are also an important element of national strategies to build more inclusive education systems and address the social and economic barriers to school achievement.
- In general, **school meals programmes in the region are not designed, reviewed and evaluated in conjunction with other social protection instruments** supporting the same target population. This is a missed opportunity and an area for future improvement.

Opportunities

- **A more intentional effort to frame, design and implement school meals within the national social protection system** would be worth considering where this is not yet the case, in particular to enhance the nutrition aspects of the programme.
- **Creating stronger links between school meals and other national social protection instruments** is key to optimize their respective contribution to overlapping social protection objectives and to nutrition-sensitive approaches. In a region on the forefront of both conditional cash transfer programmes and school meals, where unique registries and integrated information management systems are on the rise, a stronger integration of school meals programmes in the broader social protection system can greatly enhance programmes' efficiency, impact and sustainability. Where school meals programmes are implemented in parallel to wider conditional cash transfer programmes linked to school attendance, these two instruments could be analysed and assessed in conjunction to better understand how they serve vulnerable families and complement each other for human development results.

- **Continue strengthening the links between smallholder agriculture and institutional markets such as national school meals programmes** is also an important area of work for social protection and school meals to further integrate. Local procurement regulations and approaches tested and implemented for nutrition-sensitive school meals could also be **extended to other food-based social assistance programmes and institutional feeding**, creating a wider structured demand and more opportunities for smallholder farmers. The same could apply to other good practices implemented initially within school meals programmes (e.g. nutrition education).
- **School meals have also been used and expanded in response to emergencies and could be considered an important tool for shock-responsive social protection.** More information on this emerging topic of interest in the region is being systematized and will help to assess the potential of school meals programmes and other social protection instruments to be shock-responsive in times of crisis (Oxford Policy Management and WFP, 2016).

5. Renewed forms of community participation to enhance local ownership and advance gender equality.

Findings

- **Communities and local stakeholders are highly involved in the management of school meals, showing strong local ownership and participation, a key feature of most programmes in LAC.** Many of the innovative approaches described in the study come from the local level. Local players, supported by an enabling policy environment, have been very creative in adapting the programmes to their local needs and constraints. Communities, mothers, fathers, teachers and children are part of the process and proactively support the improvement of the school meal service.
- **There is limited information on gender aspects of school meals programmes.** This remains an important area of improvement and a possible new frontier for innovative approaches, as school meals programmes offer a unique opportunity to promote change and improve gender dynamics at school, household and community levels.

Opportunities

- **With their current level of advancement and local ownership, the programmes in the region present new opportunities to promote gender equality within and outside the school environment**, and address the specific needs of girls, boys, women and men, including their specific nutrition needs. So far, these opportunities have not been leveraged and integrated into comprehensive gender-sensitive approaches. There are, however, a few experiences to learn from, such as the creation of

income opportunities for women farmers, caterers and cooks, as well as the integration of fathers in meal preparation and nutrition education activities. Future strategies should leverage these opportunities for inclusive and productive school meals supply chains while ensuring programmes do not overburden women or men.

6. Different contexts, many actors, one community of practice: joining forces to move towards more innovative partnerships to strengthen nutrition outcomes.

Findings

- **Multisectoral approaches, institutional coordination and effective partnerships have greatly advanced in the region, but they still represent a challenge in many countries.**
- **Improved synergies and innovative solutions are a necessity in times of constrained government budgets and increased need for quality services.** Investments in new technologies, partnerships with the private sector and creative approaches can greatly help to build more nutrition-sensitive school meals programmes.
- **Development partners have demonstrated their commitment to support governments in their efforts to improve their national programmes**, and have come together in global, regional and country-level partnerships to provide state-of-the-art services and technical assistance based on their expertise and long-standing experience.

Opportunities

- **Effective intersectoral coordination and functioning quality assurance and accountability mechanisms that include nutrition aspects** are two factors that support programme quality and effectiveness and contribute to enhance the potential nutritional benefits of programmes. These two areas require further attention and renewed partnerships in most countries. Inspiring examples from the region can inform the way forward.
- **New information technologies facilitate school meals knowledge management and dissemination at a lower cost.** Dedicated websites can be particularly relevant to support implementers and schools in decentralized systems. Some countries have already implemented successful approaches and can share experiences with others.
- **A wealth of inspiring initiatives has emerged from the local levels up to the national and regional levels, turning the region into an incubator from which other countries in the region and elsewhere in the world can learn.** South–South cooperation, for instance, offers a unique opportunity in the region.

- **Development partners, research institutions, and the global and regional school meals community of practice stand by to support governments** in the region to analyse and improve their national school meals programmes to better contribute to nutrition results and to achieve the Sustainable Development Goals by 2030 – leaving no one behind and starting from those furthest behind.

Acronyms

DIF-CDMX	System for Integral Development of Families in Mexico City
FAO	Food and Agriculture Organization of the United Nations
HGSM	Home-Grown School Meals
IFPRI	International Food Policy Research Institute
INABIE	National Institute of Student Wellbeing (Dominican Republic)
INCAP	Institute of Nutrition of Central America and Panama
LAC	Latin America and the Caribbean
La-RAE	Latin American Network for School Meals
M&E	Monitoring and evaluation
MIDIS	Ministry of Development and Social Inclusion
NGO	non-governmental organization
PAA	Food Acquisition Programme (Brazil)
PCD	Partnership for Child Development
PNAE	National School Meals Programme
RNI	Recommended Nutrition Intake
SABER-SF	Systems Approach for Better Education Results for School Health and School Feeding
SDG	Sustainable Development Goal
SISVAN	Food Security and Nutrition Monitoring System
TERCE	Regional Comparative and Explanatory Study
UHT	Ultra-High Temperature
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
WFP	World Food Programme
WHO	World Health Organization

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Annex: Country fact sheets

The following section presents detailed fact sheets for each of the 16 national school meals programmes analysed: Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru. The map below offers a graphic snapshot on the geographic coverage of the study and beneficiary coverage.

Total beneficiaries: 73,702,225

Source: WFP School Meals Survey in LAC (2016).

Bolivia		
1. Programme name		**National Complementary School Meal Programme (PNACE, its Spanish acronym)**
2. Starting year		2014 (beginning of school meals in the country: 1951)
3. Objectives		Improve school performance and the nutritional status of students in all public and private education units in the country through proper, healthy and culturally appropriate diets, thus contributing to the exercise of the human right to food and promoting local economic development (PNACE 2015–2020).
4. Targeting		**Universal coverage** Educational levels served: preschools (one year), primary and secondary schools. Municipalities define what levels they will cover in their respective administrations. Public schools in rural, urban and peri-urban areas.
5. Beneficiaries		2,383,408 students in 2013.
6. Modality, details of the food basket		**Modality:** Lunch and/or breakfast and/or snack. Municipalities define food basket and modalities. **Types of food:** In urban areas, generally ready-to-eat breakfasts (bread, milk, yogurt, etc.) are provided. In rural areas, parents cook the food, including fresh products. **Nutritional content (calories):** Variable.
7. Institutional arrangements	***Leading institution***	Ministry of Education
	Supporting institutions	National Food and Nutrition Council (CONAN, its Spanish acronym); Ministries of Rural Development and Lands; Health and Sports; Productive Development and Plural Economy; Justice; Environment and Water; municipal and departmental governments; social organizations; non-governmental organizations; World Food Programme (WFP); Food and Agriculture Organization of the United Nations (FAO).
8. Food supply, storage and preparation		The implementation of complementary school meals and the provision of food is highly decentralized and operates under the responsibility of local municipalities. In rural areas, social educational community councils are in charge, with the help of teachers, for preparation, storage and distribution. In urban areas, the supply and distribution of ready-to-eat breakfasts are subcontracted to private companies through competitive processes. Supervision is carried out by technical teams in charge of school meals in each municipality.
9. Financing	***Annual budget***	Bs 609.6 million (USD 88.2 million) in 2013.[1] (Bs 613.6 million – USD 88.8 million – with WFP's contribution).
	Cost per child per year	The average cost per child per year varies in each municipality, with an average of USD 37.26 in 2013.

10. Policy and regulatory framework documents	Law Nº 622 on School Meals, of 29 December 2014, under the field of Food Sovereignty and Plural Economy. The Political Constitution (2009) and a range of laws and policies complement the legal framework of school meals, in particular Framework Law 031 on Autonomies and Decentralization (2010), Law 070 of Education (2010), and Law 144 on Agricultural Productive Community Revolution (2011).
11. School health and nutrition activities	Food and nutrition education for students, boards of education and school personnel; school gardens. Deworming campaigns (performed by health centres).
12. Achievements/innovations	- School Meal Law 622 promoted by the Parliamentary Front Against Hunger through a wide participatory process. - School meals have been fully inserted in the country's food and nutritional security framework; the legal framework supports local purchases from small and micro-farmers. - Local initiatives successfully link school meals to small-scale local production. - A high level of commitment and sense of ownership at the local level and active community participation. In 2013, 93 percent of the municipalities provided school meals services even though they were not obliged to do so.
13. Challenges	- The weak application of nutrition and food standards defined within the PNACE and guidelines for the provision of food at the local level generate an uneven delivery of services. - Management and implementation capacity is not equal among the municipalities. - There is still an irregular supply of food and poor infrastructure in certain municipalities. - Municipalities and suppliers do not necessarily comply with food quality standards. - There is no central monitoring and evaluation system. - Local production and incentives for local suppliers are limited in most municipalities, resulting in the procurement of goods from suppliers outside the municipality.

