Food and Agriculture Organization of the United Nations

SYSTEMATIZATION OF THE **SUSTAINABLE SCHOOL FEEDING MODEL** AND PROPOSITION OF RECOMMENDATIONS AS WAY FORWARD TO THE GOVERNMENT OF BELIZE

MESOAMERICA HUNGER FREE AMEXCID-FAO IN BELIZE

Mesoamérica Hunger free
Cooperation and policies for food security

AMEXCID
AGENCIA MEXICANA DE COOPERACIÓN INTERNACIONAL PARA EL DESARROLLO

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ABBREVIATIONS AND ACRONYMS

AMEXCID	Mexican Agency for International Cooperation for Development
BAHA	Belize Agricultural Health Authority
CELAC	Community of Latin American and Caribbean
CND	Chronic non-communicable diseases
FAO	Food and Agriculture Organization of the United Nations
FNE	Food and nutrition education
FNS	Food and nutrition security
HFLE	Health and family life education
HFLACI	Hunger Free Latin America and the Caribbean Initiative 2025
IICA	Inter-American Institute for Cooperation on Agriculture
MICS	Multiple indicator cluster survey
MOA	Ministry of Agriculture, Fisheries, Forestry, Environment, Sustainable Development and Immigration
MOE	Ministry of Education, Youth, Sports and Culture
MOH	Ministry of Health
MOHD	Ministry of Human Development, Social Transformation and Poverty Alleviation
NGO	Non-governmental organization
NFNSC	National Food and Nutrition Security Commission
NSSFTMC	National Sustainable School Feeding Technical Monitoring Committee
PFH	Parliamentary Front against Hunger
PAHO	Pan American Health Organization
PTA	Parents and teachers association
SFP	School feeding programme
SDG	Sustainable Development Goals
SS	Sustainable schools
UNICEF	United Nations International Children's Emergency Fund
UNDP	United Nations Development Programme
WHO	World Health Organization

SUMMARY

Following the trend of many other countries worldwide and in Latin America and the Caribbean, Belize has been putting a lot of effort redesigning, scaling-up and strengthening its national school feeding programme, as a strategy to promote food security and nutrition in the country.

Belize is strengthening its school feeding programme through the implementation of a pilot project of a model called "sustainable schools" (hereinafter referred to as SS) in four communities in the Toledo district (Pueblo Viejo, Santa Elena, Santa Cruz and San Antonio) in the southern part of the country.

This model is based on six main components and establishes the necessary methodologies, steps and parameters for a sustainable national school feeding programme; one that goes beyond just providing food to poor or vulnerable children and is based on the human right to food. The six components are:

1. inter-institutional and intersectoral coordination;
2. social participation;
3. adoption of healthy, adequate and culturally appropriate menus;
4. food and nutrition education through educational school gardens;
5. establishment of direct purchases from family (small-scale) farming for school feeding; and
6. improvement of school infrastructure for school feeding.

The pilot project is a learning and demonstration space. It contributes to the creation of the bases to scale-up the SS model towards a sustainable national school feeding programme, as well as develop a national policy of sustainable school feeding while, at the same time, strengthening the country´s governance and institutional mechanisms for designing, implementing and monitoring its programmes and public policies for food security and nutrition. Through this experience, Belize has become one of the six caribbean countries, along with Granada, Guyana, Jamaica, Saint Lucia and Saint Vincent and Grenadines, where school feeding models have been piloted with FAO's technical assistance, inspired by the brazilian experience with its school feeding programme.

Mesoamerica Hunger Free AMEXCID-FAO is a South–South and Triangular Cooperation initiative, jointly led by the Mexican Agency for International Development Cooperation (AMEXCID) and the Food and Agriculture Organization of the United Nations (FAO), currently under implementation in nine countries (Belize, Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama). The pilot project of the sustainable schools model in Belize has been implemented within the framework of this programme, which contributes strengthening institutional mechanisms and public policies focused on eradicating hunger and promoting rural development.

This document is aimed at presenting the systematization of the SS model pilot implementation in Belize, and it describes the implementation process of the pilot project, from its beginning in early 2016 to November 2018.

Primarily, a brief introduction is made on the importance of school feeding programmes as a strategy towards compliance with the 2030 Agenda and Sustainable Development Goals (SDG), and for the promotion of food security and nutrition, education, health and social protection of the students and the community.

Secondly, some general information on agriculture, food security and nutrition, and existing school feeding and school garden programmes and initiatives of Belize is presented.

The following section addresses the concept and methodology of the SS model.

Next, a critical analysis of the implementation of the six components of the SS model is provided, focusing on its process, challenges, results, as well as on the lessons learned and best practices identified.

Lastly, recommendations for scaling-up the SS model and for the improvement and strengthening of the national school feeding programme in the country are presented.

It is expected that this publication will contribute to the strengthening of the coordination among the sectors involved in school feeding and the institutionalization and sustainability of the school feeding policies in the country, so that, in the medium and long term, the school feeding programme of Belize can contribute to food security and nutrition, the human right to food, as well as to the health and social development of its citizens.

KEY FINDINGS

I. A fundamental axis of the sustainable schools model with respect to the construction of a public policy as to a sustainable school feeding programme, in Belize and other countries where the model has been implemented, has been to work towards the change of paradigm from a food assistance programme aimed at vulnerable populations to a rights-based programme linked to health, education, agriculture, and social and sustainable development. This process has already been initiated in Belize as a result of the implementation of the pilot project.

II. With the creation of a national inter-institutional and intersectoral technical committee for the implementation of the pilot project in Belize, it has become clear that it is possible to have different sectors, institutions and actors working together and developing comprehensive and coordinated strategies and actions related to food security and nutrition, education, school feeding, health, agriculture, social development, among others. This greater coordination, in addition to having contributed to the better execution of the pilot project, has already generated concrete results, specifically regarding the national school feeding programme and food security and nutrition in the country.

III. The greater coordination achieved among the District Education Office, the District Agriculture Office, district staff from the Ministry of Health, local organizations and actors of Toledo district was fundamental for the implementation of the various components of the model, especially for the implementation, maintenance and use of the educational school gardens, and the purchase from the local family (small-scale) farmers. However, it is necessary to strengthen further this coordination through the creation of an inter-institutional and intersectoral committee at district level, which will also facilitate communication between the national and community levels.

IV. Various actors and local structures already in place in the four communities and schools, especially the school feeding committees, have been strengthened during the process. The school community became fully aware of the importance of school feeding and was committed to actively participating in the pilot activities, especially the volunteer mothers who helped in the kitchen. However, the lack of resources to guarantee the provision of adequate and healthy foods in a continuous manner after the finalization of the pilot could jeopardize the sustainability of their participation and the school feeding initiatives themselves, since families may not be able to subsidize the programme with their own resources.

V. The nutrition plan elaborated, which included current information about the schools' conditions, the nutritional status of the students, the food and nutrition education activities implemented, the local family farming production and the new menus developed, was considered essential by the various stakeholders and organizations at a national, local and community level. They could use it as a resource to plan and implement the various activities of the pilot project.

VI. A total number of 652 students from four schools of Toledo district participated in the pilot project and received fresh, healthy, diverse foods in a pleasant environment conducive to healthy eating practices, for 13 to 20 days in 2018, five times a week.[i] According to principals of San Luis Rey and Santa Cruz, during this period, the schools' attendance increased up to 100 percent, as well as the students' attention in class.

VII. The MoE has been promoting nation-wide capacity building trainings for the schools on how to incorporate food and nutrition education and other health-related topics into the school curriculum. The pilot project strengthened the food and nutrition education component and other associated topics in the four schools through awareness and capacity building trainings with national, local and community stakeholders. The training highlights the potential of the school environment, the school feeding and the school gardens as channels to link nutrition, health, environment and school lunch to the core curriculum. Nonetheless, there is a need for further strengthening of food and nutrition education in the four schools, especially regarding the use of appropriate methodologies.

VIII. The methodology of the food and nutrition education component promoted by the SS model, including the educational school garden, led to a stronger coordination among the MoE, MoA, and MoH at national and district levels, which in turn generated a more integrated view of food and nutrition education and of the school gardens, thus contributing to a better execution of actions at the school level. Nonetheless, it is necessary to continue strengthening the strategies and actions around these issues, as well as the capacities of all the actors involved, in a continuous and participatory manner.

IX. Throughout the whole process of implementation of the SS model, numerous awareness–raising and capacity building trainings were carried out for the various stakeholders involved at all levels (national and district government representatives and staff, community leaders and organizations, principals, teachers, parents, cooks, farmers). It is important to continue providing trainings, on an on-going basis, based on their realities and needs.

X. It was possible to validate and implement a model of procurement from local family (small-scale) farming for the four schools. The farmers of Toledo district were able to provide many local products for schools, in adequate quality and quantity, at fair prices. Vegetable production is scarce in Toledo. Therefore, it would be important to strengthen the technical assistance provided to local farmers, so that they could diversify and increase their production to meet the demands of the four schools, as well as other schools in the district.

XI. All four pilot schools have adequate infrastructure for school feeding, which includes kitchen, storage and lunchrooms, as well as utensils and stoves.

i The 652 students received school feeding for an additional 40 days during 2019.

1.

INTRODUCTION

The majority of the countries in the world offer some sort of school meal to their students of preschool, primary or secondary education. The various school feeding programmes are largely diverse in relation to their history, institutional mechanisms, coverage, supply modalities, costs, management system, among others. Depending on the region and country, they have been implemented with different objectives, whether to meet social needs and provide a social safety net for the students, or to support adequate child development through improved education, health and nutrition.[1]

These programmes attract children to schools, contributing to the provision of quality basic education for all and to increased learning capacities, to the fight against hunger and poverty, and to reduce child mortality. They also have the potential to foster healthy eating habits, thus helping in the prevention of malnutrition problems, particularly those directly or indirectly linked to food consumption habits.

This is especially important considering that many countries in the world face various challenges that affect food security and nutrition, as well as the health of their population. In the Caribbean, these challenges include increasing levels of poverty and youth unemployment; strong dependence on imported foods, mostly processed; a decline in the production of many food items, especially fruits and vegetables; consumption of excessive kilocalories (mainly energy-dense processed foods, low in nutrients and high in fats, oils, sweeteners and sodium); and decreased consumption of local root crops, tubers, fruits and vegetables, which leads to rising levels of overweight and obesity and the increasing incidence of chronic non-communicable diseases.[2, 3]

In addition, some countries in the Caribbean still face the double burden of malnutrition, in which undernutrition or micronutrient deficiencies coexist with overweight and obesity at the national, community, household and even individual levels.[4]

Undernutrition and micronutrient deficiencies in early childhood are associated with long-lasting developmental deficits with an impact on cognitive development, school performance and psychosocial functioning. In addition, hungry or undernourished children are more likely to get sick and miss school, are irritable and have difficulty concentrating, and have low energy, which can compromise their work capacity in the future.

On the other hand, obesity in young people is related to high levels of blood cholesterol and high blood pressure, and some very obese young people suffer from immediate health problems (respiratory disorders and orthopaedic problems). Overweight in childhood and adolescence has been associated with an increase in mortality in adulthood. Moreover, obese children and adolescents are usually excluded from peer groups and discriminated against by adults, suffer from psychological stress, suffer from body image discrimination and usually cohabit with low self-esteem.[5]

Tackling all these issues will require the development and implementation of multisectoral strategies and concentration of efforts to improve the health, food and nutrition of people in a sustainable manner, through cross-cutting and coherent food, nutrition, agriculture and social policies, programmes and plans that are well-coordinated among all sectors (governments, civil society, the private sector, the media) at international, regional, national and community levels. At the same time, policies should be in place to guarantee favourable environments for all, in terms of access to healthy, adequate and safe foods, and to promote awareness raising and empowerment of the individuals, so that they can make appropriate, more informed and responsible consumption decisions.[6, 7]

The school setting (including childcare centres and preschool) has been strongly recognized as a promising target for intervention in many policy frameworks and strategies launched on nutrition, overweight and obesity-related health issues by international organizations, as they provide the most effective way of reaching large numbers of people, including youth, school staff, families and community members.[8]

As a result, in many countries over the last years, school feeding programmes have undergone significant changes in their initial conception, objectives, coverage, purchasing modalities, as well as in their institutional, social participation and monitoring and evaluation mechanisms. They have also incorporated other elements, in addition to food provision, such as food and nutrition education, educational school gardens and regulations for school vendors in order to provide better food and promote healthy eating habits.

Currently, due to its wide potential reach, school feeding is widely recognized as an intersectoral strategy for social protection and as an important education, health, agriculture and social development public policy for the realization of food security and nutrition and the fulfilment of the human right to adequate food.

Moreover, school feeding programmes are viable market options for local family farmers, thus contributing to sustainable and local development and improving the consumption and production of domestic food.[ii] As a result, these programmes are included in the agenda of the Community of Latin American and Caribbean States (CELAC, in Spanish), under pillar 3: "Nutritional wellbeing and assurance of nutrients for all vulnerable groups, respecting the diversity of eating habits". They can also contribute directly to the achievement of many of the Sustainable Development Goals (SDG), such as goal 2, eradicating hunger, achieving food security and improving nutrition and promoting sustainable agriculture; as well as SDG3 and SDG4; and indirectly to SDG5, SDG8, SDG10 and SDG12.[9, 10, 11]

However, the school feeding programmes alone cannot lead to all these results. The positive effects of the school feeding programmes on the health as well as on the physical, social and intellectual development of the students greatly depend on the quality of education, the educational environment, and other maternal and child nutrition and social strategies targeted at the child and youth population. The positive effects greatly depend also on the vision and approach of school feeding adopted, the quality of meals offered and other actions implemented under the framework of the school feeding initiatives.

In addition, the results will only be achieved and sustained if countries plan for the sustainability of their school feeding programmes in the medium and long-term, in order to develop a national sustainable programme. In practice, that means incorporating some strategic elements in their design and implementation, in order to guarantee a comprehensive vision of school feeding that goes beyond food provision and that incorporates the human rights-based approach, and in order to secure its adequate execution as a long-lasting and effective state policy.

ii The terms "family farming" and "family farmers", used by FAO, will be adopted in this document. Other similar terms that can be used by other organizations and countries are "family agriculture", "smallholder farmer", "small producers" or "small-scale farmer".

BELIZE

Belize is an independent country on the caribbean coast of Central America, with a total land area of 22 700 km². It is considered a small, upper-middle-income developing country. The current population is 374 681.[12] The main ethnic groups are the Mestizos, Creoles and minorities of Mayas and Garinagu.[13]

Available data from 2009 indicates that the poverty level of the country is 42 percent, above the average for Latin America and the Caribbean. The bottom 40 of the population is mostly situated in rural areas, with the highest rates of extreme poverty found in the districts of Corozal and Toledo.[14]

Tourism and agriculture are the main sources of income and employment. Its small-size economy, high dependence on exports and imports, and exposure to natural disasters make the country particularly vulnerable to shocks and volatility.

1. FOOD SECURITY AND NUTRITION INFORMATION

Food security and nutrition has been a concern to the country over the last years.

In 2001, the government ratified a Food security and nutrition policy for Belize and established the National Food and Nutrition Security Commission (NFNSC). The policy outlined key strategies to ensure the sustainable supply, accessibility and use of safe, high quality, nutritious, diversified, and culturally accepted foods for all belizeans to improve their well-being and quality of life.

The Food and Nutrition Policy and Plan of Action for Belize 2010–2015 highlights the need for coordination across sectors (education, health, agriculture) to ensure that there is a comprehensive food security and nutrition information system in place, that includes nutritional objectives into policies and programmes, as well as the implementation of sustainable mechanisms such as integrated farming systems. Several issues are highlighted as critical for government attention and action, which should be addressed by projects developed under six programmatic areas. The school environment and school feeding have been identified as one of the keys strategies for intervention:[15, 16]

1. information, education and communication on food production, preparation, and nutrition;
2. diversified food production, food processing, marketing, storage and credit mobilization;
3. maternal and child care, **school feeding** and caring for the socioeconomically deprived and nutritionally vulnerable;
4. creation of employment and income generating opportunities at the local level;
5. food safety; and

6. analysis and reform of national policies for food and nutrition.

The following recommendations have been proposed concerning schools and the school feeding programme (SFP):

- There is a need to institutionalize the national SFP.
- Ensure that health and family life education is implemented in all schools, as a way to promote healthy lifestyle behaviors, greater awareness and responsibility on healthy food choices and consumption of locally produced nutritious foods.
- Guarantee that healthy food options are available at schools, both through the school feeding programme and through vendors and canteens.

At the same time, on the National Agriculture and Food Policy of Belize (2015–2030), the government also recognizes the need for a competitive, diversified and sustainable agriculture and food sector, which enhances food security and nutrition and contributes to the achievement of the socioeconomic development goals of the country. Ensuring the involvement of the family (small-scale) farming sector in agriculture development is key, which would include raising the level of productivity of family farmers and promoting the linkage of this group to specialized markets, such as schools.[17]

However, as other countries in the Caribbean, Belize is also undergoing a nutritional and epidemiological transition, due to changes in the dietary and lifestyle patterns of the population and to sedentarism, resulting in increased overweight and obesity, in adults and in the children and youth population, as well as increased morbidity and mortality from chronic non-communicable diseases (CND) in adults.

According to the 2011 Global School-based Student Health Survey, prevalence of overweight and obesity on the youth population reached 35.8 percent (32.3 for boys and 39.1 percent for girls) and 12.5 percent (12.5 for boys and 12.5 percent for girls), respectively.[18]

Several factors contribute to unhealthy lifestyle and dietary habits in the country: effective misleading advertising campaigns promoting sugar-sweetened beverages and fatty, sodium-rich snacks; poor knowledge of healthy food options and the consequences of inadequate food choices; lack of healthy food and drink environments, including schools and neighbourhoods; and high imports of processed and semi-processed goods.[19]

At the same time, high rates of stunting (chronic stunting undernutrition) still coexist in children under five years of age. Causes are multifactorial, but usually include a combination of dietary deficiencies, recurrent infections and inadequate sanitary practices and childcare. These conditions end up perpetuating the poverty cycle among the already marginalized and poorer groups, as chronic malnutrition affects children's intellectual capacity and productivity in adults.[20, 21]

According to the Belize multiple indicator cluster survey (MICS) 2015, children under five years of age present high prevalence of chronic undernutrition and overweight.[22]

Table 1. Nutritional status of children under five years of age according to the Belize multiple indicator cluster survey 2015

Nutritional status			
MICS Indicator	**Indicator**	**Description**	**Value**
2.1a 2.1b	Underweight prevalence (a) Moderate and severe (b) Severe	Percentage of children under five years of age who fall below (a) minus two standard deviations (moderate and severe) (b) minus three standard deviations (severe) of the median weight for age of the WHO standard	4.6 0.4
2.2a 2.2b	Stunting prevalence (a) Moderate and severe (b) Severe	Percentage of children under five years of age who fall below (a) minus two standard deviations (moderate and severe) (b) minus three standard deviations (severe) of the median height for age of the WHO standard	15 2.6
2.3a 2.3b	Wasting prevalence (a) Moderate and severe (b) Severe	Percentage of children under five years of age who fall below (a) minus two standard deviations (moderate and severe) (b) minus three standard deviations (severe) of the median weight for height of the WHO standard	1.8 0.5
2.4	Overweight prevalence	Percentage of children under five years of age who are above two standard deviations of the median weight for height of the WHO standard	7.3

Source: Statistical Institute of Belize & UNICEF. 2017. *Belize multiple indicator cluster survey 2015–2016*. Belmopan.

2. AGRICULTURE INFORMATION

Agriculture in Belize is characterized by three main subsectors: (i) a fairly well organized traditional export sector for sugar, banana, citrus and marine products; (ii) a more traditional, small-scale farm sector, producing food mainly for local consumption; and (iii) a well-integrated large-scale commercial sector.[23]

Although family farmers contribute significantly to this, they face considerable challenges to access markets and technical assistance. Many of them and their families suffer from poverty. The need for alternative solutions to diversify production and better integrate these farmers into the Belizean economy constitutes one of the greatest challenges related to food security and nutrition faced in the country.[24]

The National Agriculture and Food Policy of Belize (2015–2030) embraces the urgency to address this challenge. Among the objectives set to strengthen the agriculture sector are: improving the competitiveness of agriculture products, with particular emphasis on raising the level of productivity of family farmers; supporting market driven production; promoting domestic and regional trade opportunities; and increasing resilience of the sector to both natural and economic shocks. Therefore, ensuring the involvement of the family farming sector in the agriculture development is key, which would include raising the level of productivity of family farmers and promoting the linkage of this group to specialized markets, such as schools.[25]

3. EDUCATION INFORMATION

The Ministry of Education (MoE) is the main education authority in the country.

The education system in Belize has its roots in the English system but has been greatly influenced by the U.S. academic syllabus, primarily through the influence of the Jesuits. Students move from eight years primary school to four years secondary school, then on to two years in sixth form (junior college).

The Catholic church, and to a lesser extent the Methodists and Anglicans, through agreements with the government, operate most of Belize's premier public schools under church–state partnership. In Belize City and elsewhere, there are both church and government-aided primary and high schools. There are also private schools in the country.

Most of the better schools with fully trained teachers are located in Belize City and the larger towns in the country. In small southern villages, most teachers do not have formal training and many of the children in these villages do not even finish primary school. According to 2017 and 2018 data from the MoE, 46.8 percent of preschool teachers, 79.2 percent of primary school teachers, and 58 percent of secondary school teachers are trained.[26, 27]

Two out of every five Belizeans overall ever complete high school, and repetitions and dropout rates are high. Data from 2017 and 2018 indicate that the repetition rate is 5.9 percent for primary schools and 6 percent for secondary schools. The dropout rate is 0.6 percent for primary schools and 5.7 percent for secondary schools.[28, 29]

The length of the school year for preprimary, primary and secondary education is approximately 180 school days.

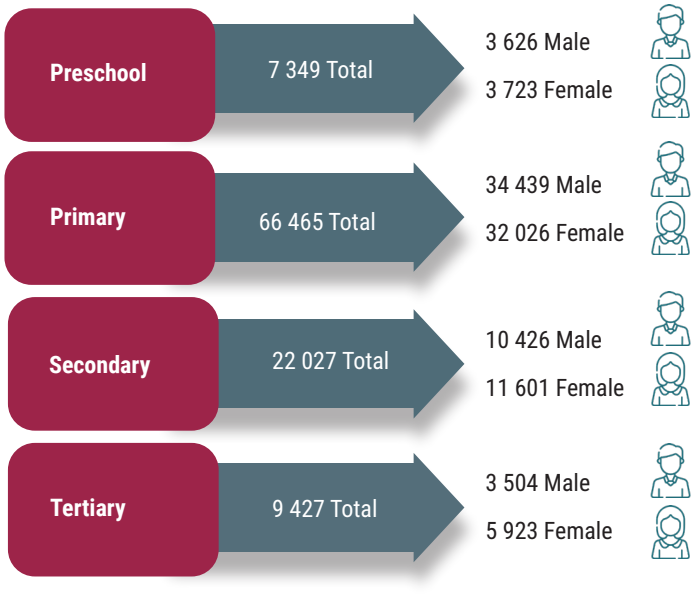
Table 2. General information about the education system in Belize 2017–2018

Levels	Students´ ages	General characteristics of each level	Number of institutions in the country (2017/18)	Number of students enrolled (2017/18)
Preschool education	3 to 5	• Community-supported • Not compulsory	233	7 389
Primary education	6 to 14	• Compulsory • Most are church-related, but receive public funding under the church–state system of management	308	66 465
Secondary education	15 to 18	• Four-year schools offering general education (in most cases including an element of vocational–technical education) and vocational or trade schools offering short-term courses in basic trades (Centres for Employment Training)	59	22 027
Tertiary (higher) education	>18	• Available in Belize City and Corozal • Postsecondary institutions include: sixth-form establishments (junior colleges), offering two years of postsecondary schooling; institutions for professional training (agriculture, nursing, teaching); and universities.	• 11 junior colleges • 2 universities	• 4 167 • 5 260

Source: **Unesco**. 2010. *World Data on Education. 7th edition*. International Bureau of Education.
Ministry of Education of Belize. 2018. *Quick Facts* 2017-2018.

Some of the 2017/18 broken-down education data from the MoE can be seen next.[30]

Enrolment by level and sex



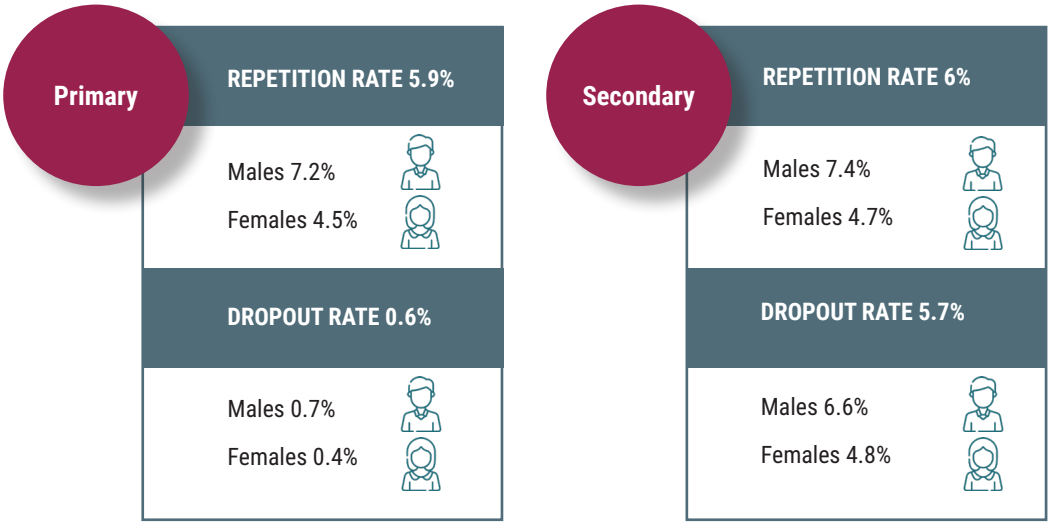
Number of schools, teachers and students by level and urban/rural

		Schools	Teachers	Students
Preschool	Urban	93	231	3 695
	Rural	140	216	3 694
	Total	233	447	7 389
Primary	Urban	85	1 468	18 904
	Rural	223	1 895	37 561
	Total	308	3 363	66 465
Secondary	Urban	30	1 029	15 821
	Rural	29	427	6 206
	Total	59	1 456	22 027
Tertiary	Urban	9	573	8 142
	Rural	5	109	1 285
	Total	14	682	9 427

Number of schools by level and district

District	Preschool	Primary	Secondary	Tertiary
Belize	54	59	18	5
Cayo	48	78	16	3
Corozal	39	42	6	3
Orange Walk	28	42	7	1
Stann Creek	33	32	6	2
Toledo	31	55	6	0

Repetition and dropout rates by level and sex



4. CURRENT SCHOOL FEEDING INITIATIVES

In Belize, even though there is not a national school feeding policy as a single document, there are two school feeding initiatives in operation. The national school feeding programme is funded by the government and managed by the District Education Center of the MoE. However, this programme is limited and only operates in 22 government primary schools (25 sites), located in Belize City, Dangriga and Belize River Valley, and it only covers the most vulnerable students. The SFP provides lunch for 1 200 students, at a cost of BZD 1.73 (USD 0.86). The government has developed a structured programme that is coordinated by the Education Support Services in the MoE.

The majority of the schools under the national school feeding programme do not have kitchens, and the food is prepared by service providers selected through a bidding process. The procurement process is decentralized, done by the service providers, who buy fresh produce from vendors at the markets weekly, and the bulk-dried goods (beans and others) on a monthly basis. Chicken and rice are acquired from local mobile distributors.[31]

As far as the other schools in the country, many manage to offer feeding through funding by the church or thanks to the efforts of the school´s principal and the local community. These local school feeding initiatives are managed by the school feeding committees (formed by members of the parents and teachers association (PTA), principals, students), which were created by the parents to guarantee the provision of meals to the students. Usually, only those students who contribute as low as BZD 0.25 per meal (USD 0.12) receive a hot meal. For some parents, it is difficult to afford even this small amount of money, while other parents do not want their children to eat at school, as they prefer that they have lunch at home. The frequency of food provision in some schools may vary to as low as once a week. The funding comes from the parents and contributions from the school feeding committees, who are responsible for collecting the money from students who wish to receive meals, as well as for purchasing the food items and elaborating the menus jointly with the teachers, principals and parents, which included the following ingredients as part of their food basket:

- fruits: banana, watermelon, oranges, apples, and plums;
- vegetables: cabbage, lettuce, cauliflower, callaloo, tomato, cucumber, carrots, jipijapa, string beans, green peppers, and onion;
- cereals, starch and grains: rice, potato, corn, flour, plantains, cassava, and beans;
- animal protein: chicken, eggs, and pork;
- dairy: none;
- fats and oils: vegetable oil for cooking; and
- sugars: white sugar and bottled juices.

In addition to participating with financial resources, the children's mothers also participate, voluntarily, in the preparation of the meals. The food purchasing is decentralized. The teachers and the members of the school feeding committees volunteer to guide and monitor the purchases of the products and distribution of the meals. Fresh produce and fruits are bought from local farmers, grocery stores and at the nearest market, or are obtained from their school gardens. In addition, sometimes schools receive contributions from community members and parents, and occasional donations (rice and beans) from the non-governmental organization (NGO) Hands for the Needy through the MoE, other NGOs and the private sector, as well as confiscated goods from the Belize Agricultural Health Authority (BAHA).[32]

5. SCHOOL GARDEN PROGRAMMES

Many schools in the country already have their school gardens, which have been established with the technical and infrastructure support from the MoA, whenever the schools meet three criteria required: (i) have one person responsible for the garden; (ii) have an adequate physical space; and (iii) the place must be secured through fencing.