[1] *Rate of exchange: World Bank: http://data.worldbank.org/indicator/PA.NUS.FCRF.*

Brazil	
1. Programme name	**Programa Nacional de Alimentación Escolar (PNAE)**
2. Starting year	1954
3. Objectives	To contribute to the psychological, bio-social growth and development of students; improve learning and school performance; promote healthy eating habits; and provide healthy meals covering at least 20 percent of the nutritional needs.
4. Targeting	- Universal coverage - School levels attended: From nursery (from six months old) up to secondary education, including youth and adult education and children with specific needs. - Public, communitarian and philanthropic schools in rural, urban and peri-urban areas.
5. Beneficiaries	41.5 million students in 2015.[2]
6. Modality, details of the food basket	**Modality:** Modalities (breakfast, lunch and/or snack) vary across states and municipalities, but follow national nutritional standards. **Type of food:** Diversified meals, including fresh products. **Nutritional content:**[3] In part-time basic education: at least 20 percent of the daily nutritional needs when one meal is offered; and at least 30 percent of the daily nutritional needs when two or more meals are offered and in schools located in indigenous and slave-descendant communities. Up to 70 percent for children enrolled in full-time education and for children under three.
7. Food supply, storage and preparation	**Semi-decentralized model:** Supply chain and logistics are the responsibility of the state or municipality that purchases, stores and distributes food to schools. **Decentralized model:** Funds sent directly to schools via state or municipality. Schools are responsible for purchasing and storing food, logistics and meal preparation. School meals are prepared by cooks hired by the state or the municipality.
8. School health and nutrition activities	- Inclusion of food and nutrition into the school curriculum. - School gardens. - Food acceptability tests; this is a legal requirement and consists in evaluating the acceptability of any new ingredient to be incorporated on the menu by children.
9. Policy and regulatory framework documents	Federal Constitution of 2010; National Law on Food and Nutritional Security (LOSAN) No. 11.346 (2006); Guidelines and Basis of Education Law No. 9.394 (1996); Zero Hunger Strategy (2011). School Feeding Law No. 11.947 of 2009; National Fund for Educational Development (FNDE) Resolution No. 26 of 2013.

[2] *http://www.fnde.gov.br/programas/alimentacao-escolar/alimentacao-escolar-consultas/alimentacao-escolar-dados-f%C3%ADsicos-e-financeiros-do-pnae.*

[3] *Resolution No. 26 of 2013 (FNDE).*

10. Institutional arrangements	***Leading institution***	The FNDE is within the Ministry of Education.
	Supporting institutions	Ministry of Agrarian Development (central level) and state and municipal Secretariat of Education (local level).
11. Financing	***Annual budget***	FNDE budget: R$ 3.759 billion (USD 1.130 billion) in 2015.[4] In addition, states and municipalities cover associated costs, including storage, cooking utensils and staff.
	Cost per child per year	Food cost per child per year (2015, 200 days): **Full-time schools (morning AND afternoon):** Pre-primary, primary, secondary, youth and adult education, indigenous and slave-descendant communities: R$ 200 (USD 60); school tutoring/reinforcement programme R$ 180 (USD 54). **Part-time schools (morning OR afternoon):** Primary, secondary, and youth and adult education R$ 60 (USD 18); pre-primary and special education needs R$ 100 (USD 30); indigenous and slave-descendant communities R$ 120 (USD 36).
12. Achievements/ innovations		- Awareness of the programme from central to local level. - At least 30 percent mandatory food purchase from smallholder farmers (Law No. 11.947/2009). - Consolidation of PNAE regulations from 2011. - Budget allocation and nutritional guidelines adapted to age-group needs and vulnerability. - Menu includes at least three portions of fruits and vegetables per week. - A nutritionist is the technical lead responsible for the programme, including for carrying out food-procurement procedures and for food and nutrition education activities. - The School Feeding Council (CAE) monitors whether the PNAE legislation is being fulfilled in public schools. It has a supervisory role from food purchase to delivery, overseeing the use of transferred funds and ensuring product quality. - The FNDE has created Collaboration Centres for School Feeding and Nutrition (CECANEs) within federal universities to increase technical support to local managers in nutrition, monitoring and programme implementation.
13. Challenges		- Compliance to legislation standards and, in particular, compliance to local purchases from smallholder farmers. - Fragile and non-systematic monitoring and evaluation system at the national level. However, each year there is an improvement in the compliance with monitoring and evaluation requirements. - Logistics and infrastructure problems at the school level. - Lack of resources at the local level to complement the school feeding resources at the school level.

[4] *Exchange rate: USD 1 = R$ 3,327 (2015). World Development Indicators. http://data.worldbank.org/indicator/PA.NUS.FCRF.*

Chile	
1. Programme name	**School Meals Programme (PAE, its Spanish acronym)**
2. Starting year	1952 (beginning of school meals in the country: 1964)
3. Objectives	Provide food services to schoolchildren in a vulnerable situation, with the purpose of improving their class attendance, contributing to the prevention of school drop-outs, and allowing boys, girls and youngsters in vulnerable situation to have equal opportunities in the education system.
4. Targeting	**Potential population:** Nursery, kindergarten, primary and secondary schools in educational establishments of the subsidized system; preschoolers enrolled in centres of the National Kindergarten Board (JUNJI, its Spanish acronym); adults enrolled in establishments authorized by the Ministry of Education (MINEDUC, its Spanish acronym). **Prioritization:** Students enrolled in nursery school, kindergarten, primary and secondary schools in municipal and private educational establishments participating in the PAE, focused on the first three income quintiles (including 100 percent of JUNJI enrolment). Information system for beneficiary identification: General Student Information System (SIGE, its Spanish acronym) under the Ministry of Education; agreements with the Civil Registry, The Ministry of Social Development, SENAME, FONASA.[5]
5. Beneficiaries	Total students: 1,620,586 (preschool: 197,972; primary school: 1,026,362; secondary school: 396,252).
6. Modality, details of the food basket	- Daily delivery of complementary food services (breakfast or snack and lunch), differentiated according to the educational level and nutritional requirements, to the most vulnerable students of public and private schools, where nurseries, kindergartens, primary and secondary schools are subsidized. This is complemented with a collation (third service) for the beneficiaries of the programme Chile Solidario. In certain cases, a full service with four meals is provided; for adults an additional snack is served. This service is provided to support vacation and extracurricular activities. - The programme works through bids for the procurement of food services. The National School Assistance and Scholarship Board (JUNAEB, its Spanish acronym) sets the nutritional and food security requirements of the food services procured, and informs supplier companies of the assignment of services (number of breakfasts, snacks, lunches and third-service collations, by establishment). It also sends the list of target and priority students of who should receive school meals, the person in charge of PAE management in all establishments (teacher or teaching assistant). People in charge are responsible for the daily registration of the services actually delivered by the companies, and inform JUNAEB regarding the quality of the food delivered by the suppliers. The JUNAEB monitors compliance with the agreements by supervising through internal staff and with lab services to verify the nutritional content and microbiological tests, and hires other third-party services for the control of central supplier warehouses and school warehouses.

[5] *Servicio Nacional de Menores (SENAME); Fondo Nacional de Salud (FONASA).*

7. Food supply, storage and preparation		Food provision, handling, preparation and distribution is outsourced to private companies hired by JUNAEB. The provider for each territorial unit is chosen through public bidding processes that define the preparation and quality requirements of the food services delivered, as well as the employment and remuneration conditions, experience accreditation, and other conditions and requirements.
8. School health and nutrition activities		Food and nutrition education: Actions aimed at diminishing the prevalence of malnutrition due to excess and chronic non communicable diseases are encouraged by fostering and promoting healthy eating behaviours and physical exercise. These actions are carried out through the implementation of an educational project executed by provider companies or other organizations or institutions in a sample of educational establishments. In 2015, about 15 establishments were covered. The requirement for accessing this component is one percentage of malnutrition higher than the nutritional map average. Through the BKN Collation Project, fruit is delivered and active breaks are encouraged – activities in the classroom and support for physical educational classes – in certain rural establishments. In 2015, 3,357 girls and boys were served in 12 establishments.[6]
9. Policy and regulatory framework documents		Law 15.729 of 1964 (Ministry of Finance) and Law 17.301 of 1970 (Ministry of Public Education, 2004).
10. Institutional arrangements	***Leading institution***	National School Assistance and Scholarship Board (JUNAEB), an independent institution of state administration, under the Ministry of Education.
	Supporting institutions	Ministry of Planning; Ministries of Health, Sports, Social Development, Education; Food Nutrition and Technology Institute; the private sector
11. Financing	***Annual budget***	In 2015, the budget of the programme was Ch$ 473,184,654. (USD 711,000)[7]
	Cost per child per year	Not available
12. Achievements/ innovations		- Centralized purchases and the external supply chain ensure quality and efficiency. - The individual targeting system based on household vulnerability data allows girls and boys in a vulnerable situation to be served. - Implementation of a Plan Against Student Obesity. - Implementation of a local purchase pilot: the project Siembras que Alimentan, where PAE's suppliers must acquire a minimum 15 percent of their food from local providers. This initiative will be implemented as of August 2017, and will reach out to 250,000 students and be gradually expanded to the rest of the country.[8]
13. Challenges		- Improve the bidding and taxation systems. - A study in 2015 revealed low levels of satisfaction with the meals: 49 percent of satisfaction in primary school and 56 in secondary school.