The MoE has encouraged the implementation of the school garden in all their 22 schools that provide meals, but only some of them have implemented it. Likewise, some of the others schools that have their school feeding initiatives funded by the church or the schools themselves have school gardens.

Even though the MoA provides technical assistance for and trainings on the implementation, use and maintenance of the gardens to the school community, there are no standardized guidelines or manuals for the schools with clear methodologies of implementation, management and maintenance that they could consult. In addition, the schools face problems maintaining the gardens during vacation and long holidays and, unless they have a person responsible for them, the gardens go unfunctional and some have to be started all over when the school classes are resumed.

MEXICAN COOPERATION IN BELIZE

In 2014, the government of Belize requested FAO's technical support to contribute to the strengthening of the school feeding initiatives in the southern district of Toledo, as a strategy to ensure food security and nutrition and the realization of the right to food for its inhabitants.

Over the past few years, through the Hunger Free Latin America and the Caribbean Initiative 2025 (HFLACI), FAO has been assisting countries of the region on developing and strengthening food security and nutrition public policies that contribute to eradicating hunger and malnutrition in the region. School feeding programmes are part of these policies, which can play a key role improving the region's social scenario.

Brazil has been a partner of FAO in strengthening school feeding programmes under the framework of several projects. The lessons learned and the best practices gathered from the Brazilian school feeding programme have led to the methodology adopted by these projects, which has the following principles:

1. the use of healthy and adequate food, incorporating a variety of foodstuffs, respecting local culture, traditions and healthy eating habits and safety, contributing to the development of students and the improvement of school performance, in accordance with age group and health status, including those who have specific needs,
2. the inclusion of food and nutrition education in the process of teaching and learning, throughout the school curriculum, focusing on the development of healthy life practices, from the perspective of food security and nutrition,
3. universal access to the free school feeding programme, covering all students enrolled in basic public education,
4. community participation in social control, accompanying those actions made by states, the federal district and municipalities in order to guarantee the proper execution of the school feeding programme,
5. the contribution to sustainable development, with incentives for the acquisition of diverse foods, produced in the local environment and preferably by family agriculture and by rural family entrepreneurs, prioritizing traditional Indigenous communities and descendants of *quilombos* (runaway slave communities).

The activities carried out in these projects are jointly planned with governments, according to the demands and specificities of each country, but they all aim at the same comprehensive goals: strengthening coordination between school feeding and other public policies; developing human and technical capacities for the implementation of sustainable school feeding programmes; developing and disseminating knowledge and information on school feeding within the country and within the region; and implementing the sustainable schools model.

Several technical missions and briefings of national representatives, FAO and other international organizations during 2014 are an indication of the interest of Belize government in school feeding and family farming. As an unfolding of these initial contacts, and under the framework of the HFLACI, Belize joined in 2016 Mesoamerica Hunger Free AMEXCID-FAO programme, a cooperation initiative jointly led by FAO and the Government of Mexico, through the Mexican Agency for International Development Cooperation (AMEXCID), implemented in nine countries.

Mesoamerica Hunger Free AMEXCID-FAO programme in Belize pursues three main objectives: (i) contributing to food security and nutrition by strengthening the school feeding programme (SFP) and supporting institutional governance mechanisms; (ii) supporting the design, development, implementation, monitoring and evaluation of the SFP; and (iii) facilitating coordination and synergies between programmes and public policies, with special consideration of family (small-scale) farming for territorial development.

SUSTAINABLE SCHOOLS MODEL

The methodology used to strengthen the school feeding programme in Belize, as in other countries, is the implementation of sustainable schools; a model based on the school feeding programme of Brazil, which is strongly rooted on the human right to adequate food approach, as well as on the environment, cultural, social and economic sustainability of the programme. This model is linked to the use of school gardens and to food and nutrition education, as a way to promote lifelong healthy eating habits among schoolchildren and, by extension, their families. It also focuses on the utilization of local products, especially from family farming, promoting the consumption of fresh, local, seasonal and healthy foods, while, at the same time, boosting local job creation and local production, thereby reducing the food import bill.

The SS model emphasizes improved governance and inter-institutional management mechanisms. From a governance standpoint, it promotes inclusive and participatory processes whereby the government, communities, school communities, parents, families and other stakeholders contribute to the design, implementation and evaluation of the SFP. In terms of institutional management, the model recognizes the need for inter-institutional and intersectoral coordination and collaboration among education, health, agriculture, finance, infrastructure, rural development, as well as social and economic development, for the elaboration and implementation of public policies that lead to sustainable and successful school feeding programmes.

The model calls for at least three levels of integrated management structures: (i) at the parliamentary level, to ensure legal broad-based support, budget allocation and continuity of policies; (ii) at the ministerial level, both at the highest political level to ensure public commitment to strengthen the SFP and at technical level to inform civil service functionary responsible for programme's leadership and analysis; and (iii) at the level of the school and community, empowering and allowing the participation of those closest to the programme, including parents, to shape it.

The SS school feeding model includes the following six components:

1. **Inter-institutional and intersectoral coordination**: Promote coordination among key ministries involved in school feeding (agriculture, education, health, social development, and others), private sector, parliamentarians, NGOs and stakeholders at national, local and community levels, which should be initially strengthened with the establishment of a national inter-institutional and intersectoral committee for the implementation of the SS model. This committee, in which the roles of each member institution are established and agreed upon, has the responsibility of building national interest around school feeding and ensuring the achievement of the other five components.

2. **Social participation**: The involvement of families, schoolchildren, principals, teachers and local representatives and actors constitutes a solid base of sustainability of the actions carried out in the schools and the community, and is a transversal axis in the whole process of implementation of the model and follow up of its progress.

3. **Adoption of adequate, healthy and culturally appropriate menus**: A sustainable school feeding programme should seek to offer meals that are healthy, quantitatively and qualitatively adequate and culturally appropriate. In order to achieve that, the development of appropriate menus or adjustments of the existing ones are fundamental. The development of a nutritio-

nal plan, which includes the assessment of the nutritional status of the students, as well as information about the students´ food and eating practices and teachers´ practices related to food and nutrition education, provides important information about the local reality and needs of the students and the school, and also provides solid inputs for the development of the menus. The menus, developed with technical support from a nutritionist or a nutrition technician and which should include products from local family (small-scale) farmers, are crucial, as they also provide essential information for the various actors and institutions involved with the SS model and for the proper implementation of the other components (food and nutrition education, local procurement).

Complementary actions should also be carried out throughout the process of implementation in order to maximize the positive results of school feeding, such as:

1. training to cooks (in food safety and sanitation, food handling, development and testing of recipes with new food items and different preparations); and

2. activities with students (food and nutrition education activities to encourage the consumption of new foods and preparations; tests of acceptability of the meals when new foods or preparations are introduced, and evaluation of the acceptance of the menus offered).

4. F**ood and nutrition education using educational school gardens**: Many activities of food and nutrition education can be implemented at schools in order to promote independent and voluntary healthy eating practices. They should be implemented in a cross-cutting way in the school curriculum and should use different types of educational strategies and methodologies, such as culinary classes, field visits to family (small-scale) farmers, dramatization, music, production of texts, exhibitions, food fairs and educational school gardens. The gardens are real life labs, through which it is possible to boost the school curriculum by implementing an integrated curriculum that links nutrition, health, food, culture and the school feeding programme in a fun and hands-on way. By doing that, students also have the opportunity to learn science, health, history, social science, math and other subjects, in a way that is connected to their real-world experiences, while exploring and reflecting about the world, nature, living systems, and social and environmental issues. In addition, school gardens are considered an effective strategy to involve parents, students and the school community, as well as different sectors such as education, agriculture and health. They can also be linked to backyard gardens and family farms in the communities.

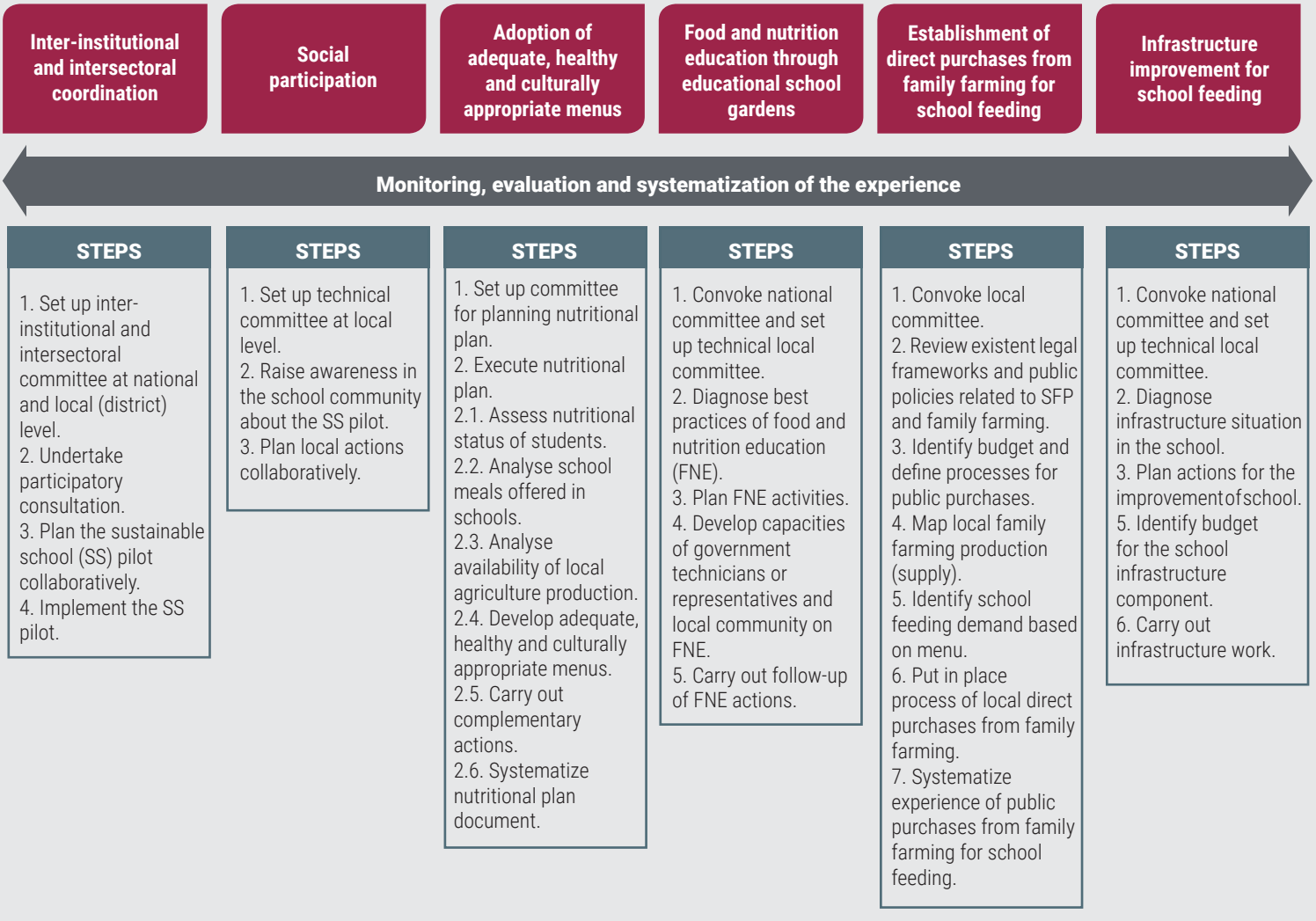
5. **Establishment of direct purchases from family farming for school feeding**: This component consists of the acquisition of foods directly from local family farmers. The aim is to diversify food consumption and promote appreciation of local food culture by the school community, while, at the same time, supporting increased diversification, food production and the use of more sustainable production practices by farmers, thus contributing to local economy.

6. **Improvement of school infrastructure**: This component aims at providing adequate physical conditions (kitchens, lunchrooms and storage rooms) and equipment in schools for storage, preparation and consumption of foods, in order to provide students with a proper ambience conducive to healthy eating and to ensure the quality of the meals offered.

The SS model has been segmented into these components for methodological purposes and to facilitate the planning of their implementation. However, they are all interdependent and, for the success of the SS model, they all must be properly implemented and executed in a coordinated manner.

The flowchart (Figure 1) below presents the step-by-step process of the implementation of each of the components. Even though adjustments can (and should) be made to accommodate each country´s specificities and realities, experience implementing SS model in 12 countries has shown that it is important to ensure that these steps are followed. The implementation always starts with component 1 – Inter-institutional and intersectoral coordination, which will set the ground for and guarantee the establishment of the other ones, followed by component 2 – Social participation. The remaining components are implemented in parallel, according to the social and political conditions as well as priorities of each country.

Figure 1. Process flowchart for the implementation of the SS model pilots



Source: Elaborated by the authors.

2.

SUSTAINABLE SCHOOLS PILOT: THE EXPERIENCE IN BELIZE

It is important to note that the pilot project intends to present to the country a model of a sustainable school feeding programme, not just a standard feeding programme. For that to happen, funding is provided by the cooperation initiative, Mesoamerica Hunger Free AMEXCID-FAO programme, which provides financial resources and technical assistance, to guarantee the adequate implementation of all the components.

As part of the methodology of implementation of the SS model in Belize, as in all the other countries where the SS model has been implemented, the importance of planning for the sustainability of each of the components has always been stressed as a transversal axis by the technical support team, with all stakeholders and institutions involved, at all levels. In that sense, after the implementation period of the cooperation initiative is over, the national stakeholders are expected to be sensitized about the model in order for the country to continue with the activities in these pilot schools and to replicate the model in other districts of the country.

TOLEDO CONTEXT

The Toledo district was chosen to hold the SS model pilot project. Toledo is located in the southern part of Belize and is home to a wide range of cultures: Mopan and Kekchi Maya, Creole, Garifuna, East Indians, Mennonites, and Mestizos.

Toledo is one of the poorest districts in the country. Among other reasons, it might be because it is located very far from the rest of the country's administrative, commercial and tourist centres, and because it tends to concentrate households headed by individuals with low levels of schooling, exhibiting lower female participation in the labour market and belonging to ethnic minorities. The district concentrates the largest percentages of indigence and malnutrition in the country. The area comprises a large proportion of the country´s production of rice, corn and peas, mostly from family (small-scale) farmers.[33]

Toledo has a large number of villages, from which four were selected for the present pilot project and, within those villages, one school in each village.

Table 3. Number of students enrolled in four schools involved in the SS model pilot project

Village	School Name	Grades	Total No. of students enrolled in 2016	Total No. of students enrolled in 2018
San Antonio	San Luis Rey R. C. School	Primary	313	315
Santa Cruz	Santa Cruz R. C. School	Primary	112	126
Santa Elena	Santa Elena R. C. School	Primary	54	61
Pueblo Viejo	San Francisco de Jeronimo R. C. School	Kindergarten to primary	155	150
TOTAL			**634**	**652**

Source: Elaborated by the authors.