[6] *www.5aldia.cl/inicio-proyecto-colacion-bkn-2015.*
[7] *1 Ch$ = USD 0, 00150273. http://www.xe.com/fr/currencytables/?from=DOP&date=2016-06-30*
[8] *www.indap.gob.cl/noticias/detalle/2016/09/07/junaeb-lanza-in%C3%A9dita-pol%C3%ADtica-de-compras-p%C3%BAblicas-para-agricultura-familiar-campesina*

Colombia		
1. Programme name		**School Meal Programme**
2. Starting year		1936[7]
3. Aims/objectives		Contribute to access and attendance to school of enrolled boys, girls, adolescents and youngsters, and fostering healthy eating habits by providing a food complement.
4. Targeting		**Individual focus.** In a first stage, priority is given to full-day schools, transition and primary schools in rural areas and, subsequently, in urban areas serving ethnic communities, student victims of armed conflict, and the condition of poverty of students given by the System for the Identification of Potential Beneficiaries of Social programmes (SISBEN, its Spanish acronym).[8] In a second stage, School Meal Committees choose beneficiary students according to a set of established criteria: in rural areas, covering 100 percent of transition (preschool) and primary school students, starting with those who have a full school day, and subsequently prioritizing ethnic groups and those living with handicaps; in urban areas, covering transition and primary school students, starting with those who have a full school day and subsequently prioritizing those living with handicaps and ethnic groups with lower SISBEN scores. **Educational levels served:** preschool, primary and secondary schools. Public schools in rural and urban and peri-urban areas.
5. Beneficiaries		4,029,869 students in 2015.[9]
6. Modality, details of the food basket		**Modality:** Food complement am/pm or lunch. On full school days, am/pm complement and lunch. **Food groups:** Milk and dairy products, meat and meat products, fats, sugars, grains, roots, root vegetables and plantains, fruits and vegetables. **Nutritional content:** Food complement: 20 percent of nutrient intake and energy recommendations (RIEN, its Spanish acronym) – 337 kcal for 4–6 year olds and up to 500 kcal for 13–17 year olds. Lunch: 30 percent of RIEN (541 kcal for 4–6 year olds and up to 821 kcal for 13–17 year olds).[10]
7. Institutional arrangements	***Leading institution***	Ministry of National Education.
	Supporting institutions	Presidency of the Republic, Ministry of Health and Social Protection, Ministry of Agriculture and Rural Development, National Planning Department, Social Prosperity, Colombian Family Welfare Institute (ICBF, its Spanish acronym), international cooperation and WFP, FAO and World Bank.

[7] *Decree 219 of 1936 – school restaurant resources.*

[8] *The Identification and Classification of Potential Beneficiaries System identifies possible social programmes users by calculating an index made up of multidimensional variables of poverty and vulnerability.* www.sisben.gov.co

[9] *The data provided by the Ministry of Education refer to the number of rations. Therefore, the number of beneficiaries should be considered to be an approximate figure based on the number of rations delivered.*

[10] *Resolution No. 16432 of 2 October 2015, whereby technical-administrative guidelines, standards and minimum conditions of the School Meal Programme – PAE are issued.*

8. Food supply, storage and preparation		Food is provided by operators contracted by certified territorial entities (ETC, its Spanish acronym), taking into account the legal standards in force in Colombia. Two supply modalities are established: first, rations prepared on site in educational institutions with infrastructure that ensures food safety to be directly prepared in school canteens; second, industrialized rations in institutions without the adequate infrastructure for on-site food preparation. Food supply processes in educational institutions, as well as storage and preparation, are done in compliance with Resolution 2674 of 2013, issued by the Ministry of Health and Social Protection, and other sanitation standards in force.
9. Financing	***Annual budget***	Resources contributed by the central government – Ministry of Education. In 2015, Col$ 831,000 million (USD 303.1 million).[11]
10. Policy and regulatory framework documents		The School Meal Programme was framed within the food and nutritional security policy (Social CONPES 113 of 2008), the National 2012–2019 Food and Nutrition Security Plan, and the National 2014–2018 Development Plan (Law 1753 of 2015). Decree 1852 of 2015 and Resolution 16432 of 2015 "whereby technical – administrative guidelines, standards and minimum conditions are issued" regulate the programme to ensure its proper functioning. Currently, a bill of law for the creation of a National School Meals Agency is being debated by the congress of the country.
11. School health and nutrition activities		Educational actions: the Ministry of Education has signed an agreement with allied institutions, among them WFP, the United Nations Children's Fund (UNICEF) and NUTRESA to design, implement and validate a strategy for fostering healthy lifestyles in educational institutions. One of the components includes food and nutrition education. Deworming campaigns in territorial institutions. Clean drinking water and basic sanitation.
12. Achievements/ innovations		- Between 2011 and 2016, the responsibility of the programme was gradually transferred from the Colombian Family Welfare Institute (ICBF, its Spanish acronym) to the Ministry of National Education. Implementation of the certified territorial entities (ETC, its Spanish acronym) was decentralized and coverage was increased through co financing. - The food ration includes fresh products, and encouragement is given for foods such as fruit, vegetables, dairy products, root vegetables and grains to be purchased locally.
13. Challenges		- Secure co-financing of the programme between the Ministry of National Education and territorial entities. - Secure universal coverage of boys, girls, adolescents and youngsters enrolled in the official educational system, and provide service that covers all school days. - Design and implement a local procurement model that favours compliance of the minimum 20 percent set in the programme's technical guidelines. - Strengthen the monitoring and comprehensive control processes (legal, financial and technical) in the design, implementation and follow-up of operations in the territories.

[11] *Rate of Exchange: 1 USD = Col$ 2 741.88. World Bank: http://data.worldbank.org/indicator/PA.NUS.FCRF.*

Cuba	
1. Programme name	**School Meals Programme**
2. Starting year	1970
3. Objectives	- Contribute to improvement of the health situation through proper nutrition and the adoption of healthy lifestyles based on good eating habits and food preparation practices. - Achieve acceptable food procurement levels favouring greens, fruit and vegetables in educational institutions.
4. Targeting	- Cover all pre-primary schools (circulos infantiles), boarding and semi boarding primary schools, and secondary schools. - Educational levels served: preschool, primary and secondary schools, pre-university educational centres, technical and professional teaching, special teaching and teachers' training schools. - Schools in rural, urban and peri-urban areas.
5. Beneficiaries of school meals in in the country	827,100 students in 2015.
6. Modality, details of the food basket	**Modality:** Lunch (semi-boarding primary schools and secondary schools). Lunch and two snacks (preschool) and five services in primary boarding schools. **Types of foods:** grains (corn, rice, and wheat), foods (roots and root vegetables), greens and fruit, dairy and meat products and oil. Fortified foods: bread, biscuits, bakery products and pasta, fruit purées, soy yogurt and salt. **Nutritional content (calories):** - 60 percent of the nutritional recommendations for children between the ages of 1 and 5. The energy recommendation for Cuban children up to 2 years of age is 1,074 kcal, and for 3 to 6 years is 1,638 kcal. - 30 percent of the nutritional recommendations for primary schoolchildren. The energy recommendation for Cuban children between the ages of 7 and 13 is 2,101 kcal. - 30 percent of the nutritional recommendations for secondary schools. The energy recommendation for the Cuban population between the ages of 7 to 13 is 2,101 kcal and for 14 to 17 years is 2,611 kcal.
7. Food supply, storage and preparation	**The programme is centralized:** the central government procures non perishable products and distributes them to educational centres. The centres have a budget overseen by the municipality for the local procurement of greens and fresh vegetables.
8. School health and nutrition activities	**Educational actions:** Since 1997, the "Governing Promotion and Education for Health Programme" in the National Educational System has been implemented. It aims at contributing to fostering a health culture that is reflected in healthier lifestyles among children, adolescents, youngsters and workers in the National Education System. It has seven core concepts: personal and collective hygiene; sex education; nutrition education and food hygiene; anti-tobacco, anti-alcohol and anti-drug education; accident prevention and road safety education; traditional and natural medicine; and communication and cohabitation. Monitoring of food ingestion and water quality, as well as basic sanitation actions.

9. Policy and regulatory framework documents		The regulatory framework includes: the Constitution of the Republic of Cuba, the Children and Adolescents Code, and the Health and Education General Laws. Guidelines from the education sector regulate its implementation. The 1/97 Joint Resolution of the Ministries of Health and Education includes "food and nutrition" as one of the priority programmes. The programme is not supported by a specific law.
10. Institutional arrangements	***Leading institution***	Ministry of Education
	Supporting institutions	Ministries of Health, Agriculture, Domestic Commerce (MINCIN, its Spanish acronym), and of Food; Institute of Water Resources (IRH, its Spanish acronym); international institutions (WFP).
11. Financing	***Annual budget***	Not available
	Cost per child per year	Not available
12. Achievements/innovations		- Strong nutritional focus: the particular needs of boys and girls regarding food and nutrition are covered. - Food offer and consumption are monitored in schools through government controls, as well as those of the Food and Nutrition Monitoring System (SISVAN, its Spanish acronym).[12] - Decentralization of part of the budget has allowed the diversification of children's diets and an increase in the consumption of fresh food provided by local producers. - Since 2016, WFP has supported the analysis of the beans' value chains and has worked with institutions to help them generate their own food demand. Likewise, it has been envisaged to create pilots that strengthen the link between local producers and educational institutions to increase the availability of fresh foods and to boost diet diversity, as well as to explore new marketing mechanisms. - Kiosks are forbidden inside educational institutions, except for urban pre-university centres that have state cafeterias that sell food at tiered prices, are regulated by public health standards, and hold a health licence.
13. Challenges		- Consolidate the permanent links between local producers and the school meals programme. - Diversify schoolchildren's diets and boost the consumption of fresh foods provided by local producers. - Ensure the safety of locally produced food. - Consolidate a food and nutrition education strategy that raises awareness among teachers and students on the importance of a healthy diet and its links to learning achievements. - Strengthen family education on an institutional level and through the community projection of the "Educate Your Child Programme".