San Antonio Village

San Luis Rey R.C. School has a total of 315 students, from 4 to 14 years old, considering school enrolment of 2018. Since January 2016 but prior to the SS model pilot, the school provided lunch to approximately 50 students, three times a week, with a cost of BZD 1.00 (USD 0.50). This school did not have a school garden.

Santa Cruz Village

Santa Cruz R.C. School has a total of 126 students between 5 to 14 years of age. At the beginning of the SS model pilot, the school did not offer school feeding, despite having a kitchen area. They were supposed to offer meals in August 2016, but the cafeteria was very small and they postponed it until the renovation of the infrastructure was completed. When they provided meals, the frequency would depend on the number of children who could afford to pay. If only a few could pay, the school would not afford to provide meals to these children because it would be very costly. They would have to have a minimum number of students to justify the work of the cooks. Because of that, they usually provided meals only once a week. To sustain the school feeding initiative, most of the time they relied on teachers´ donations of food, but eventually the teachers became overloaded.

The school had a garden, which used to be functional and where the teachers used to take their students for activities. Each class had its own bed and was responsible for it. However, the garden had been discontinued due to several challenges: the area was not shaded and was extremely hot; as they did not offer school feeding, they ended up not using the food and it got spoiled; water was not always available; and the lack of a fence allowed some animals to invade the area.

Santa Elena Village.

The school has a total of 61 students from 5 to 13 years old. The school offered lunch twice a week, for a cost of BZD 1.00 (USD 0.50) for those students who wanted to eat at school and could afford to pay. The school feeding committee wanted to open the kitchen more often, but not enough students could afford to pay for the meals, so the committee felt discouraged.

The school has no electricity and had a garden managed by the community. According to the principal, the garden had been going well, but, due to the hot climate, it was not functional anymore. PTA members were responsible for its care and maintenance and the children did not participate much; they basically just observed. Some of the products that were grown in the garden and used in the school feeding were tomato, cilantro, cabbage, Chinese cabbage and green pepper. However, some of them were lost as they did not know exactly when to harvest.

Pueblo Viejo Village

San Francisco de Jeronimo R.C. School holds 150 students between the ages of 4 and 14, and is the only school that has kindergarten (preschool). It offered lunch three times a week, for the cost of BZD 1.00 (USD 0.50); nonetheless, they also provided free meals to some children under their targeted group, who could not afford to pay. The school also had a school garden with a cover structure, which was well maintained and partially functional before the beginning of the pilot project. According to the principal, the students participated in the garden during the rainy season. The school itself does not count with electricity, but they use solar panels.

The figure bellow describes the processes, results, effects and expected impacts of the SS model in Belize, which will be further detailed along the document.

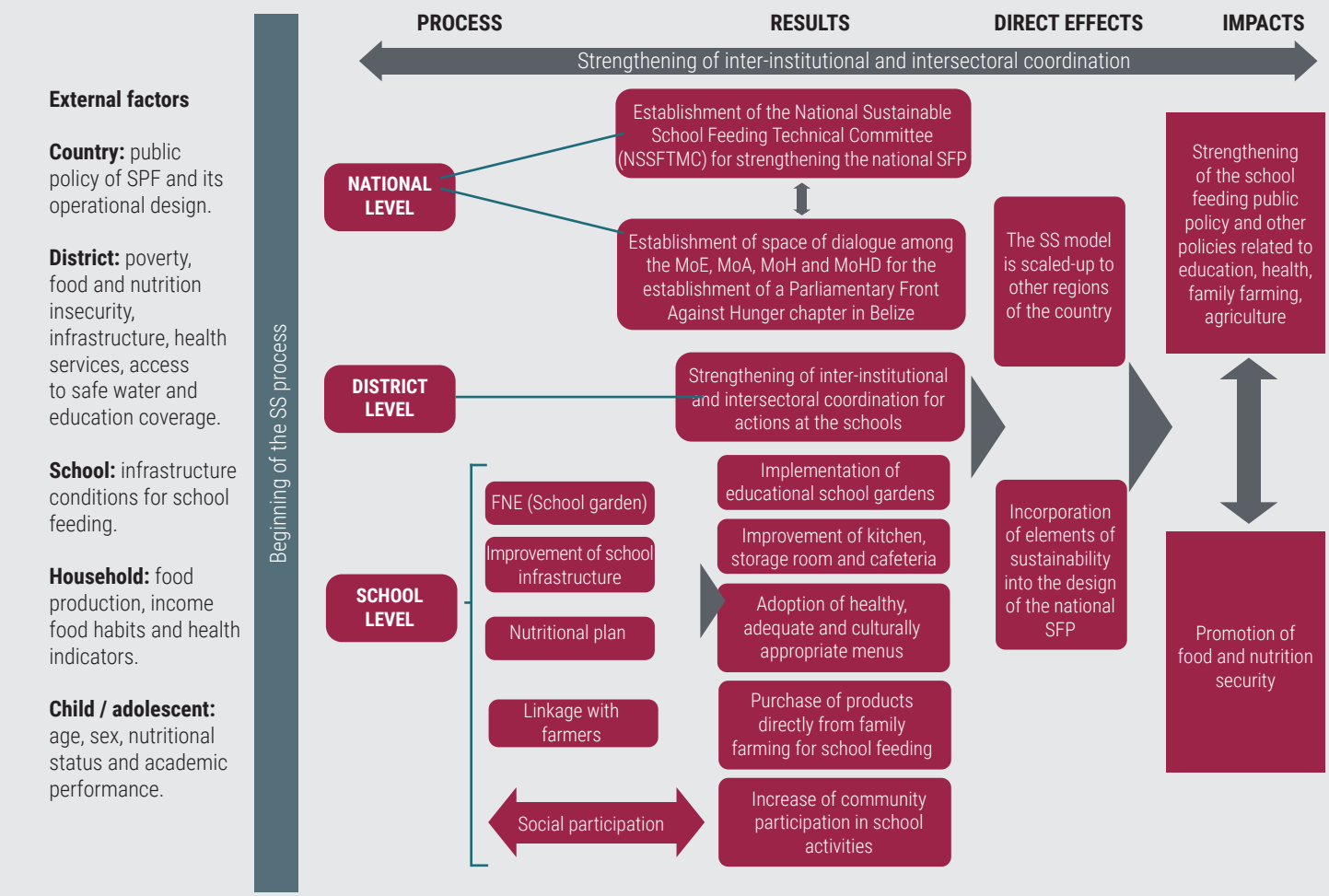


Figure 2. Process, results, effects and expected impacts of the SS model in Belize

Source: Elaborated by authors.

The following section summarized the implementation process of the pilot project, from its beginning in early 2016 to November 2018. The information is presented and analysed according to each of the six components of the model, having as a guideline the expected steps presented in the flowchart (Figure 1), focusing on their implementation processes, best practices, results and bottlenecks. Based on the analysis, recommendations are proposed for scaling-up the SS model and for the long-term strengthening and sustainability of the school feeding programme of Belize as a public policy.

Upon completion of the document, the findings were shared and validated with the relevant national representatives and other key stakeholders. More information on the methodology of the systematization is presented in Annex 1.

SYSTEMATIZATION ACCORDING TO THE COMPONENTS OF THE SUSTAINABLE SCHOOLS MODEL

1. INTER-INSTITUTIONAL AND INTERSECTORAL COORDINATION

At national level

Before the SS model pilot, strong and effective intersectoral mechanisms (such as an intersectoral expert body including government officials and technicians) among school feeding and other government sectors such as school health, nutrition, education and agriculture, which could provide a more comprehensive approach for school-age children and for the school feeding in the country, were not in place. Therefore, there was no common agenda for school feeding among the different stakeholders, expressed through a joint and articulated work plan to coordinate all efforts in synergy.

With the incorporation of Belize to Mesoamerica Hunger Free AMEXCID-FAO programme, in 2016, a process of dissemination of information, awareness raising and capacity building on the importance of school feeding as a strategic social policy for sustainable development was initiated with the representatives of Ministries of Agriculture, Education and Health, PAHO and the Embassy of Mexico in Belize, through various activities. These included technical tours to Brazil, El Salvador, Guatemala and Honduras to learn about successful SS model experiences and school feeding programmes, meetings between countries of the Caribbean region, and capacity building through workshops, trainings and missions of the FAO team to the country.

In November 2017, the MoE, the MoA and the MoH signed a memorandum of agreement to collaborate and integrate efforts to achieve the common aim of strengthening school gardens and the school feeding programme in Belize. It is important to point out that even though the MoE was the institution responsible for overseeing the SFP in the country, the MoA was the counterpart institution for the Mesoamerica Hunger Free AMEXCID-FAO programme and, therefore, the institution that coordinated the implementation of the SS model, including the preparation of the memorandum of agreement. The established responsibilities of each of the ministries are:

Table 4. Counterpart institutions in the SS model pilot project and their responsibilities

Institution	Responsibility
MoE	• Effect improvements in the management and monitoring of the rural SFP. • Work on the development of a school feeding policy and improve the institutional capacity and resources for its implementation and monitoring. • Implement measures to ensure improvement in the nutritional status of all schoolchildren. • Facilitate the development of standards and guidelines for the provision of safe and nutritionally adequate meals to the school-age population. • Facilitate the preparation, formulation and management of menus from local produced foods. • Establish a home grown school feeding programme (HGSF), which will ensure a sustainable market for locally produced food. • Contribute to increasing the uptake of meals provided in schools. • Support the provision of trained stakeholders within the school community to perform the functions required under an integrated SFP. • Develop educational programmes incorporating nutrition, education and food production in the curriculum. • Support the development and strenthening of curricula at preschool, primary and secondary levels to include nutrition and health and family life education (HFLE).

MoA	• Establish school gardens as agreed by the parties involved, which may also include chicken and livestock produce. • Provide technical assistance in areas related to production and marketing-related initiatives of school gardens incorporating local farmers, teachers and students. • Develop and support mechanisms for small farmers to participate in school feeding and public purchase of produce from school gardens and the local farmer, with special attention to the involvement of youth and women. • Strengthen and refine the school gardening programme to include strategic areas for intervention, such as provision of technical support and promotion of other materials for teachers and students. • Commitement of our agro-processing unit to develop recipes for the school feeding programme.
MoH	• Facilitate the deveolpment of standards and guidelines to ensure the dietary requirements of school-age children are met. • Provide guidance and build capacity in the monitoring of dietary requirements and adherence to standards. • Leverage the involvement of all health care institutions to contribute to FNS goals. • Provide technical support to critical FNS activities related to nutrition and physical activity. • Establish an effective institutional framework for the promotion of the best food utilization based on nutrient values. • Collaborate in the development of a national social marketing campaign to encourage nutritious food choices in schools. • Encourage and support an environment conductive to increased physical activity in schools and the wider community, in compliance with national guidelines. • Promote the availability of foods in line with recommended national population dietary goals through: utilization of food-based dietary guidelines; endorsement of domestic production and advocating that food imports are in keeping with national dietary goals; and strengthening the nutrition surveillance system to monitor the nutritional status of the population and identify those at risk of nutrition related conditions.

Source: Elaborated by the authors.

The memorandum also determines the establishment of two important institutional mechanisms:

1. the inter-ministerial committee, formed by high-level officials, with the objective of identifying and addressing policy implementation issues and areas of greater collaboration; and

2. the National Sustainable School Feeding Technical Monitoring Committee (NSSFTMC), a steering committee comprised of the FAO national correspondent; representatives from the MoE, MoH (school health and nutrition unit), MoA (National Food Security and Nutrition Commission); the project execution unit (MoA); Mexican Embassy Representative; PAHO Country Representative and a school management representative. This is a steering committee for technical discussion and decision making on school gardens and the school feeding programme within the framework of the HFLACI 2025 for the Toledo pilot project and for future collaboration.

At local (district) level

Before the pilot started, appropriate coordination between the representative institutions of the MoA, MoE and MoH at the local (district) level was not in place. Furthermore, a common work plan of activities that linked education, health and agriculture did not exist.

With the start of the pilot, a process of awareness raising and mobilization carried out with their representatives (District Agriculture Coordinator for Toledo, Education Officer at Toledo district, a social worker from the MoH) began. In addition, the FAO technical team, within the framework of Mesoamerica Hunger Free AMEXCID-FAO, encouraged the accompaniment of these representatives in the activities of the SS model in the schools; however, it took a while until all these actors were fully on board into the process.

In late 2017, the NGO Toledo Catholic School Management joined the coordination efforts of the pilot project, in order to support the establishment of the sixth component – direct procurement from family farming for school feeding.

Some actions have been identified as elements that facilitated the overall inter-institutional and intersectoral coordination and, therefore, can be considered good practices for the strengthening of this component.

Good practices:

- ✓ The establishment of the two intersectoral bodies, the inter-ministerial committee and especially the NSSFTMC, has allowed for a more comprehensive and articulated vision of policies and programmes and has facilitated the coordination of activities related to education, health, school feeding and family (small-scale) farming at a national level, contributing with more aligned actions and less duplication of efforts.
- ✓ The NSSFTMC set-up, with the coordination of the MoA and the active participation of the other institutions and sectors, has strengthened the bond between its representatives. It has also contributed to the better execution of the pilot activities and to strengthen the national school feeding programme and food security and nutrition governance through the establishment of an operative plan with its own budget.
- ✓ The memorandum of agreement between the MoA, MoE and MoH formalized the mutual interaction and strengthened the coordination among the different actors and institutions involved.
- ✓ The visit of national representatives of the MoA, MoH and MoE to Guatemala for the technical tour "Learning from the experience of Guatemala implementing sustainable schools pilot for the strengthening of the Guatemala's national school feeding", in July 2018, was very successful for sharing lessons learned and improving their capacity for the follow-up of the SS pilot in Belize.
- ✓ Based on the experiences learned during the technical tour to Guatemala, the MoE organized the National school feeding workshop in August 2018, with four of the six district education managers and officers of Belize, the MoA, MoH, PAHO and FAO, to chain up the national school feeding programme and the replication of the Toledo district experience to two other schools in four districts of Belize.
- ✓ A space of dialogue has been established between the Ministries of Education, Agriculture, Health, and Human Development for the organization of a Parliamentary Front against Hunger and Malnutrition in Belize.
- ✓ At the local level, the extension officer of the MoA, the district education officer responsible for health and family life education, and stakeholders of the MoH have played an important role in the implementation of the SS pilot, considering that, in addition to budgetary support for infrastructure components, local purchases and school gardens, they have also provided technical support to facilitate the processes.
- ✓ The NSSFTMN´s efforts and coordinated work have generated important results around school feeding and food security and nutrition related areas.