[12] *Further detail on SISVAN is in the information box.*

Dominican Republic		
1. Programme name		**School Meals Programme (PAE, its Spanish acronym)**
2. Starting year		1997 (beginning of school meals in the country: 1943)
3. Objectives		Improve children's nutrition and health conditions in order to boost attendance and retention in school, increasing students' learning ability.[13]
4. Targeting		**Coverage:** universal. **Educational levels served:** preschools, primary and secondary schools. Public schools in rural, urban and peri-urban areas.
5. Beneficiaries		1,739,355 students in 2016.
6. Modality, details of the food basket		**Modality:** The PAE is structured in four modalities, of which three respond to a geographical criteria: marginal urban PAE – urban zones and their marginal areas or suburbs (national coverage); REAL PAE – rural and difficult access areas; and border PAE – provinces bordering Haiti. Extended school day modality: schedule criteria. Basket: Breakfast/snack or breakfast, lunch and snack (extended school day). **Types of foods:** Marginal urban PAE: ready-to-eat rations (bread or nutritional biscuit and milk or juice). Border PAE: cooked rations of non-perishable foods (rice, sweet corn, soy oil, beans, sardines, corn flour, sugar and milk products). REAL PAE: local foods (plantain, cheese, eggs, rice, corn flour, bread, oatmeal and milk products). Lunch on extended school day: non-perishable foods, vegetables and meat. **Nutritional content:**[14] Breakfast/snack: 25–30 percent of students' daily food requirements, according to the programme (550–660 kcal). Extended school day: 60–70 percent (1,400 kcal on average).
7. Institutional arrangements	***Leading institution***	National Children's Welfare Institute (INABIE, its Spanish acronym), a decentralized institution under the Ministry of Education.
	Supporting institutions	Ministries of Health and Agriculture, Vice-President of the Dominican Republic; Technological Institute of Santo Domingo (INTEC, its Spanish acronym), Institute of Nutrition of Central America and Panama, and FAO.
8. Food supply, storage and preparation		INABIE procures raw inputs and/or processed food servings through public call for tenders, based on the menus designed by the Nutrition Department. For REAL and Border PAEs, food is prepared in the educational centres thanks to the voluntary work of parents and school friends and associations or to payment of an incentive to a stakeholder in the education community. In the extended school day, there are also centres where the private supplier takes the prepared food servings to the educational centre. In the marginal urban modality, the processed food is delivered for distribution by the teachers or with the community's help. PAE has a Nutrition, Hygiene and Food Handling Training Manual.
9. Financing	***Annual budget***	RD$ 11,725 billion (USD 255.2 million) in 2016.[15]
	Cost per child per year	The assignation per child varies according to the modality, with an average of RD$ 6,743[16] (USD 147) in 2016.

10. Policy and regulatory framework documents	School meals are part of the National Development Strategy Law, Concept 2 (2012), the General Education Law (1997) and the Ten-Year Education Plan 2008–2018. Ordinance 12-2003 of the National Board of Education issues INABIE's regulations. There is no law or regulation on school meals.
11. School health and nutrition activities	- Education actions: Training workshops with local authorities, teachers and students; school gardens; training of CANEs (its Spanish acronym of School Meals and Nutrition Committee). - Information System for Food and Nutritional Surveillance of Students (SISVANE, its Spanish acronym), currently in its first implementation stage, includes nutritional monitoring and food surveys. - A national micronutrients survey was carried out in 2012 among the student population together with United Nations Development Programme, UNICEF and WFP to guide PAE's activities. - Deworming campaigns; water and basic sanitation in schools; and search for new products for school meals.
12. Achievements/ innovations	- In 2012, the government started a programme for implementing the extended school day to eight hours, with the responsibility of providing students with, besides breakfast, a lunch and a snack in the afternoon. Added to this is the new government's policy to take advantage of government purchases to foster local production. - Together with the Ministries of Public Health and Agriculture and the Vice-President of the Republic, INABIE signed an agreement based on the strengthening of the School Meals Programme within the framework of the Latin American Initiative and the Caribbean with No Hunger 2025, in order to create inter-institutional synergies that allow achievement of the proposed objective. - The "Sustainable PAE" pilot project of the Monte Plata educational district serves 69 educational centres and focuses on seven components: decentralized management; social participation and inter-institutional coordination; nutrition, food quality and safety; local product purchases; school infrastructure and equipment; school vegetable gardens and nutrition education; monitoring and evaluation, systematization and learning. - In the past three years, the government has tripled investment in school meals to provide lunch for the extended school day, which covers over 800,000 students, and to incorporate high school.
13. Challenges	- School meals entail challenges in the administrative, logistic and quality assurance aspects. - There is no reference to family farming within the framework of the purchase and contract law. - Little awareness among the Dominican population of healthy diets (vegetable consumption customs); little information in food guides, stressing the amounts to be consumed by the beneficiary population. - There is no control of street sales around or in the cafeterias of education centres.

[13] *INABIE: Nutrition, Hygiene and Food Handling Training Manual.*

[14] *Only for breakfast, the contribution is calculated on the basis of a daily requirement of 2,200 kcal. For the extended school day, the serving of breakfast is smaller and the lunch and snack servings have been adjusted to the Recommended Nutrition Intake (RNI) and adjusted by age group (6–9 years, 10–14 years and 15–18 years).*

[15] *USD 1 = RD$45.9326 (30 June 2016). www.xe.com/fr/currencytables/?from=DOP&date=2016-06-30.*

[16] *INABIE data.*

Ecuador		
1. Programme name		**School Meals Programme**
2. Starting year		1999 (beginning of school meals in the country: 1980)
3. Objectives		Offer free school meals services as a response to a state policy that contributes to diminishing the gap in the access to universal education and to improving its quality and efficiency while boosting students' nutritional status.
4. Targeting		**Universal coverage** **Educational levels served:** Public, fiscal-missional and municipal institutions of early education (3 to 4 years of age), basic general education (5 to 14 years of age), and high school (only in Millennium Educational Units).
5. Beneficiaries		2,873,148 students in 2015.
6. Modality, details of the food basket		**Modality:** Early education (EI): students receive breakfast and a snack. General basic education (GBI): students receive breakfast in the morning and a snack in the afternoon, in rural areas. In urban areas, in both morning and the afternoon sessions, students receive a snack. Millennium Educational Units (MEU): students receive breakfast in the morning and a snack in the afternoon. **Types of foods:** EI: the breakfast is made of an oatmeal drink with different flavours and a stuffed biscuit; the snack consists of 200 ml of UHT flavoured whole milk. EGB: breakfast consists of a flavoured oatmeal drink and several grains (traditional biscuit, stuffed biscuit, cereal bar and granola). The snack consists of 200 ml of UHT flavoured whole milk. **Nutritional content:** EI: breakfast and a snack, 516.40 kcal; EGB: breakfast, 376.80 kcal; EGB snack, 256.80 kcal (on average).[17]
7. Institutional arrangements	***Leading institution***	Ministry of Education and Ministry of Agriculture, Livestock, Aquaculture and Fishing.
	Supporting institutions	Ministry of Health, Ministry of Coordination and Social Development and MCPEC.
8. Food supply, storage and preparation		The Storage Unit National Public Company (EP-UNA, its Spanish acronym), which forms part of the Ministry of Agriculture, is in charge of food procurement, storage and distribution.[18] Procurement is carried out on a central level through a public purchasing and inclusive fairs process, regulated by the National Public Contract Service. In schools, the School Management Commission (CAE, its Spanish acronym) is in charge of handling and delivering meals to children. Parents voluntarily prepare the oatmeal drink, and teachers take charge of the distribution. The management of the programme is currently undergoing a transition process towards the Ministry of Education.
9. Financing	***Annual budget***	USD 122,000,000 in 2015.
	Cost per child per year	The cost per child per year varies according to the modality, with an average of USD 42 (2015).

[17] *Source: Ministry of Education (MINEDUC).*
[18] *Executive Decree No. 129 of 22 October 2013 and Executive Decree 821 of 17 November 2015.*

10. Policy and regulatory framework documents	The programme has a solid legal basis. It is based on the Constitution of the Republic (2008), and forms part of the Organic Law of Intercultural Education (2011) and also of the National Good Living Plan 2009–2013 and the 2009 Social Agenda, which seeks universal coverage of quality educational services. Although there is no school meals law or policy, the programme is regulated by a series of executive decrees and agreements. EP-UNA's mission is based on the Organic Law of the Food Sovereignty System (2009).
11. School health and nutrition activities	**Educational actions:** Nutrition education activities for students, teaching staff and school management committees. **Deworming activities** in schools are carried out by health centres based on their capacity and may vary their frequency, as there is no annual planning.
12. Achievements/ innovations	- The school meals programme is the government's main food programme and has an ample coverage, which is in the process of reaching universalization of school breakfasts. - The possibility has been opened for more suppliers to enter the public purchasing system and offer different amounts of products. - Breakfast is relatively varied, with highly nutritious products. In the past five years, the food items required to prepare school breakfasts have been revised, and each time more local food has been included. - The logistic distribution is clearly structured and responds to written processes. - In 2013, delivery of school lunches to students started in Millennium Educational Units. Ready-to-eat lunches are delivered to schools, and their preparation is also done with fresh local products, fostering local and direct purchases from smallholders.
13. Challenges	- Products used for school breakfasts are processed and standardized for the entire programme, and do not necessarily respond to local habits. Besides, they do not facilitate the inclusion of smallholders due to the high industrialization they require. - There is no impact evaluation. Therefore, it is not known to what extent it could be having undesired effects, or regarding the nutritional status of students, such as overweight. - PAE is in midst of a major transition phase, its administration being transferred to the Ministry of Education.

El Salvador		
1. Programme name		**School Meal and Health Programme (PASE, its Spanish acronym)**
2. Starting year		1996 (beginning of school meals in the country: 1984)
3. Objectives		Contribute to the improvement of students' nutritional status to foster better learning conditions and staying in school through a daily snack, with the participation of the educational community, strengthening health, food and nutrition knowledge, capacities and proper practices, as well as the implementation of school gardens.
4. Targeting		**Universal coverage** **Educational levels served:** Early education, grade school (nine grades) and high school, as well as nutrition rural centres in certain areas. Public schools in rural and urban zones and outskirts.
5. Beneficiaries		1.3 million students in 2016.
6. Modality, details of the food basket		**Modality:** Snack, preparation based on a 20-day cyclical menu. **Types of foods:** Six non-perishable foods (rice, beans, sugar, milk, oil and fortified drink). - There are guidelines on nutritional values at the central level.
7. Institutional arrangements	***Leading institution***	Ministry of Education.
	Supporting institutions	Ministries of Health and of Agriculture, Technical Secretariat of the Presidency, Consumer Defence Centre, FAO.
8. Food supply, storage and preparation		Purchasing processes are centralized through public calls for tender, in accordance with the Law on Procurement and Public Administration Contracts (2000). The Ministry of Education supplies food to schools (stored in warehouses). With support from the educational community, mainly mothers, the snack is prepared and delivered to students according to the document "Guidelines for the School Meal and Health Programme (2009–2014)".
9. Financing	***Annual budget***	USD 18.4 million in 2016[19]
	Cost per child per year	USD 14[20]
10. Policy and regulatory framework documents		The programme is included in the Development and Social Protection Law, the Law on the Special Fund of Resources Originated in the Privatization of ANTEL (1999), and the Glass of Milk Law. It also forms part of the National Food and Nutrition Security Policy (2011). There is an ongoing Healthy School Meal Law initiative.