Results

- **Change of paradigm of the SFP:** The process of changing the paradigm of the SFP, from a food assistance programme for vulnerable populations to a rights-based programme linked to health, education, agriculture, social and sustainable development has already been initiated with stakeholders at national, local and community level, as a result of the implementation of the pilot.
- **Promotion of the establishment of a national Parliamentary Front against Hunger (PFH) chapter in Belize:** In August 2018, Belize started its process of integration into the PFH, along with other 19 countries, advancing its commitment to fighting against hunger, malnutrition and food insecurity. The Belize Parliamentary Alliance against Hunger and Malnutrition was officially established in 2019.
- **Inauguration of the National Sustainable School Feeding Technical Committee (NSSFTC):** This inter-institutional and intersectoral body was launched in March 2019. Differently from the NSSFTMC, it is spearheaded by the MoE and comprised of line ministries, and international organizations such as PAHO, UNICEF, FAO, along with other key stakeholders, with the objective of bringing school feeding into the national discussion and agenda.
- **Launch of national menus for school feeding programmes:** On March 2019, national standardized school menus with culturally appropriate foods and recipes were launched. They were developed by the MoH and will be available to all schools across the four regions of the country.
- **Scaling-up of the SS model:** The government has started discussions on how to replicate the SS model in other schools of the country.
- **School garden manual:** The government has shown interest in standardizing and adapting a national document on school gardens, with clear methodologies of implementation, management and maintenance for the schools, with the goal of improving the existing and scaling-up the garden programmes in the country.
- **School feeding policy and banning of sugar-sweetened beverages at school:** these two initiatives are under discussion among members of the NSSFTC.

Workshop: presentation of the functioning of the Parliamentary Front against Hunger, "The Mexican experience", Belize City, August 2018*.

* From left to right: Dr Carol Babb (Chief Education Officer, MoE), Mrs Laura Longsworth (Speaker of the National Assembly of Belize), Hon Patrick Faber (Deputy Prime Minister & Minister of Youth, Sports & Culture), H.E. Senator Luisa María Calderon Hinojosa (Coordinator of Parliamentary Fronts against Hunger in LAC), H.E. Ambassador Carlos Quesnel (Embassy of Mexico) and Hon Godwin Hulse (Minister of Agriculture and parliamentary).

"Since this pilot project was launched two years ago, we have at least three ministries involved (health, education and agriculture). We have gotten a very close networking because of this project and also, as a result, interministerial bonds have been strengthened. So, for example, we are working on the development of the policy for the (banning of) sugar-sweetened beverages in schools. Many of these things have started since two years ago. It has strengthened in terms of developing bonding and collaboration already…so that is going in the right direction."

Robyn Daly, Nutrition Unit, MoH

November, 2018.

The following bottlenecks have been identified along the process:

Bottlenecks

- The NSSFTMC has indicated that one of the greatest challenges for the strengthening, institutionalization and scaling-up of the school feeding programme in the country is finding a source of funding to implement a national public programme.
- An inter-institutional and intersectoral committee at local level (district level) has not been formalized, as recommended by the methodology, resulting in the lack of a fluid communication between the national and the community levels.

2. SOCIAL PARTICIPATION

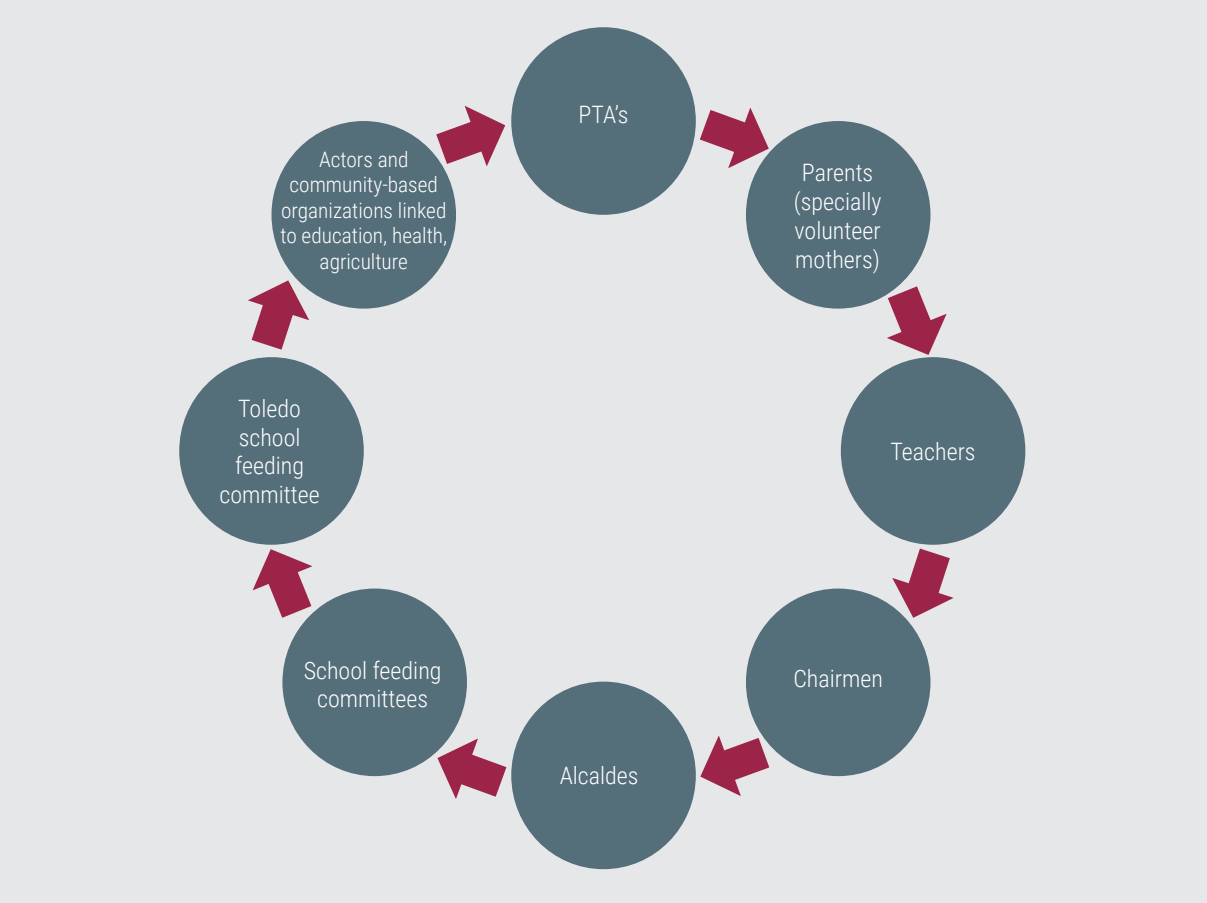
The social participation component has been a transversal axis in the pilot project's implementation and is key to guarantee the sustainability of a school feeding programme. It has been important to involve all the representatives of the school community and the general community through participatory processes, as well as making sure these processes respond to the specificities of and empower each community.

Initially, consultations with the chairmen (leader of the Indigenous People) and the alcalde (mayor) of each community had to occur, in order to ensure their interest in the pilot project and obtain their permission.

The first decision of the NSSFTMC was to identify the main actors and community-based organizations that had been directly and indirectly involved in school feeding initiatives in the villages selected. Other important actors and community-based organizations linked to education, health and agriculture were also identified in this process, such as the Toledo Catholic School Management, who played a key role in the procurement from the family farmers.

Subsequently, a process of strengthening these existing stakeholders' capacities and organizational structures began in each community, through awareness building sessions on the importance of school feeding as a right of the students and as an education, health and local development strategy. These actors were also introduced to the concept of the SS model pilot, its methodology and their role in the process.

Figure 3. Main local actors involved in school feeding, education, health and agriculture at local level



Source: Elaborated by the authors.

It is worth mentioning that, during these initial conversations, the school community had many doubts about the pilot, wondering who would cook the meals, where the resources would come from, how many days the meals would be offered, or if the mothers, who were already volunteering, would receive some kind of stipend for working more days. To some principals, it seemed difficult to offer school meals more frequently due to the poor involvement of the community. When the school community talked about school feeding, the impression was that they saw it much more as a burden and not as an opportunity for the students and the community.

As a result, the importance of the involvement of the community for the sustainability of the pilot project and of the school feeding programme was reinforced and they were encouraged to start organizing themselves to see who would be most directly responsible for school feeding, who would cook, who would participate in the garden, etc.

The MoA, through its local office; the MoH, through its health unit; the MoE, through its officials of education at the district level; and a local network of actors supported and promoted the execution of the activities in the ground: the development of the nutritional plan; training sessions of school cooks on best sanitary practices and new recipes; and capacity building of

principals and teachers on food and nutrition education and educational school gardens, and procedures for the local procurement from family (small-scale) farmers.

"Some parents are happy about it (the pilot project). Because (before the project) some parents would come every afternoon to feed their kids at school. When the project was in full swing, that didn´t happen, so either they helped in the kitchen or they helped distribute food, they were giving us a helping hand. We have memories of the parent community that was willing to assist."

Timoteo Bo, Principal of San Luis Reye R.C. School,

November, 2018.

Meeting with school community of San Luis Rey R.C. School for awareness-raising on the SS model pilot.

Good practices:

- ✓ Adaptation of the model's methodology to the context of Belize and its gradual implementation have constituted the main strength of the implementation of the SS model, because it was necessary to know and operate based on the reality and needs of the communities.
- ✓ A strong social (community) organization and participation, which is a solid basis for the sustainability of a school feeding programme, has been identified during the implementation of this methodology in the four schools.
- ✓ The experience of the pilot project has shown that there are people within the communities who are interested in contributing to various aspects of the school feeding process. Such was the case of a farmer from the community of San José, where there is good production of vegetables, who began to work voluntarily, helped with the school garden of Santa Cruz School, and contributed greatly to the production of vegetables and in the teaching activities for the students.

✓ The district of Toledo is the only one that has a school feeding committee at a district level, which supports the implementation of the school feeding activities in each of the schools. This is a good practice that could be replicated in other districts.

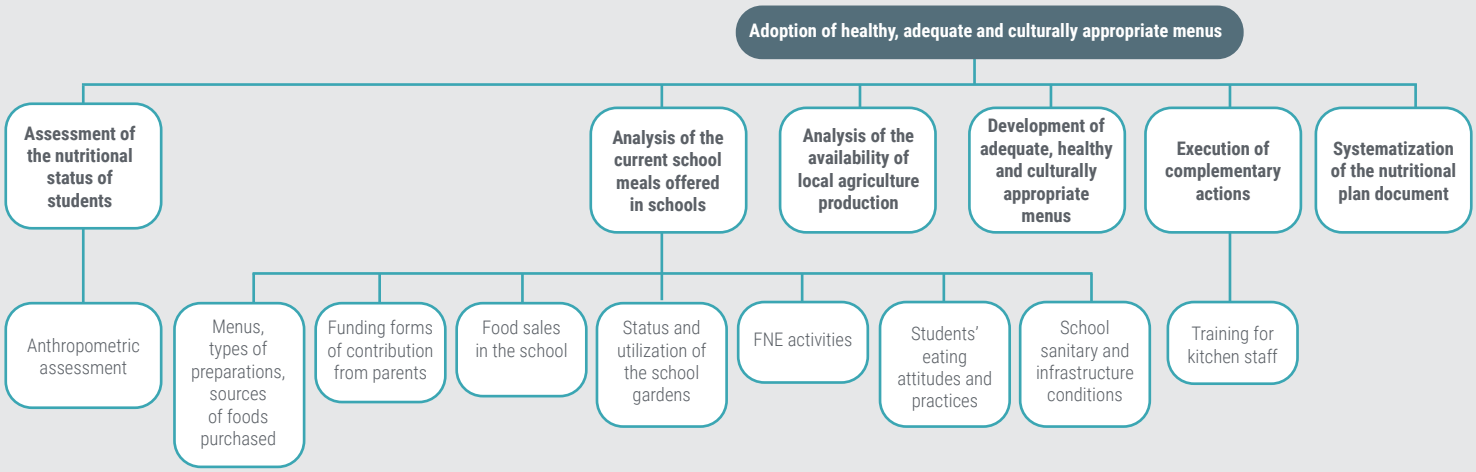
Results

- **Empowerment of the community:** The educational community (principals, teachers, cooks, parents, PTAs, school feeding committees, students, and community leaders) became more aware of the importance of the school feeding programme and of their participation in the programme´s activities.
- **Strong commitment of the volunteer cooks:** Approximately 400 volunteer mothers participated in the preparation of meals in the pilot schools during the 20 days in which food provision was guaranteed by the pilot project in 2018, and they said they would continue to do so during the second phase of food provision (the pilot project guaranteed food provision for an additional 40 days in 2019).
- **Greater participation of parents:** At the Santa Cruz School, the PTA elected for 2019 decided to involve all parents in school feeding, and parents were committed to participating more.

Bottlenecks

- At the beginning, in some schools, school feeding was not considered important, a right of the students or an opportunity to improve education, health and living conditions of the whole community in general. Instead, it was considered an initiative aimed at the poorest or the children of parents who had to work and could not prepare lunch. This is why several and continuous awareness-raising events with the communities have been necessary.

Figure 4. Process flowchart of the menu component



Source: Elaborated by the authors.

- Although there has been a greater involvement of the mothers of the students during the days of food supply, especially in the cooking activities, in case there are no more resources from the Programme or other sources to finance the foods purchase, they would not feel motivated to continue participating in the school feeding activities.
- The fact that the volunteer mothers do not receive an incentive for their work in the kitchen discourages them and compromises the continuity and sustainability of the school feeding initiative.

3. ADOPTION OF HEALTHY, ADEQUATE AND CULTURALLY APPROPRIATE MENUS

Planning process of the component regarding the adoption of healthy, adequate and culturally appropriate menus began in June 2016. Technical meetings were held between Mesoamerica Hunger Free AMEXCID-FAO technical team in Belize, MoE, MoH, PAHO and other national actors, in order to explain the methodology and define actions to be carried out in collaboration with the national stakeholders and local communities, for the development of the Nutritional Plan and the implementation of the other activities under this component, assigning responsibilities and establishing a timetable for the process.

The development of the nutritional plan included: (i) assessment of the nutritional status of students; (ii) analysis of the current school meals offered in schools; (iii) analysis of the availability of local agriculture production; (iv) development of adequate, healthy and culturally appropriate menus; (v) execution of the complementary actions; and (vi) systematization of the nutritional plan document.

All the activities under this component were executed by a national nutritionist consultant, along with other national stakeholders, with the technical support of FAO within the framework of Mesoamerica Hunger Free AMEXCID-FAO programme.

1) Assessment of the nutritional status of students

In June 2016, a technical team was set up to plan and carry out this activity at a local level. The team worked under the supervision of the national nutritionist consultant and with the technical support of the PAHO country coordinator, and was comprised of representatives of the following institutions: MoA, Food Security and Nutrition Commission; MoH, Social Advocate for Nutrition and Health Education; the Toledo Education Officer and the principals of each school.

The government of Belize decided that only weight and height measures would be collected for the assessment of the nutritional status of the students. The national nutritionist, an education officer, a teacher appointed by the principal of each school and two members of the health sector participated in the anthropometric measurements, taken in September 2016 for all the students of the four pilot schools that where present on the evaluation day. A total of 606 students, from 4 to 19 years old, were assessed.

2) Analysis of the current school meals offered in schools

Some general information about the meals offered and the conditions of the schools for the provision of a healthy school feeding had already been obtained in the initial stages of the pilot project. However, it was important to have a more detailed picture of the school feeding initiatives in each school and to analyse the school meals that were already being offered, with the aim of identifying the need for adjustments in terms of quantities, quality, diversity and source of the food supplied, as well as the recipes used.

Additional information was collected, which contributed to a better understanding of the reality of each school and was essential for elaborating the new menus, planning the complementary actions that would be implemented afterwards and for the implementation of the other components.

All this information was collected on the same day of the nutritional assessment of the students through observation and interviews with the school principals (four), all the teachers (24) and 20 percent of students from each grade from the last three upper divisions – standard four, five and six (62 students). The purpose of the surveys directed to the principals was to obtain general information related to their school feeding initiatives (menus, preparation of meals, forms of contribution from parents, food sales in the school, etc.); condition and utilization of the school gardens; food and nutrition education activities implemented; and school sanitary and infrastructure conditions. The purpose of the teacher's survey was to retrieve information regarding their perceptions about and their practices of food and nutrition education. Another questionnaire was applied to a sample of students to determine some of their eating attitudes and practices at home and at school.

As already mentioned, the menus of these four schools, prior to the pilot project, had always been elaborated jointly by the school feeding committees, teachers, principals and parents. There were no national guidelines for kilocalorie and nutrient content of the menus, nor recommendations according to age group and gender and, therefore, their adequacy relied on the knowledge of these actors.

At the beginning of the project, it was identified that some of the students complained about eating the same traditional preparations they ate at home and that they had great resistance in eating the vegetables offered (onion, cilantro, and tomato). Some principals were interested in learning about different portion sizes to make sure the students received the necessary kilocalories and nutrients.

3) Analysis of the availability of local agriculture production

At first, a mapping of products produced by local farmers was carried out by a team comprised of the nutritionist responsible for the development of the menus, the Food Security and Nutrition Commission of the MoA National Coordinator and the technical agronomist consultant hired by Mesoamerica Hunger Free AMEXCID-FAO programme to support the school gardens and the component related to procurement of products from family (small-scale) farmers.

The MoA, through the Department of Co-operatives, conducted a diagnosis on the status of farmers' organizations in the district of Toledo. Such diagnosis was particularly important to

identify the existence of family farmers in the area where the local procurement process would be implemented, as well as the technical capacity of extension workers who would provide technical assistance.

Subsequently, a preliminary diagnosis was made to identify both the availability of products and the ability of local producers to supply the demand for school feeding. Consultations with five farmers from each of the communities, who were known for producing a large variety of fruits and vegetables, took place, as well as consultations with the school principals, teachers, the chairman, alcaldes (mayors) of each village and members of the PTA of the four pilot schools.

From these consultations, a list of the products regularly offered throughout the year by local family farmers was developed, including prices obtained through the weekly report of market prices of the MoA. Additionally, the project team identified the prices of other products through interviews with the local farmers in December 2016. This list was used for the development of the menus.

Figure 5. List of products available from local family farmers from Toledo district to attend the school feeding demand of the pilot schools

Staples	Fruits	Vegetables	Meat
1. Cassava 2. Rice 3. Red beans 4. Sweet potato 5. White Potato 6. Yellow corn	7. Banana 8. Calaloo 9. Cantaloupe 10. Lime 11. Orange 12. Papaya 13. Watermelon	14. Boiled corn 15. Bok choy 16. Cabbage 17. Carrots 18. Chocho 19. Cucumber 20. Jipijapa 21. Lentils 22. Lettuce 23. Okra 24. Onion 25. Radish 26. Split peas 27. String beans 28. Sweet pepper 29. Tomato	30. Beef 31. Chicken 32. Eggs 33. Pork 34. Turkey

Source: Elaborated by the authors.

4) Development of adequate, healthy and culturally appropriate menus

Food Based Dietary Guidelines of Belize were used as a reference in the development of the school menus. The menus were developed in order to meet a daily average of 35 percent of the energy and nutrient standards from FAO/WHO/UNU for children between 4–19 years old, taking into account that most of the students said that they did not receive a complete breakfast and that they would not receive a meal after school at home, according to the interviews made. Two different portion sizes were established for two different age groups (4–9 and 10–19 years old).

The proposed menus were developed considering the following objectives:
1. inclusion of fresh locally grown foods from local farmers based on the family farming mapping;
2. adequate nutritional content in terms of macro and micronutrients;
3. respect for cultural food traditions; and
4. diversification of the diet of the students.

In that sense, the following strategies were used to comply with the elaboration of adequate, healthy and appropriate meals:

Minimum amount of salt, fat and sugar should be used for the preparation of foods and juices	**Meals are diversified, including a variety of different food groups**	**Meals were designed to be visually appealing by using foods of distinct colours and textures**
Familiar foods are paired with unfamiliar foods, and more easily acceptable foods were paired with not so easy acceptable ones	**Fresh raw salads are offered twice a week, and cooked vegetables on the other days**	**Meals include fresh fruits at least twice a week, and natural fruit juices on the other days**
Consumption of water is encouraged	**All school meals should be prepared fresh, daily and served as a hot meal, using the following methods: steaming, baking, sautéing, roasting or pan frying**	**It is recommended that meals are served at a specific time, in two separate groups, to facilitate distribution of the two different portion sizes**

Since two of the schools did not have access to electricity, limiting the possibility of storing foods that required refrigeration, two distinct menus where elaborated to facilitate the storage and preparation of foods and to avoid food-borne illnesses that could derive from inadequate storage and handling of products. Menu 1 was developed with animal source foods that required refrigeration (for San Luiz Rey R.C. and San Francisco de Jeronimo R.C. schools) and menu 2, without foods that required refrigeration, such as meat and poultry, but included eggs (for Santa Cruz R.C. and Santa Elena R.C. schools).

Menu 1 was developed to serve 468 children, 313 from San Antonio R.C. School and 155 from San Francisco de Jeronimo R.C. School, five days a week (considering the school enrolment of 2016). For children 10 years and older, additional portions of some foods were proposed. The great majority of the food items on this menu could be obtained from local family farmers. Flour and vegetable oil were to be purchased from local markets. Additional products such as salt, pepper or baking powder came as contributions from the families or were purchased on local markets with the resources provided by parents for school feeding.

Based on this estimate and considering food prices of 2016, the final average cost of each meal from menu 1, per child and per day, considering 468 children of both schools receiving meals five days a week for 20 days, and based on the cost of each product, was BZD 1.40 (USD 0.71).

Menu 1 - Three weeks cycle

WEEK 1				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Stewed chicken with white rice Chicken – 1 piece (1 oz) Onion/tomato for chicken – ½ cup Split peas – ½ cup Rice – ½ cup Steamed carrots/chocho – 1 cup Ingredients Vegetable oil – 3 tsps. Salt, achiote, chicken consommé, black pepper Dessert: fruit (cantaloupe) – ½ cup Drink: water	Eggs with calaloo Egg – 1 unit Calaloo – ½ cup Corn tortillas – 1 unit Refried beefred beans – ½ cup Salad: cucumber/tomato – 1 cup Ingredients Vegetable oil – 3 tsps. Salt, black pepper Drink: juice (orange) – ½ cup	Chicken vegetable soup Chicken – 1 piece (1 oz) Corn tortillas – 1 unit Potato – ½ unit Tomato, sweet peppers jipijapa, for soup – 1 cup Ingredients Vegetable oil – 3 tsps. Salt, black pepper, chicken consommé, bay leaf Dessert: fruit (banana) – 1 unit Drink: water	Stewed pork with boiled cassava Pork stew – 2 cubes (1 oz) Onion/tomato for stew – ¼ cup Boiled cassava – ½ cup Salad: carrots/radish– 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote, garlic Drink: juice (lime) – ½ cup	Chicken fried rice Chicken breast – 1 oz Rice – ½ cup Carrots, cabbage, jipijapa for rice – ½ cup Steamed string beans – ½ cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, soy sauce Dessert: sweet potato pudding Drink: water
>10 years: 1 cup rice, 1 cup split peas	>10 years: 1 cup beans, 2 corn tortillas	>10 years: 2 corn tortillas	>10 years: 1 cup cassava, 2 oz pork	>10 years: 1 cup rice
WEEK 2				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Creole chicken with white rice Creole chicken – 1 piece (1 oz) Tomato/onion for chicken – ¼ cup Rice – ½ cup Stewed red beans – ½ cup Steamed carrots/bok choy – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, chicken consommé, curry, achiote, garlic Dessert: fruit (watermelon) – 1 slice Drink: water	Eggs with okra Egg – 1 unit Okra – ¼ cup Flour tortillas – 1 unit Lentils – ½ cup Salad: cabbage/carrots – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Baking powder Drink: juice (cantaloupe) – ½ cup	Chicken escabeche Chicken – 1 piece (1oz) Corn tortillas – 1 unit Onion rings – 1 cup Salad: tomato – ½ cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, oregano, vinegar, chicken consommé Dessert: fruit (papaya) – ½ cup Drink: water	Beef curry with vegetable rice Beef – 2 cubes (1 oz) Rice – ½ cup Onion/carrots for rice – ¼ cup Salad: cucumber/radish – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, garlic, curry Drink: juice (cantaloupe) – ½ cup	Stewed chicken with flour tortillas Chicken – 1 piece (1 oz) Flour tortilla – 1 unit Tomato, onion for chicken – ¼ cup Steamed carrots/string bean – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote, garlic, chicken consommé Baking powder Dessert: powder bun Drink: water
>10 years: 1 cup rice, 1 cup beans	>10 years: 1 cup lentils, 2 flour tortillas	>10 years: 1 cup tomato, 2 corn tortillas	>10 years: 1 cup rice, 2 oz beef	>10 years: 2 flour tortillas

WEEK 3				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Chicken burrito Chicken breast – 1 oz Corn grains – ¼ cup Refried beans – ½ cup Cabbage/tomato – ¼ cup Flour tortilla – 1 small unit Steamed carrots/bok choy – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Baking powder Dessert: fruit (orange) – ½ unit Drink: water	Eggs with jipijapa Egg – 1 unit Tomato/jipijapa – ¼ cup Corn tortilla – 1 unit Salad lettuce/radish – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: juice (watermelon) – ½ cup	Turkey soup Turkey – 1 oz Tomato, sweet pepper, onion for soup – 1 cup Boiled corn for soup – ¼ unit Corn tortillas – 1 unit Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote Dessert: fruit (cantaloupe) – ½ cup Drink: water	Stewed pork with rice and beans Pork – 2 cubes (1 oz) Rice ½ cup and beans ½ cup Onion for rice – ¼ cup Salad: cucumber/tomato – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote, garlic Coconut milk Drink: juice (lime) – ½ cup	Chicken empanadas Chicken breast – 1 oz Onion/tomato for chicken – ¼ cup Corn empanadas – 2 small units Tomato/lime/cilantro salsa – 2 tsp Steamed chocho/bok choy – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote Cilantro Dessert: banana bread Drink: water
>10 years:1 cup beans, 2 flour tortillas	>10 years: 2 corn tortillas	>10 years: 2 corn tortillas, ½ unit corn	>10 years: 1 cup rice	>10 years: 3 empanadas

Menu 2 was developed to serve 166 children, 54 from Santa Elena R.C. School and 112 from Santa Cruz R.C. School, five days a week (considering the school enrolment of 2016). The great majority of the food items on this menu could also be obtained from local family farmers. Flour and vegetable oil and additional products were acquired through the same way as the other schools.

An estimate of the cost of the menu for the totality of the students from both schools, for five days a week, for 20 days, was calculated. Based on this estimate and considering the food prices of 2016, the final cost of the meal from menu 2, per child and per day was BZD 1.08 (USD 0.54). A procurement plan was developed, according to school enrolment and food prices of 2016 (see Annex 2).

Menu 2 - Three weeks cycle

WEEK 1				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Split peas with white rice Split peas – ½ cup Onions for peas – ¼ cup Rice – ½ cup Steamed carrots/cho-cho – 1 cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper Dessert: fruit (cantaloupe) – ½ cup Drink: water	Eggs with calaloo Egg – 1 unit Calaloo – ½ cup Corn tortillas – 1 unit Refried red beans – ½ cup Salad: cucumber/tomato – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: juice (orange) – 1 cup	Lentils soup with plantains Lentils – ½ cup Tomato, sweet pepper, jipijapa, onion for soup – 1 cup Boiled plantains – ¼ unit Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper, culantro Dessert: fruit (banana) – 1 unit Drink: water	Eggs with boiled cassava Egg – 1 unit Boiled cassava – ½ cup Onion and tomato for egg – ¼ cup Salad: lettuce/radish – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: juice (lime) – 1 cup	Fried rice with beans Rice – ½ cup Carrots, string beans, jipijapa for rice – ½ cup Refried beans – ½ cup Steamed cabbage/carrots – ½ cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper, soy sauce Dessert: sweet potato pudding Drink: water
>10 years: 1 cup rice	>10 years: 2 corn tortillas, 1 cup beans	>10 years: ½ boiled plantain, 1 whole banana	>10 years: 1 cup cassava	>10 years: 1 cup rice
WEEK 2				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Stewed beans with flour tortillas Stewed red beans – ½ cup Tomato/onion for beans – ¼ cup Flour tortilla – 1 unit Steamed carrots/bok choy – 1 cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper Baking powder Dessert: fruit (watermelon) – 1 slice Drink: water	Eggs with okra Egg – 1 unit Okra – ¼ cup Corn tortillas – 1 unit Lentils – ½ cup Salad: carrots/cabbage – 1cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: juice (cantaloupe) – 1 cup	Black beans soup Black beans – ½ cup Tomato, onion, sweet pepper and radish for soup – 1 cup Rice – ½ cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper, cilantro Dessert: papaya – ½ cup Drink: water	Eggs with tomato sauce Egg – 1 unit Corn tortillas – 1 unit Tomato, lime and cilantro sauce – ¼ cup Raw calaloo with vegetable oil – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: orange juice -1 cup	Lentils with flour tortillas Lentils – ½ cup Flour tortilla – 1 unit Tomato, onion for lentils – ¼ cup Steamed carrots/string beans – 1 cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Baking powder Salt, black pepper Dessert: powder bun Drink: water
>10 years: 1 cup beans	>10 years: 2 corn tortillas, 1 cup lentils	>10 years: 1 cup rice	>10 years: 2 corn tortillas	>10 years: 1 cup lentils

WEEK 3				
Monday - Day 1	Tuesday - Day 2	Wednesday - Day 3	Thursday - Day 4	Friday - Day 5
Refried beans with corn grains Refried beans – ½ cup Corn grains – ½ cup Onion for beans – ¼ cup Steamed carrots/bok choy – 1 cup Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper Dessert: fruit (orange) – ½ unit Drink: water	Eggs with jipijapa Egg – 1 unit Tomato/jipijapa – ¼ cup Corn tortillas – 1 unit Salad: tomato/radish – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Drink: juice (watermelon) – 1 cup	Lentils soup with tortillas Lentils – ½ cup Tomato, sweet pepper, jipijapa, onion for soup – 1 cup Flour tortilla – 1unit Ingredients Pumpkin seed – 2 tsps Vegetable oil – 3 tsps Salt, black pepper, cilantro Dessert (cantaloupe) – ½ cup Drink: water	Eggs with rice and beans Egg – 1 unit Rice – ½ cup Onion for rice – ¼ cup Black beans – ½ cup Salad: cucumber/tomato - 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper Coconut milk Drink: juice (lime) – 1 cup	Beans empanadas Refried beans – ½ cup Onion for beans – ¼ cup Corn empanada – 2 small units Steamed chocho/bok choy – 1 cup Ingredients Vegetable oil – 3 tsps Salt, black pepper, achiote Dessert: banana bread Drink: water
>10 years: 1 cup beans, 1 cup corn	>10 years: 2 corn tortillas	>10 years: 2 flour tortillas	>10 years: 1 cup rice	>10 years: 1 cup beans

5) Execution of complementary actions

At the technical meetings held by Mesoamerica Hunger Free AMEXCID-FAO programme team with government officials and technicians, as well as during school visits, participants identified the need for training for the school cooks in food hygiene and food handling practices, either because some had never received it or because the certificate of some of them had already expired. There was also a demand for more recipes and different forms of preparation.