[19] *Budget assigned for 2016.*

[20] *Average budget assigned per child for 2016 estimated on the basis of the total assignation and the projected number of beneficiaries.*

11. School health and nutrition activities	- A strong focus on food education and healthy life habits is included as a component of the PASE. - The programme has taken the initiative to create school gardens with a pedagogical approach in a number of schools countrywide, improving students' skills. A school garden guide is used as an educational tool. - Deworming campaigns and supplementing micronutrients. - Healthy School Café Project.
12. Achievements/ innovations	- The government fully implements and finances the PASE since 2013, ensuring universal coverage. - The PASE is part of the national social protection network. - The food basket is diversified, and includes items that are part of the local cultural eating habits; locally produced UHT milk is also included. - Progress has been made in strengthening the capacities of teachers, mothers, fathers and school management in terms of hygiene, handling and storage of food, and food and nutritional security. - The sustainable schools model: additional funds are given to schools for local purchases so as to diversify the menus with fruit, vegetables and eggs and benefit local farmers and cooperatives. This model is currently being implemented in 77 schools.
13. Challenges	- Strengthen the programme by further incorporating fresh local products, and provide students with more nutritious food, while supporting the programme with other health actions. - Improve the monitoring and follow-up system. - Link the purchase of food to national production and decentralize purchases for the population to have access to products that are part of their food preferences. - Adapt the programme in urban areas, where mothers work and cannot prepare food, by delivering ready-to-eat rations. - Nutrition guidelines are managed on a central level and are hardly likely to reach school centres and inform cooking practices; meals are then handled by each school principal. - The budget is not sufficient for covering all school days. The Ministry of Education has plans for strengthening the programme and improving its impact.

Guatemala	
1. Programme name	**Support Programme: School Meals**
2. Starting year	1995 (beginning of school meals in the country: 1956)
3. Objectives	Support school attendance and strengthen factors that impact school performance.
4. Targeting	**Universal coverage** **Educational levels served:** Preschools and primary schools; public schools in rural, urban and peri-urban areas.
5. Beneficiaries	2,535,116 students in 2015.
6. Modality, details of the food basket	**Modality:** School snack. Parents' organizations (OPFs, its Spanish acronym) define the menus following recommendations from the Ministry of Education; they prepare the snacks and serve boys and girls in schools. **Types of foods:** Fortified flours (Incaparina, Bienestarina[21]), sugar, corn, rice, vegetables, fruit, eggs, milk, corn flour and oil. **Nutritional content:** 25 percent of the daily nutritional recommendations for the student population: 388 kcal; 14.5 g of protein.[22]
7. Food supply, storage and preparation	The management of the programme is decentralized at the school level. OPFs or education councils are responsible for food procurement, management and preparation. The "Manual for Education Councils and Other OPFs for the Administration of Education Support Programmes" (2014) provides guidance for the implementation, and the recommended school meal menus are geared towards the diversification of products and the consumption of fruit and vegetables.
8. School health and nutrition activities	**The Healthy Schools' Strategy** coordinated by the National Healthy Schools Commission (CONAES, its Spanish acronym) promotes inter-institutional coordination to foster optimal health, hygiene and nutrition conditions in schools. Healthy school meals are key components of this strategy. **Training activities** on nutrition for students, teachers and families. In 2014, 86,727 mothers who are heads of households were trained in good food practices and 1,226 pedagogical school gardens were implemented (pilot projects). **Clean drinking water and basic sanitation** in schools.
9. Policy and regulatory framework documents	The Constitution of the Republic of Guatemala (1985), the National Education Law (1991)[23] and the Food and Nutrition Security Law (2005), together with the Food and Nutrition Security Policy (2005) and the Zero Hunger Plan (2012) are the legal basis for school meals. There is a draft bill for a School Meals Law, promoted by the Parliamentary Front Against Hunger. Two sets of regulations from the Ministry of Education (2010[24], 2012[25]) are in place for operations' management.

[21] *Bienestarina is a national production food by a Guatemalan company. Its properties are similar to Incaparina and it is actually used in PNAE.*

[22] *Institute of Nutrition of Central America and Panama, Pan-American Health Organization, Editor. Institute of Nutrition of Central America and Panama (INCAP) Daily Dietary Recommendations. Guatemala: INCAP, 2012.*

[23] *Guatemala, National Education Law, Legislative Decree 12-0 of 9 January 1991, published in Official Daily CCXL-52-1121 on 18 January 1991.*

10. Institutional arrangements	***Leading institution***	Ministry of Education. The Directorate General of Community Participation and Support Services (DIGEPSA, its Spanish acronym) is in charge of the financial and administrative aspects; the Directorate General of the Educational Community Strengthening (DIGEFOCE, its Spanish acronym) covers standards and technical aspects.
	Supporting institutions	Ministry of Health, Ministry of Agriculture, Ministry of Development, Ministry of Environment and Natural Resources, Secretariat for Food and Nutrition Security (SESAN, its Spanish acronym), international institutions (WFP, FAO, UNICEF, PAHO, Institute of Nutrition of Central America and Panama - INCAP, Catholic Relief Services - CRS, Project Concern International, Plan International, Peace Corps) and the private sector.
11. Financing	***Annual budget***	Q 566,4 million (USD 74 million) in 2015[26]
	Cost per child per year	Average: USD 33.6. Assignation ranges from USD 25.9 in urban areas to USD 48.5 in priority municipalities in rural areas.
12. Achievements/ innovations		- The government prioritizes integral care for students and improvement of the quality of snacks. - Strong links to national food and nutrition security strategies. The Healthy Schools Strategy is part of the Zero Hunger Plan. It fosters inter-institutional coordination and promotes a healthy and varied diet, healthy lifestyles, education on good personal hygiene practices and the proper preparation of food. The CONAES drafted the document "Guidelines and Basic Criteria for Universal Implementation of the Healthy Schools Strategy in Guatemala" in 2015, and launched a virtual course for teachers and field personnel. - The document "Recommended Menus for School Meals" (2015) was updated with the aim of improving the quality of snacks, using foods with high nutritional content and taking into consideration aspects of acceptability and feasibility of preparation in schools. It includes twenty national menus and five regional menus. - High-level commitment and sense of ownership on the local level, and active community participation.
13. Challenges		- The programme covers less than 180 school days, and transfers to OPFs or to educational councils are often delayed. - The assignation per child/per day is not sufficient for school snacks covering 25 percent of the daily nutritional recommendations. - It is necessary to train departmental food security and nutrition technicians of the Ministry of Education and educational councils on the use and preparation of menus. - The increase of poverty and food insecurity jeopardizes achievements in the educational sector.

[24] *Government Agreement 202–2010, Diario de Centro America number 78.6 of July 2010. Regulations for Approval of By laws, Recognition of Legal Personality and Operation of Public Education Centre Councils of the Ministry of Education.*

[25] *Ministerial Agreement 1096-2012 of 23 April 2012, Diario de Centro América of 2 May 2012. Regulations for Financial Resource Transfers to Boards of Education and other legally constituted Parents' Associations of Public Education Centres.*

[26] *Source: Ministry of Education, 2015 records – Support Programmes. Rate of exchange: World Bank: http://data.worldbank.org/indicator/PA.NUS.FCRF.*

Haiti		
1. Programme name		**National School Canteens Programme (PNCS, its French acronym)**
2. Starting year		1997
3. Objectives		Ensure that all schoolchildren are in good nutritional health and can learn through the provision of healthy and balanced complementary school meals, prepared as much as possible with local produce and meeting nutritional standards, so that hunger does not constitute a barrier to education.
4. Targeting		**Geographical targeting:** The government envisions universal coverage (2030 vision), with a level of subsidy in favour of the poorest children. The scaling-up strategy takes into account specific criteria for geographical targeting (prioritization of municipalities) and selection of schools. **Grade levels:** First and second grades (six years); preschools connected to main targeted schools. **Types of schools:** Public, private and community schools authorized by the Ministry of Education.
5. Beneficiaries[27]		876 000 students in 2016. 107 000 are covered by the PNCS (12 percent).
6. Modality, details of the food basket		**Modality:** Lunch. **Food basket:** Rice, beans, oil, salt and canned fish. The food basket will be reviewed in line with the guidelines of the new School Feeding Policy and Strategy in order to diversify food and integrate local produce. **Nutritional intake:** 40 percent of the average nutritional requirements of school-aged children (640 kcal).[28]
7. Institutional arrangements	***Leading institution***	Ministry of Education and Vocational Training/National School Canteens Programme (PNCS
	Supporting institutions	Ministries of Agriculture, Public Health and Interior, WFP, FAO, UNICEF, non-governmental organizations, civil-society organizations and donors (including the World Bank, Canada, and USAID).
8. Food supply, storage and preparation		The PNCS purchases centrally through public tenders in accordance with the procedures stated in the "Law on General Procurement Rules", and organizes distribution in schools with private carriers. The communities, organized in management committees, are responsible for the preparation and distribution of meals.
9. Financing	***Annual budget***	USD 3 833 000 for the school year 2015–2016 (PNCS). The total budget allocated to school meals by the different actors amounts to USD 42 million for the same school year.
	Cost per child per year	The average budget allocated per student is USD 36 for the PNCS programme (2015–2016), covering approximately 60 days of food service.