In order to fulfil this demand, as a complementary action for the development of the new menus, trainings for the cooks (voluntary mothers) were provided in two occasions, with the participation of technical staff from the MoH. The first training was held in June 2016, and included education in food and basic sanitary hygiene practices. This training was held in one of the schools, with representation from all four primary school teachers, along with cooks, parents and alcaldes (mayors), for a total of 46 participants. The training addressed the following topics:

1. promotion of awareness on the important role of the kitchen staff in the development of adequate, healthy and culturally appropriate meals;
2. personal hygiene, including frequency and techniques of hand washing;
3. safe and adequate sanitary practices related to storing, preparing and serving of food items (meats, fruits and vegetables) and meals;
4. good manufacturing practices related to the installations (kitchen and cafeteria);
5. methods to avoid food contamination and food-borne illnesses;
6. adjustments of salt, sugar and fat content of the recipes; and
7. new recipes, using fresh products from family (small-scale) farmers or school gardens.

Another set of trainings was held in October 2016 for all cooks, in each of the four pilot schools, addressing preparation of new recipes and different portion sizes of the new school meals. A total of 17 cooks from the four schools participated in the trainings. The training involved the preparation of one or two meals, and children's acceptability of these meals was tested using a hedonic facial scale.

Food handling practices training in San Francisco de Jerónimo R.C. School

"I went to visit the schools and the children were happy around lunch time. Everybody stayed in class, and they ate and were very happy. Their attention span went up, the attendance and enrolment were very stable. They were present in school, present in learning and they were present and active in participation in class."

Mr George Tillett, Toledo district Education Officer, MoE

November, 2018.

6) Systematization of the nutritional plan document

In order to have a reference of the process of implementation and execution of this component, which would contribute to guaranteeing its sustainability and replication, it was important to document the entire process and identify the methodologies used, the process flow, the main results and costs. The nutritional plan document was finalized in March 2017. However, the information on the nutritional status of the students is still in process of validation by the Government of Belize.

Good practices:

- ✓ The experience has shown that it is possible to strengthen the coordination between the MoH, MoA and the MoE at a district level, as well as with the school community and the farmers, for the development of the nutritional plan.
- ✓ The information of the nutritional plan has proven to be fundamental for the identification of information such as the nutritional status and eating practices of the students, information on the existent school feeding initiatives and food and nutrition education strategies, cooks´ demands in terms of trainings, school infrastructure, among others.
- ✓ The principals and cooks of the four schools were very accepting about the new menus and were able to make adjustments whenever it was necessary to substitute an item that was not in season, when the family (small-scale) farmers did not have it or when they wanted to make minor changes in the recipes, without compromising their nutritional quality.

"With the support of MHF programme in order to provide school feeding during 20 days in 2018, every child ate free for the entire week…they really looked forward to it. No one really stayed at home, except one or two…99 percent of the children really appreciated that initiative. And the parents too. They were very happy that such initiative came on board. ... coming to school on an empty stomach causes our students to suffer, you know, academically, socially, spiritually…food is part of our life, it's a necessity, not like a want, it's a need."

Diane Teul, Principal-teacher of Santa Elena R.C. School,

November, 2018.

Results

- **Conditions for education improved:** The SS model pilot promoted improved conditions for education for 652 children of the four schools, through the provision of fresh, healthy, diverse and local foods, offered in a newly constructed and pleasant environment conducive to healthy eating practices. The effects of the constant provision of quality school feeding for an specific period on the school community were:
  - Students ate a balanced and healthy meal.
  - Students were more attentive in class.
  - Attendance rate increased.
  - Participation and cooperation of the school community increased.
- **More integrated approach:** The development and implementation of the nutritional plan contributed to a greater and more integrated collaboration between the MoE, MoH and MoA regarding the actions at schools targeting health and education of children and youth population.
- **Nutritional surveillance:** The evaluation of the nutritional status of the students can be used as a base line for the nutritional surveillance of the students.

Bottlenecks:

- The unavailability of some mothers to come to the school and cook every day and a lack of organization of the school community decreased the number of days with school feeding in two schools from the 20 days planned to 13 days during 2018.
- Principals and cooks need trainings and certification for food handlers and for the preparation of new and healthy recipes.

4. FOOD AND NUTRITION EDUCATION THROUGH EDUCATIONAL SCHOOL GARDENS

Planning and implementation of the component regarding food and nutrition education through educational school gardens also started in June 2016 through technical meetings between Mesoamerica Hunger Free AMEXCID-FAO team in Belize, MoE, MoH, PAHO and other national actors. The first initiative was to identify the existent strategies and methodologies of food and nutrition education at the school level, and to define the actions to be taken for the implementation of the food and nutrition education component and the implementation or strengthening of the school gardens, always emphasizing on its educational purpose.

a. Existent strategies and methodologies of food and nutrition education

In Belize, topics related to health, nutrition and hygiene education are addressed in schools through the health and family life education curriculum and, according to technicians of the MoH and MoE, Toledo education officers and the principals of the four schools, they have been incorporated into the teachers' work plan.

However, based on interviews with these actors at the beginning of the SS model implementation, it seemed that, despite the existence of this health and family life education curriculum, food and nutrition education had not been integrated into the school curriculum in a cross-cutting and continuous way, across all grade levels in the four pilot schools.

It also seemed that the focus of food and nutrition education at the four schools, as in other schools of Toledo area, was basically on the nutritional dimension of foods (what foods should or should not be eaten, what nutrients exist in those foods and why it is important to be healthy), rather than, for example, reflecting on and exploring other food dimensions (cultural, economic, anthropological, religious, environmental dimensions) and other related topics that could be further discussed, such as food waste; different types of production; relationship between food consumption, environment and ecosystems; food security and nutrition, and many others.

Moreover, it also seemed that teachers were mostly applying a knowledge-based approach, more focused on knowledge transmission, rather than a behaviour-oriented approach based on participatory and experiential processes that would promote empowerment and critical thinking, as well as sustainable practices related to health, food and nature.

As part of the implementation and strengthening of this component, several awareness-raising and capacity-building events on food and nutrition education and on educational school gardens have taken place with various actors at different levels, organized by Mesoamerica Hunger Free AMEXCID-FAO, jointly with the MoE, emphasizing the various possibilities of topics and methodologies that could be explored with the students.

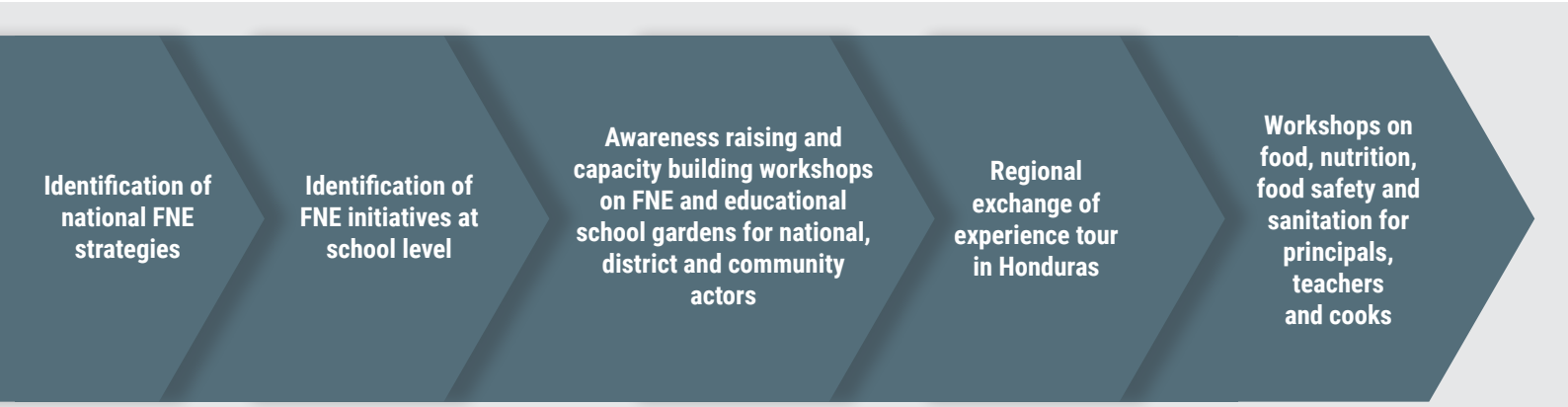
In June 2016, a series of workshops aimed at the national Food Security and Nutrition Committee, staff from Toledo district education center and the four schools took place. Several local actors from different institutions and sectors have attended the schools´ workshops. Participants included principals, teachers, volunteer cooks, the social advocate for nutrition and health education from the MoH, the MoA Food Security and Nutrition Commission´s national coordinator, the Toledo district curriculum officer, a technical agronomist consultant from the pilot project, volunteer students, PTA members and chairmen of some schools. In total, 46 people participated in this series of workshops.

In late August of 2016, two important trainings – the Countrywide training of trainer's workshop on school health manual and the Countrywide training on school health manual – were held with the objective of developing capacities of teachers, including the teachers from the four pilot schools, on the use of the School health day programme activity manual 2015. These events were part of the continuous professional development trainings on this manual that the MoE has been offering since 2014. The manual is directly linked to the school curriculum, to the health and family life education curriculum in particular, and consists of student and teacher-friendly daily activities about health and wellness including nutrition, in order to encourage healthy behaviour choices.

The consultant hired by the programme to support the school gardens attended a regional exchange of experiences tour in Honduras, in August 2016, as another capacity building activity in food and nutrition education under the framework of the SS model.

Other capacity building events have taken place, such as the workshop Strategies for promoting good nutrition and healthy lifestyle in sustainable schools, held by the MoE in 2017, with the participation of 40 teachers and principals from the four pilot schools. Another workshop for principals, teachers and cooks (volunteer mothers) on food, nutrition and food safety and sanitation, organized jointly with the MoH and PAHO, took place.

Figure 6. Process of the food and nutrition education component of the SS model



Source: Elaborated by the authors.

b. Implementation or strengthening of the school gardens

Prior to the SS model implementation, it seemed school gardens were not consistently considered nor used as a food and nutrition education strategy in the four schools. Additionally, schools faced problems maintaining them on the weekends, during vacation and on holidays, due to weak involvement of parents and the lack of fencing.

The process of implementing and improving the existing school gardens in each of the four schools began in 2016, with the technical support of a national specialist in school gardens and, later on, of an agricultural specialist.

Between 2016 and 2018, the MoA, in coordination with the Toledo Agriculture Office and FAO technical team, carried out a series of activities to implement school gardens in the four schools

of the pilot project, making sure they would have an educational purpose. The MoA installed the cover structures of the gardens and Mesoamerica Hunger Free AMEXCID-FAO"programme financed the gardening tools.

Principals, teachers, parents and students were involved in the implementation and care of the gardens, as the photos below demonstrate.

One of the challenges faced at the school level was the management and maintenance of the school gardens by the teachers and students, as they needed more trainings. As a result, since mid-2017, there has been a stronger collaboration between the MoE and MoA. The ministries agreed that students and principals would include garden activities within their regular school schedule, so that the students would have practical lessons on how to manage the gardens and the teachers would use the gardens as a teaching tool.

The vegetables grown in the school gardens of the four schools were sweet peppers, cabbage, tomato and local onions, and they were incorporated into the menus.

"We have had school gardens for 15 years, but it has been within the framework of this pilot project that we have strengthened school gardens...I think with this project we have now a different approach, where we are integrating the MoE and the MoH. Each ministry having its own share."

Andrew Harrinson, Chief Agriculture Officer, MoA

November, 2018.

Good practices:

- ✓ The use of school gardens varies a lot in each of the schools, depending on the size of the garden, the time available, the involvement of the teachers, the season of the year and the availability of a person responsible for its management and maintenance. According to the principals, in three of the schools, these spaces have been incorporated into the school routine and have been used as an educational tool to teach math, language, sciences, as well as healthy eating practices. The exception is San Luis Rey School, which finished the implementation of the garden later and used the garden only for production purposes and consumption in the school.
- ✓ Schools have come up with different methodologies for the gardening activities, whether including all the students or forming garden clubs; whether organizing students in groups by grade levels and having a specific slot in the timetable for each, or having students mixed and subdivided into groups and activities according to their age.
- ✓ Vegetable production by family farmers in Toledo is scarce. The schools are growing the vegetables that they cannot buy from them. Therefore, although the main objective of the school gardens is educational, they are being used to complement the meals, maintaining the quality of the menus and increasing the diversity of the foods consumed by the students.
- ✓ Two schools, Santa Cruz and San Francisco de Jeronimo, have obtained the support of farmers to assist with the management and maintenance of the gardens – which has also been very helpful for the maintenance of the garden during vacation time – and to teach the students in the gardening activities.

- ✓ During the pilot project, the school gardens' production has been constant because the programme has secured seedlings, technical assistance and trainings.
- ✓ Some schools are managing to sell the excess production of the gardens, thus generating income for the school.
- ✓ The activities in the garden have contributed to the increased acceptance of vegetables by the students.
- ✓ The school feeding committee of Toledo district organized a Schools food fair day in April 2017, with the objective of having the schools share ideas about their garden activities and foods of different ethnic cultures. Over 13 schools attended, in addition to the four pilot schools.
- ✓ Exchange of experiences among schools: Some of the mothers of the pilot schools participated on a Food and nutrition day held at Colombia R.C. School in Colombia village, along with the technical agronomist of the pilot project, in order to strengthen their understanding about the importance of providing food at school (especially fruits), to show how meals are prepared and to visit the school gardens.

"We have managed to harvest different types of products and make a little income from it... The students are working in the garden, they take ownership, we have our schedule... They put after school hours, after classes. They come in, water the beds in the evening. They love their garden right now. And they like what they are seeing and that they are harvesting crops."

Diane Teul, Principal-teacher of Santa Elena R.C. School,

November, 2018.