[27] *The two main complementary programmes are implemented by WFP, covering about 485,000 schoolchildren, and the joint programme of the Ministry of Education and Vocational Training/Education for All (EPT, its French Acronym) covering some 140,000 students. Furthermore, national non-governmental organizations and also critical partners extend coverage to an additional 137,000 schoolchildren.*

[28] *National School Meals Policy and Strategy (PSNAS, its French acronym) – 2016..*

10. Policy and regulatory framework documents	In 2016, the government adopted its first National School Meals Policy and Strategy (PSNAS) to guide all school meals activities in the country. The national school meals strategy is included in the Strategic Development Plan for Haiti (PSDH); The 2010–2015 Operational Plan of the Ministry of Education; The National Nutrition Policy and the Investment Plan for the Growth of the Agricultural Sector.
11. School health and nutrition activities	No school health and nutrition activities implemented yet. The government has taken the decision to promote the Moringa Doliv, considered an important tool in the fight against malnutrition. Together with civil society actors, a national network has been set up and a national programme is being implemented to promote it in schools.[29]
12. Achievements/innovations	• The new National School Meals Policy and Strategy, adopted in 2016, reflects the long-term vision of the government for all actors and programmes, and develops short-, medium- and long-term strategies to achieve this vision. • The policy and strategy consider school meals as a means of responding to crises and include provisions for increasing school meals activities in the event of shocks resulting in prolonged schools' shutdown. • In its medium-long-term vision, the government is moving towards the exclusive use of domestically produced foods and is considering subcontracting services to private providers or associations to reduce the burden on school and schoolchildren's families. Several decentralized implementation models using local products are being tested and evaluated. They include strong capacity-building components.
13. Challenges	• Currently, due to budget constraints and timing of supply, PNCS meals do not yet meet PSNAS nutritional standards and are not provided on all days of the school year. • The implementation of local purchases in the Haitian context, where more than half of basic food products are imported, poses considerable challenges. The main limiting factor in the inclusion of local food products is related to high prices and fluctuations in availability and quality. Professional agricultural organizations (PAOs) are frequently not well structured to enter the market and provide school meals properly, and compete with commercial firms. Moreover, PAOs face challenges in meeting the requirements of the national law on public procurement. • The PNCS to date does not have a clear legal status.

[29] *Ministry of Agriculture, Natural Resources and Rural Development (2015): Moringa Doliv. Balance 2012–2015.*

Honduras	
1. Programme name	**School Meals Programme**
2. Starting year	2000 (beginning of school meals in the country: 1962)
3. Objectives	Ensure food and nutrition security for boys and girls in preschool and primary school levels through access to complementary food rations; increase enrolment, improve academic performance, reduce dropouts and absenteeism; foster the concepts of nutrition, health and hygiene, basic sanitation, and adopting desirable habits among boys, girls and their families; boost active community participation in support of the programme. Furthermore, the Cooperation Agreement between the Government and WFP seeks to invigorate the local economy through procurement of local products.[30]
4. Targeting	**Universal coverage** **Educational levels covered:** Preschools and primary schools.
5. School meal beneficiaries in the country	1,337,405 students in 2015. The Government of Honduras provides funds to serve 1,169,572 students (87 percent of the total coverage). WFP and Catholic Relief Services complement the government efforts by assisting 114,833 and 53,000 students, respectively.
6. Modality, details of the food basket	**Modality: Breakfast at mid-morning.** **Types of foods:** Basic food basket made up of fortified corn flour, rice, beans and oil. Fruit, vegetables and eggs are being gradually introduced in priority municipalities. **Nutritional content**: 26 percent of the daily energy needs in primary schools (575 kcal) and 36 percent in preschools (464 kcal).
7. Food supply, storage and preparation	WFP is in charge of the centralized purchase, transportation and delivery of food for the basic food basket through calls for bids in accordance with WFP's procurement standards. A mixed supply model is gradually introduced where fresh vegetables and eggs are purchased to complement the basket on a decentralized level through Mancomunidades, Cajas de Ahorro y Credito and cooperatives. Parents are in charge of food preparation and have the responsibility of complementing the servings in order to diversify the menus.
8. School health and nutrition activities	**Educational actions:** In the primary school curricular design, there is a methodological guide for teaching food and nutrition, with the objective to strengthen the food and nutrition contents in the different areas of the curricular design. **Training** in nutrition themes for school personnel, students and parents as support for the national grade school curriculum; school gardens are also implemented. **Annual deworming** for all preschool and primary schoolboys and schoolgirls; clean drinking water and basic sanitation in certain schools.
9. Policy and regulatory framework documents	Honduras adopted a National School Meals Law in 2016. School meals are also found within the framework of the National 2010–2022 Food and Nutrition Security Strategy as a social protection mechanism. It is linked to the aims of the national development plan – "2014–2018 All for a Better Life Plan".

10. Institutional arrangements	***Leading institution***	Ministry of Development and Social Inclusion (resources' management) and Ministry of Education (implementation and accountability).
	Supporting institutions	Ministry of Agriculture and Economic Development, WFP, FAO, non governmental organizations and the private sector.
11. Financing	***Annual budget***	USD 16 million (2015)[31] The total investment for school meals for the same year is USD 21.5 million with the contribution of partners.
	Cost per child per year	USD 13.6 (2015, government PAE)
12. Achievements/innovations		Coverage gradually increased until it became universal, thanks to the Government's commitment and provision of 87 percent of the total investment (2015). Government resources are channelled through a trust fund managed in accordance with WFP policies. The School Meal Programme has achieved a link with productive networks. At least 70 percent of the distributed foods are bought in the country. All of the fortified corn flour, rice and beans are purchased in the domestic market and 59 percent of the beans are purchased from smallholders. With the purpose of diversifying the food basket and introducing animal protein sources, fresh fruit, vegetables and eggs have been introduced in specific regions since 2015 with a coverage of some 45,000 students. Approximately USD 650,000 was invested in decentralized purchases from family farming through Mancomunidades and the inclusion of productive offers by Cajas de Ahorro y Credito. An alliance with WFP's Purchase for Progress (P4P) initiative has maximized the PAE's purchasing potential, offering a reliable market for more than 14,400 smallholders through agreements adjusted to their capacities.
13. Challenges		Consolidate a specific legal and standards framework and develop guidelines and systems for school meals. In particular, robust local purchasing, monitoring and accountability systems are needed. Ensure a constant food supply throughout the year, with quality and safety standards. The budget assignment is not sufficient for covering a basic ration and fresh food complements for the entire school year. Expand the coverage of the fresh product component. The decentralized fresh product purchasing budget is not included in the country's national budget; this jeopardizes its sustainability. Gradually extend the current local purchasing models to smallholder producers' organizations in order to achieve full-scale coverage (starting with the 141 priority municipalities).

[30] *Agreement between WFP and the Government of Honduras for strengthening school meals in Honduras. Official Notice No. 217/2015 – SSIS/PRAF. 2 February 2015.*

[31] *WFP contributed USD 1.9 million through the country programme and Catholic Relief Services (CRS) contributed USD 3.4 million. Source: WFP Information System (WINGS).*

Mexico	
1. Programme name	**School Breakfasts**
2. Starting year	1929
3. Objectives	Contribute to the food security of the population, served by implementing food programmes of nutritional quality, food guidelines and ensuring quality food production.
4. Targeting	**Geographical and individual targeting:** The State System for Integral Family Development (SEDIF, its Spanish acronym) defines the focus in the respective states. The beneficiaries are children and adolescents at risk in vulnerable conditions who attend schools of the national education system and who live primarily in native indigenous, rural or marginal areas. **Education levels served:** Mainly primary school. The programme also covers preschool and secondary school students.
5. Beneficiaries	6,357,712 students. *2015 beneficiaries, assisted with federal and state resources.
6. Modality, details of the food basket	**Modality:** Cold (prepackaged) or hot (cooked) breakfast. SEDIF designs the menus, which are approved on a national level to ensure compliance with national nutrition standards. In the hot breakfast modality, at least twenty cyclical menus must be offered to ensure variety. **Types of foods:** non-fat milk, fruit, vegetables, whole grains and legumes or animal origin foods (hot modality); milk, whole grains and fresh or dried fruit (cold modality). **Nutritional content:** around 25 percent of the daily recommended energy intake[32] (395 kcal).
7. Food supply, storage and preparation	**Decentralized management**: SEDIF organizes food procurement, storage and transportation; food is procured through calls for tender or by direct contracting with a public institution, in accordance with the Federal or State Public Administration Procurement, Leasing and Services Law. In the case of hot breakfasts, the school committee is in charge of storing, preparing and serving the food. Teachers are mainly in charge of serving cold breakfasts.
8. School health and nutrition activities	**Nutrition education:** Among concrete educational activities are clubs where children learn about food and nutrition, school gardens, and online educational programmes with food themes. Talks and workshops are carried out to promote healthy habits, mainly focusing on eating, physical activity and hygiene habits, but coverage is still low. These talks and workshops address both students and teachers, parents and food preparation committee members (in hot modality).
9. Policy and regulatory framework documents	There is no specific school meal law; however, a coordinated set of social, health and tax assistance laws, as well as standards related to food assistance and the promotion of a healthy diet cover for it. The programme is linked to national development plans and strategies and is envisaged in health and obesity strategies (National Crusade Against Hunger, National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes).[33, 34]

[32] *Bourges, H., Casanueva, E. and J. Rosado. 2009. Nutrition Intake Recommendations for the Mexican Population. Editorial Médica Panamericana, Mexico D.F.; Federal Government of the United Mexican States (2010). General Guidelines for the Supply and Distribution of Food and Drinks in School Consumption Establishments of Grade School Education Centres. Secretariat for Health, Mexico D.F.*

[33] *The National Crusade against Hunger is a comprehensive social and participatory policy strategy. For further information, refer to http://sinhambre.gob.mx.*

10. Institutional arrangements	***Leading institution***	The SEDIF coordinates. It forms part of the health sector and the president's social cabinet. SEDIF implements on the level of each state.
	Supporting institutions	Municipal Integral Development of Families (DIFs, its Spanish acronym) and municipal administrations. Coordination with other institutions within the framework of the National Crusade Against Hunger and the National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes. At the state level, SEDIF is linked to universities, other government sectors and civil society organizations.
11. Financing	***Annual budget***	Mex$ 7,919,341,217 (USD 499.7 million) in 2015.[35]
	Cost per child per year	n/a
12. Achievements/innovations		- Reducing foods high in sugar, fat and sodium, and encouraging the addition of fresh vegetables and fruit. - The Guidelines for Comprehensive Social Food Assistance Strategy (SNDIF 2016, its Spanish acronym)[36] are applied to all food assistance programmes. - Decentralized implementation empowers local institutions and communities and ensures flexibility and quality. - Open communication on different levels. - The incorporation of school and community gardens, and the increase of local fresh food purchases.
13. Challenges		- Operation of the programmes depends on the states' and municipalities' capacity, which is not uniform and is weakened by the frequent rotation of personnel; inter-sectoral coordination is not always effective. - It is necessary to continue refining information, follow-up and monitoring systems, as well as targeting systems. - There is no specific budget for the educational component. - Purchases from local producers and the implementation of gardens depend on school committee resources, SNDIF and SEDIF. The implementation of gardens does not always imply an agro-ecological handling nor are they used to include the educational component. - Thorough review of the quality of the food that is distributed through the programme; the incorporation of foods that are foreign to the food culture of communities.

[34] *Federal Government of the United Mexican States. 2013. National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes. Secretariat for Health, Mexico D.F.*

[35] *Calculated on the basis of the Partial Performance Report of the State Annual Project (IPPEA, its Spanish acronym) of each of the 32 states for the year 2015. Rate of exchange: World Bank: http://data.worldbank.org/indicator/PA.NUS.FCRF.*

[36] *National System for the Integral Development of Families. 2016. Guidelines for the 2016 Comprehensive Social Food Assistance Strategy. National DIF, Mexico City.*

Nicaragua		
1. Programme name		Integral School Nutrition Programme (PINE, its Spanish acronym)
2. Starting year		1994
3. Objectives		Ensure schoolchildren's human right to proper food within the framework of the Ministry of Education's functions regulated in Law 693 "Sovereignty and Food and Nutrition Security" (2009). Improve the quality of education, encouraging students to stay in school, lowering school dropout rates, as well as contributing to improvement of the nutritional status of boys and girls in poor and high food and nutritional insecurity areas.
4. Targeting		Universal coverage Educational levels served: Preschool and primary schools; rural Saturday high school. Public and private schools subsidized in rural, urban and peri-urban areas.
5. Beneficiaries		1,200,000 students in 2015. PINE covers some 75 percent of the beneficiaries, the remaining 25 percent is covered by WFP and other international organizations.
6. Modality, details of the food basket		Modality: Snack. Types of foods: Grains (corn, rice), beans, fortified grains and oil (same daily basket). Nutritional content (calories): Aim of 30 percent of nutritional requirements.
7. Institutional arrangements	***Leading institution***	Ministry of Education
	Supporting institutions	Ministry of Health, ENABAS,[37] WFP and other non-governmental organizations.
8. Food supply, storage and preparation		Food is procured by PINE on a centralized level. PINE hires private transport to distribute food to municipalities. School meal committees (CAEs, its Spanish acronym) are in charge of transferring, handling and preparing food, following instructions from the guide for the operation of CAEs (PINE, 2012) and the Guide for a Nutritious and Healthy School Diet (PINE, 2011).
9. Financing	***Annual budget***	PINE: C$ 917 million; (USD 33.6 million) in 2015.[38] The total investment for school meals in the same year was approximately USD 44.8 million with the contribution of partners. *Amount estimated by PINE.
	Cost per child per year	C$ 996 (USD 36.55).
10. Policy and regulatory framework documents		School meals do not have a specific legal basis. It is part of the national 2012–106 development plan (2012), the country's educational policy and the National Early Infancy Policy "Love for the smallest boys and girls" (2011). Law 693 "Food and Nutritional Sovereignty and Security" (2009) sets principles and functions that are relevant to PINE. Law 737 of State Contracts (2009) regulates food purchases, transportation payments and other processes.

11. School health and nutrition activities	**Educational actions:** Integration of health and food and nutrition security education into the national basic curriculum; manual for teachers on food and nutritional security; nutrition and hygiene guide for school kiosks; nutrition education for school meal committee members; school gardens. **Nutritional monitoring in schools** (Ministry of health): Supplementation of micronutrients; annual deworming campaign covering all preschool and primary schoolboys and schoolgirls (Ministry of Health); clean drinking water and basic sanitation in certain school centres.
12. Achievements/innovations	- Strong integration of the community in the implementation; school meals have also been a mechanism for getting fathers and mothers closer to schools. - The Ministry of Education has developed through PINE educational actions related to the curriculum in food security and nutrition, school gardens, school kiosks, working together with the Ministry of Health, and with international specialized organizations such as the Institute of Nutrition of Central America and Panama (INCAP) and other United Nations organizations. - Regulations set the hygiene-sanitation requirements for kiosks and cafés in educational institutions.[39] - Integration into social-protection strategies. According to the 2014 Measurement of Standard of Living Survey,[40] the school snack contributes 2.8 percent of per capita income in rural areas and 4.5 percent of the income of the extremely poor population. In response to the drought, preschool and primary-school students have since 2014 been receiving a second hot snack every day in schools in the dry corridor.
13. Challenges	- The programme maintains the initial design, with a set and uniform food basket. There is no menu defined according to the food needs of the different age groups. - PINE has no links with national production. The legislation in force does not facilitate purchases from smallholders. - Maintaining food safety is a challenge; there are no proper storage conditions in most of the school centres. - The government must have the logistic support of partners to hire food transportation services. - There is no monitoring system.

[37] *This is the state company that sells food purchased by the Government, and where WFP currently stores food.*
[38] *Rate of exchange: World Bank: http://data.worldbank.org/indicator/PA.NUS-FCRF.*
[39] *Nicaraguan Obligatory Technical Standards for Kiosks and Cafés of Educational Centres. Public health and hygiene requirements. NTON 03 085-09. Approved 22 April 2010, published in La Gaceta No. 199 of 19 October 2010.*
[40] *National Development Information Institute (INIDE, its Spanish acronym). 2016. INIDE 2014 National Standard of Life Measurement Survey, 2016.*

Panama		
1. Programme name		Complementary School Meals Programme
2. Starting year		1995 (beginning of school meals in the country: 1951)
3. Objectives		Contribute to the improvement of the Panamanian student population's nutritional and health status, complementing dietary needs and helping the teaching and learning process.
4. Targeting		**Universal coverage** Educational levels served: Preschools and primary schools. Public schools in rural, urban and peri-urban areas.
5. Beneficiaries		499,137 students in 2015.[41]
6. Modality, details of the food basket		**Modality:** Light snack. Types of foods: 34 g of fortified biscuits and a dairy drink or fortified cream. There are cases where schools gardens, as well as chicken farms, supply the additional meal prepared. Nutritional content: 320 to 330 kcal (22 percent of the daily nutritional recommendations for the school population),[42] ten vitamins; three Omega-3 minerals.
7. Institutional arrangements	***Leading institution***	Ministry of Education
	Supporting institutions	Municipalities, non-governmental organizations, Ministries of Health, Social Protection, Agriculture (school gardens); WFP; private companies.
8. Food supply, storage and preparation		**Centralized management:** The Ministry of Education purchases on a centralized basis through an annual call for tenders from private companies who are responsible for delivering food to schools. In the three indigenous territories, or comarcas, Bocas del Toro, Veraguas and Darien, the deliveries are made directly to schools. In rural areas in the other provinces, in certain cases, teachers and parents take the food from the collection centres to schools in remote areas.
9. Financing	***Annual budget***	USD 21.3 million in 2015.
	Cost per child per year	The budget assigned per student is USD 42.7 per year (2015).

[41] *Additionally, two private foundations serve 9,700 students.*

[42] *Institute of Nutrition of Central America and Panama, Pan-American Health Organization, Editor. Institute of Nutrition of Central America and Panama's (INCAP's) Daily Dietary Recommendations. Guatemala: INCAP, 2012.*

10. Policy and regulatory framework documents	**School meals fall under the Education Law**[43] and the 2009–2015 National Food and Nutrition Security Policy. Law 35 of 6th July 1995 establishes access to a daily light snack in all official preschool and primary schools in the country. Resolution 387 of March 1997 regulates the programme in order to ensure its proper functioning; Law 22 of Public Contracts of 2006 and all its amendments regulate procurement.
11. School health and nutrition activities	**Educational actions:** Educational material is distributed on food guides on a national scale; training for teachers on nutritional issues; school gardens. **Nutritional monitoring in schools:** Annual deworming in primary schools; clean drinking water and basic sanitation.
12. Achievements/ innovations	- High nutritional quality foods are distributed. The drink is designed by nutritionists of the Ministry of Education, the University of Panama and dairy companies. Adjustments were made in 2015 to the formulation in accordance with the Institute of Nutrition of Central America and Panama's (INCAP's) new recommendations, decreasing sugar content. - Better controls have been defined for procurement management and the criteria for verifying quality have been adjusted, particularly in the analysis of bromatological and microbiological control. - For fathers and mothers that opt for preparing lunch boxes, the Ministry of Education has implemented Disk-Lunch Boxes, a chart that shows how to prepare three different and healthy snacks for 30 days of consumption. This material has been distributed at the national level to all educational centres. - With the Extended School Day Project, fresh products are being procured for school meals (animal products, fruit and vegetables). - Bill of Law 313's objective is to regulate the creation of school lunchrooms in order to incorporate the public-private alliance system, for the creation, maintenance and operation of school lunchrooms and school gardens, offering tax incentive plans in return.
13. Challenges	- The infrastructure of some centres makes it difficult to access and store food in remote areas. - Monitoring and supervision of the different levels of food deliveries. - Purchasing processes could be optimized for greater efficiency. There are currently no links with local farming. - The sale of non-recommended foods in kiosks and cafeterias is currently being discussed in parliament.

[43] *Legislative Assembly: Law No. 34 of 6 July 1995 (which amended the Education Organic Law and formalized the creation of the National School Nutrition and Health Administration).*

Paraguay		
1. Programme name		**Paraguay School Meals Programme (PAEP, its Spanish acronym)**
2. Starting year		2014 (beginning of school meals in the country: 1995)
3. Objectives		Attend students' nutritional needs during their stay at school in order to generate healthy eating habits and lifestyles, while contributing to improving school performance and staying in school.
4. Targeting		**Coverage:** Universal. This is gradually achieved with priority for indigenous educational institutions and those with a greater vulnerability and poverty rate. **Educational levels served:** Pre-primary, primary (first and second cycles) and secondary school. Schools under official management and certain subsidized private schools, according to criteria set by the Ministry of Education and Culture.
5. Beneficiaries		1,085,942 students in 2016.
6. Modality, details of the food basket		**Modality:** Breakfast/snack or collation and, in certain schools, lunch. **Types of foods:** Breakfast: milk and solid food (cookies, madeleines, breadsticks/donuts, loaf bread, peanut-based food, grains, crackers, chipa pirú, honey, fresh fruit (bananas). Lunch: fresh meals that include a main dish, salad and dessert. **Nutritional content:** Breakfast/snack: 20 percent of the total caloric count (360 kcal); lunch: 25 percent (450 kcal); collation: 15 percent (270 kcal).[44]
7. Institutional arrangements	***Leading institution***	Ministry of Education and Culture
	Supporting institutions	Ministry of Public Health and Social Welfare through the National Food and Nutrition Institute (INAN, its Spanish acronym); and Ministry of Agriculture. FAO brings technical assistance.
8. Food supply, storage and preparation		Management led centrally by the Ministry of Education and Culture, with decentralized execution to governors and municipalities. They outsource the service to private companies through public calls for tenders, and the companies awarded provide the service according to the modalities. Lunches may be distributed by companies (catering system) or cooked in schools, always by companies. The technical and administrative guidelines set the general orientation for the implementation of the PAEP. There are standard specification forms for the snacks and the school meals.
9. Financing	***Annual budget***	2016 approved budget: USD 102 million.
	Cost per child per year	The budget per child per year varies according to the locality and modality. **Asunción (capital):** Breakfast/snack: USD 92; lunch: USD 430 (catering service); collation: USD 231. **Departments:** Breakfast/snack: USD 75; lunch: USD 288 (prepared on school premises by private companies) – USD 375 (catering service); lunch prepared on school premises with direct purchases from family farmers: USD 203.

10. Policy and regulatory framework documents	The programme has its legal basis in Law 5210/2014 "On School Meals and Sanitary Control" (2014) and its Decree No. 2366/2014. In addition, Law No. 4758/2012 created the National Public Investment and Development Fund (FONACIDE, its Spanish acronym) and ensures finance resources. Several resolutions regulate administrative procedures and the purchasing process, including the decree on the simplified process of product procurement from family farming.[45]
11. School health and nutrition activities	Educational actions: PAEP has a legal basis and pedagogical support from the legal regulations in force. Its essence is the development and promotion of food education. The sanitary control component includes nutritional monitoring in schools; annual deworming, education on health, among others.
12. Achievements/ innovations	- Since 2013, Paraguay has made major progress in constructing a public school meals policy, generating PAEP's standards and operating instruments and establishing a school meal administration. It seeks to determine a comprehensive proposal focused on universal, equitable and sustainable rights. - With the budget assigned, breakfast/snack was able to progress to a national coverage of 70 percent of the students enrolled, with the clarification that school meals are not served on all school days as specified in the regulations; and of 25 percent with school lunches. - Incorporation of the educational focus of school meals through nutritional food education. PAEP has a pedagogical basis and support from the legal regulations in force.
13. Challenges	- The regulations determine the interaction with family farming producers and establish a complementary contract modality for family farming products (Decree 3000/2015 and Resolution DNCP 815/2015), but that sector still needs to be strengthened. - The institutions were not prepared to face the new challenges; the capacity for resource management needs to be strengthened. - Although Law 5210/14 poses the question of the universality of school meals, this cannot be achieved yet due to a lack of funding. All of the programme's components must cover all students gradually. - The improvement of school meals services, adapted to students' nutritional needs and according to the laws in force. - Install nutritional food education in educational institutions as the programme's ultimate aim and use the school meals service as a strategy. - Promote participation of all members of the educational community in PAEP's implementation process in order to ensure social control.

[44] *The total caloric value per day varies according to the age group; the average is 1,800 kcal. Food Guides of Paraguay 2015 based on Human Requirements of FAO/WHO/UN 2004.*

[45] *Resolution No. 3285/2014 (administrative procedures for delivery of the programme's reports); Resolution No. 128/2015 (general requirements and conditions for the provision of school meals); Resolution No. 233/2015 (approves the standard tender guidelines and conditions for procurement of inputs for school meals); Resolution DNCP No. 1271/15 (technical specifications of the foods included in the standard tender guidelines and conditions).*

Peru	
1. Programme name	**"Qali Warma" National School Meals Programme**
2. Starting year	2012[46] (beginning of school meals in the country: 1977)
3. Objectives	Ensure quality school meals during all school days for the beneficiaries of the programme according to their characteristics and the areas where they live; contribute to improving the concentration of students in class, encouraging their attendance and remaining in school; promote better eating habits among students
4. Targeting	Progressive universal coverage in preschools and primary schools; secondary schools in indigenous towns of the Peruvian Amazon. Educational levels served: preschool, primary and secondary schools (the latter in indigenous areas). Public schools in rural, urban and peri-urban areas.
5. Beneficiaries	3.5 million girls and boys in 2015
6. Modality, details of the food basket	**Modality:** Two rations a day (breakfast and lunch) in districts located in the first and second quintiles of poverty: one ration a day (breakfast or lunch) in the other districts. **Types of foods:** (1) Products: non-perishable, primary or processed foods that are used for preparing breakfasts and lunches. (2) Rations: foods prepared for immediate consumption or industrially packaged, processed in accordance with the programme's nutritional contents. Local products are included (quinoa, kiwicha, purple corn, among others), eggs and industrialized drinks (enriched milk, milk and cereal). **Nutritional content:** The energy and nutrient content of a food ration is differentiated according to the type (breakfast and lunch) and educational level. Between 20 percent and 40 percent of the daily energy requirements when there is one serving and between 55 percent and 65 percent of the daily requirements when there are two rations.
7. Food supply, storage and preparation	The purchasing process is decentralized and operates through purchasing committees made up of public institution representatives (local government and health) and representatives of parents. They lead the purchasing process, evaluating and awarding suppliers, in accordance with the procedures set by the programme's purchase manual. School Meal Committees (CAE, its Spanish acronym) monitor food reception, distribution and consumption. In the case of food prepared in schools, they prepare food in coordination with parents and teachers.
8. School health and nutrition activities	The programme's educational component seeks to promote better eating habits among students as well as other stakeholders involved in the implementation of the service (CAE technical teams, purchasing committees, etc.). Nutritional monitoring in schools (within the framework of the activities of the school health plan Aprende Saludable) and school gardens.
9. Policy and regulatory framework documents	The Qali Warma School Meals Programme is found within the framework of the "Include to Grow" National Strategy (2013) and Education Law 28044 (28 July 2003); it was created by Supreme Decree 008-2012-MIDIS[47], which details its objectives and scope. Several resolutions direct the implementation. The programme also has a food service management manual and several manuals for CAEs, guides and recipe books. The School Meal Framework Bill of Law is under approval process.

10. Institutional arrangements	***Leading institution***	Ministry of Social Development and Inclusion
	Supporting institutions	Ministries of Education and Health
11. Financing	***Annual budget***	1,270 million nuevo sol (USD 399 million) in 2015.[48]
	Cost per child per year	USD 113 (estimated)
12. Achievements/innovations		The programme served 97 percent of the boys and girls enrolled in public schools at preschool and grade school levels in 2015, with public financial resources. The co-management and co-responsibility strategy, where the state and organized communities participate in synergy and jointly perform the service, ensuring public participatory and transparent processes. The food factsheets "bank" determines the technical quality and safety requirements. This was developed together with the competent sanitary authorities. Based on product requirements and the standards set by the programme, private companies have adjusted their production, such as industrialized dairy drinks, with lower amounts of sugar and fat, or biscuits with Andean grains. They have a Comprehensive Operating Management System (SIGO, its Spanish acronym) which registers online information on the supervision and monitoring of production plants, warehouses, providers and educational institutions. Promotion of social surveillance committees, which are made of 301 accredited observers.
13. Challenges		Limitations in having precise information on the activity or inactivity status of certain educational institutions, mainly in rural areas. Rotation of the executive staff of educational institutions hampers planning of training and entails a constant updating of school meal committees. The national industry needs to make more robust offers in order to comply with the requirements and thus prevent failed purchasing processes. Local producers and family farming have not been bolstered to produce foods that comply with the programme's requirements and demands. Ensure the logistic chain in remote zones, mainly in the Amazon area. Strengthen participatory mechanisms in the programme's management, of local authorities, community representatives and the general population, with the aim to have them appropriate the programme and ensure its sustainability.

[46] *Supreme Decree No. 008-2012*

[47] *Amended by Supreme Decree 006-2014-MIDIS to be able to amplify its extent to high school institutions of the Peruvian Amazon.*

[48] *Financial Administration System – SIAF, its Spanish acronym, of the Ministry of Economy and Finance. Rate of exchange: World Bank: http://data.worldbank.org/indicator/PA.NUS-FCRF.*

Printed: July 2017

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