Results

- **Mapping of the school gardens in the country:** The MoE requested a mapping of all the schools to which the MoA is providing support in order to integrate these gardens into the school curriculum.
- **Greater participation in the garden:** At the school level, the community (principals, teachers, students and farmers) has started to recognize the garden as an important education strategy.
- **School gardens as a national educational strategy:** There has been a stronger coordination among the MoA, MoE and MoH, which is facilitating the implementation, management and maintenance of school gardens in the country, as well as promoting a better understanding of the required integrated approach for food and nutrition education through educational school gardens, among other strategies.
- **Exchange of school feeding and gardens initiatives:** The Toledo Agriculture Office is interested in promoting these events among schools, in order to showcase, for the principals of the different schools, the good experiences with school gardens, as well as promoting healthy eating practices, such as banning of soft drinks and chips, and sale and preparation of healthy food items.
- **Greater interest in the school feeding initiatives and school gardens:** Because of the trainings, the exchange visits and awareness building promoted by the Toledo Agriculture Office, there has been a greater interest of the schools in the district in starting a school feeding programme and implementing their own school garden.
- **School garden manual:** Recently, the NSSFTMC has demonstrated interest in publishing a standardized garden manual for the schools, with clear methodologies for implementation, management and maintenance.

Bottlenecks:

- Even though food and nutrition education and the school gardens are included in the teachers' work plan, they have not been fully integrated and incorporated into the school curriculum in a comprehensive, planned and consistent way.
- The food and nutrition education strategies implemented in the schools are more focused on transmission of information rather than on different methodologies to develop empowerment and critical thinking in the students about the different aspects involved in food systems and production, food choices and consumption, food waste, the environment, among many others.
- Even though the collaboration of the MoA has been fundamental to strengthen the school garden in the four pilot schools, technical assistance is limited as they have only one extension officer, assigned to the school gardens of many other schools in the Toledo district as well and who is also responsible for other projects.
- In some of the communities of the pilot schools, the community and the village leader's participation in the school gardens has been somewhat low.
- Funding to acquire seedlings must be pursued, in order for the gardens management not to be dependent on the financial support of the programme.

5. ESTABLISHMENT OF DIRECT PURCHASES FROM FAMILY FARMING FOR SCHOOL FEEDING

As already mentioned, before the SS model pilot, the schools involved obtained the majority of their food items in their own communities. Fresh vegetables, fruits and other food items were bought from local farmers, grocery stores and at the nearest market. When available, some vegetables were also obtained from their own school gardens.

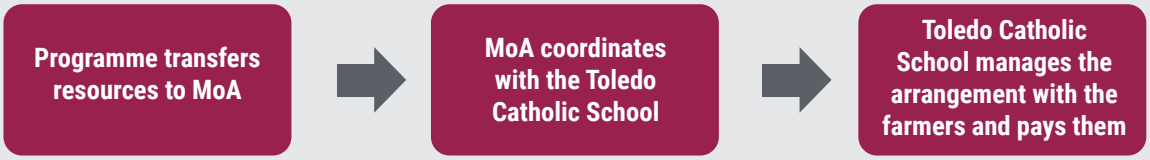
With the implementation of the SS model, the purpose was to have them follow a seasonal and healthy menu that incorporated foods grown by the local family farmers and have them buy as much of these items directly from them as possible, all school year round, in an institutionalized way, through a process supervised by the MoE and with the participation of the MoA , the MoH and other key players involved at local and school level.

This has been the most challenging component and has constituted an important learning source for government actors at a national level, government institutions and key players at a local level, the school community and the farmers involved in the process.

To enable the implementation of this component, an agreement was signed between FAO and the MoA on December 2017, with the purpose of contributing to the implementation of the pilot project, with a particular focus on the procurement of food from local family farmers, supporting the school gardens and strengthening inter-institutional and intersectoral coordination considering the participation of key ministries such as health and education.

As stipulated in the agreement, Mesoamerica Hunger Free AMEXCID-FAO programme would finance school feeding for 60 days, five times a week, purchased directly from local family farmers, for all students in the four schools. A specific mechanism was put in place by the MoA to facilitate the process through the Toledo Catholic School Management, responsible for managing of the arrangement and paying the farmers.

Figure 7. Overall mechanism for disbursement of funds for local purchases from family farmers for the SS model



Source: Elaborated by the authors.

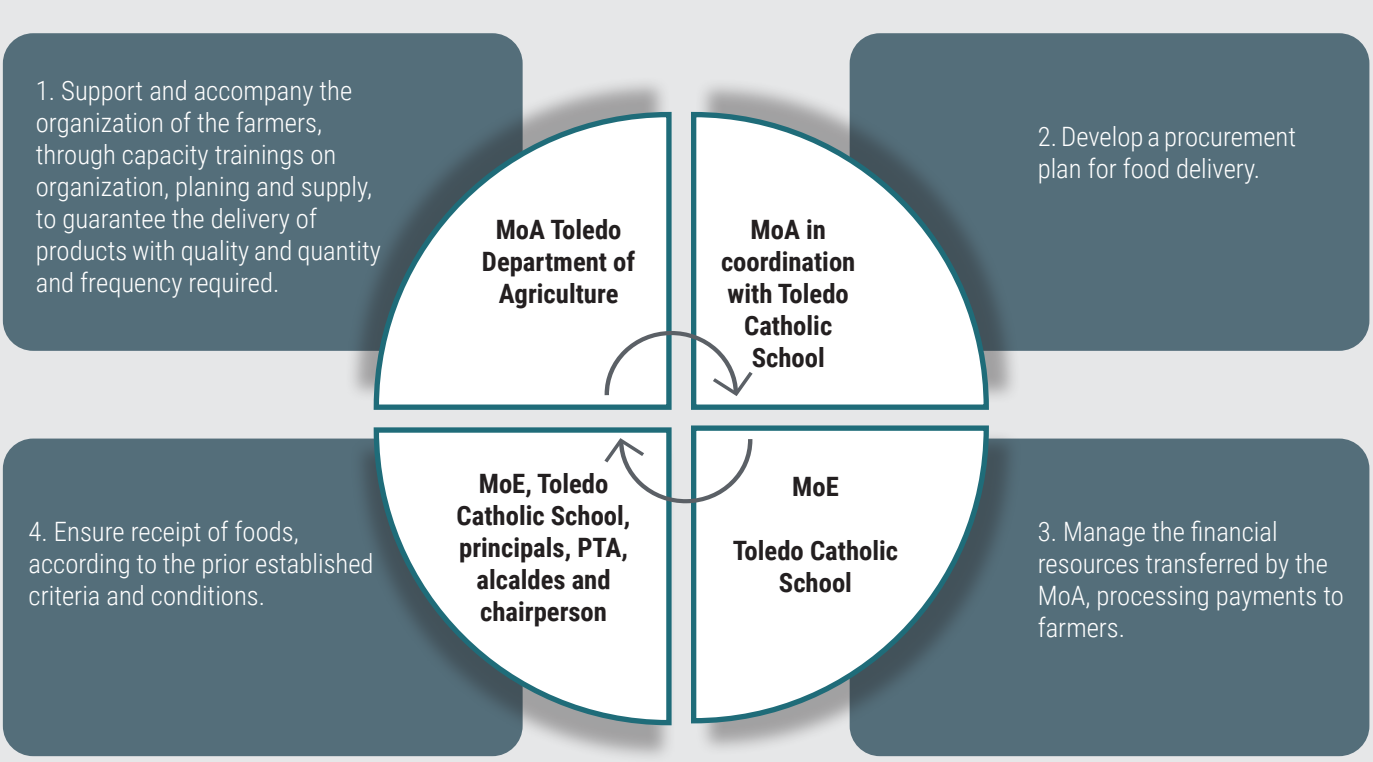
Monthly cost of school feeding for the four pilot schools with foods from family farming, considering menu 1 and food prices of September 2017, was planned as demonstrated below. It is worth mentioning that principals, PTAs and school feeding committees were consulted regarding the two menus developed in the nutritional plan, and all four decided to implement menu 1 (which included foods that required refrigeration). The two schools that did not have access to electricity (Santa Elena and Santa Cruz R.C. schools) would count on the families to store these items.

Number of schools	Average monthly days with school feeding	Cost per child/day	Number of students	Average monthly expenditure
4	20	USD 0.83	700	USD 11 620

A monthly 20 days period was considered, taking into consideration a four week, five times a week supply. Even though the total number of students of the four schools was 652, 700 students were considered for planning purposes.

The following process for the purchase of foods from family farming for the four school pilots was planned:

Figure 8. Planned process for the procurement from family farmers of Toledo district to the schools



Source: Elaborated by the authors.

At first, an initial supply of food was planned for 20 days as a trial, and the following 40 days would be completed on a second phase after.[iii] A first disbursement of funds was made from the programme to the MoA in April, as planned.

Procurement was scheduled to start in May. However, this process suffered some delay since purchase arrangements had to be drafted and agreed on. In collaboration with the school principals, 15 local family farmers were identified as providers. The products that the farmers could not provide, such as some vegetables, eggs in large amounts, rice and chicken were obtained from local stores in Punta Gorda.

iii The initial supply of food planned for 20 days was carried out in 2018, while the second phase was carried out in 2019.

Figure 9. Local mechanism for disbursement of funds for local purchases from family farmers for the SS model

Source: Elaborated by the authors.

Payments were made in the form of checks to the individuals. Occasionally, Toledo Catholic Schools had to provide petty cash to schools to assist with the payment onsite of any other necessities within their school feeding programme, and the principals would bring the receipts.

"I remember we bought at Santa Cruz a sack of beans, 100 pounds of beans. When the farmer would come here, he would sell the beans for 2 dollars a pound. However, because it was for the school community, he sold it for 1.25. So, it made it easier... remembering it is all for our community. We will be able to work with prices that will not be straining the school."

Claret Jacobs, Assistant local manager, Toledo Catholic School

November, 2018.

Products bought from family farmers for the four schools were corn, callaloo, cohune cabbage, okra, jipijappa, cabbage, pepper, root crops, beans, meat and fruits like mango, pineapple, papaya and orange.

Two schools, San Luis Rey and San Francisco de Jeronimo, provided school feeding for the planned 20 days. Santa Elena provided meals for 14 days and Santa Cruz provided for 13 days, either because the volunteer cooks could not come to school every day or due to the end of school year. Because of this, the resources executed at the end of this first trial came to a total of USD 9 904.16, according to food costs of July 2018.

Table 5. Resources executed during the first trial

Schools	Number of days with meals	Number of students enrolled	Cost per child/day	Average monthly expenditure
San Luis Rey R.C. School	20	315	USD 0.83	USD 5 229.00
Santa Cruz R.C. School	13	126	USD 0.83	USD 1 359.54
Santa Elena R.C. School	14	61	USD 0.96	USD 825.62
San Francisco de Jeronimo R.C. School	20	150	USD 0.83	USD 2 490.00
Total		652		USD 9 904.16

Source: Elaborated by the authors.

Good practices:

- ✓ One of the factors that contributed to the smooth procurement process was the development of the menus, by which all the actors involved in the process knew ahead of time the items the schools would need.
- ✓ The role of Toledo Catholic Schools proved to be very important in the process. The organization was dealing with the schools with which it had already worked, being able to meet the school communities, the PTAs, the cooks, and, in that sense, push the whole process within those initial 20 days much more efficiently than if the government had to pay the farmers.
- ✓ The good collaboration between Toledo Catholic School, the schools, farmers and local stores facilitated the entire procurement process and allowed schools to receive the products properly, as planned in the menus.
- ✓ The educational community has strived to maintain the nutritional quality of the menus, trying to obtain all the foods whenever possible and making minor changes when it was not possible to find them.
- ✓ The MoA, through the Toledo Agriculture Office, had already had experiences with other projects and had been developing a series of activities in the region among family (small-scale) farmers, such as training, exchange of experiences and promotion of vegetable production. These activities were incorporated into the SS model.

Bottlenecks:

- Most of the farmers in the communities involved in the pilot project do not produce in large amounts and they do not want their products to go to waste. Because the first procurement phase was only for 20 days, the farmers did not have enough time to plan their production according to the menus developed.
- The majority of farmers in the Toledo district practice subsistence agriculture and rely on corn, beans, rice and cacao. Vegetable production is minimal, almost non-existent, because farmers are not used to growing these crops. As a result, some vegetables from the mapping list were not obtained from them, but from stores close to the communities.
- The strategy of financing the district school feeding initiatives with resources from parents has not yielded sustainable results, because they do not have the capacity to maintain the provision for all five days of the week, during the whole school year and to all the students. The experience of the pilot project has shown that the community has understood the importance of school feeding and that it is committed to it. However, it has also shown that when the schools cannot count on a stable funding, they return to an initial state or even stop providing meals, as was the case in three of the four schools when the initial 20 days trial was over.

Results

- **Six hundred fifty-two children participating in the pilot project** consumed fresh, diverse, healthy and local foods in an adequate environment for 13–20 days in 2018. (A second phase of food supply was carried out for 40 days in 2019)
- **Direct procurement from family farmers established:** The methodology for the direct purchase from family farming for school feeding has been established in Toledo district, developing capacities among all the institutions and key players involved at national, local and community levels.
- **Family farming capable of providing for school feeding:** Farmers of Toledo district who participated in the pilot project have the capacity to provide several local products for the schools, complying with the quality, safety, quantity, continuity and price requirements.
- **Local farmers beneficiated:** The linkage between the school feeding programme and family farming production has increased the farmers' income.
- **Economic, nutritional and social benefits of the procurement from local family (small-scale) farmers:** This pilot project has shown that the cost of the direct procurement from family farming modality is similar to the cost of the government-funded SFP. In three schools, the cost per child and per day was USD 0.83, with an average cost of USD 0.86 per child and per day on the four schools, similar to the cost of the meals of the government funded school feeding programme (USD 0.83). Additionally, there have been nutritional and social benefits, since the students receive fresh and local foods and resources go directly to the farmers.
- **Potential market of the school feeding programme:** Farmers have started considering the demands of the school feeding initiatives as an important potential market for their production.
- **Greater demand by family farmers for technical assistance:** The Toledo Agriculture Office has also been receiving more requests from family farmers for technical support and assistance, and also to start a cover structure.
- **Increased attendance:** The attendance during the 20 days of school feeding went up and in San Luis Rey and Santa Cruz increased as high as 100 percent.

6. IMPROVEMENT OF SCHOOL INFRASTRUCTURE

Before the SS model pilot project, all four schools had some type of infrastructure for school feeding (a small kitchen and storage room, but not a lunchroom), though in very basic conditions.

Within the framework of the SS pilot, the conditions for the storage, preparation and consumption of school meals have been improved in all four schools. This includes construction of kitchens, storage rooms, cafeteria and provision of utensils, plates and tables.

San Francisco de Jeronimo R. C. School was the first to have its infrastructure improved, in 2015, with resources from the MoA as a counterpart of the Government of Belize. Later, in 2016, this school received tables, utensils and a stove with resources from Mesoamerica Hunger Free AMEXCID-FAO programme, which also guaranteed the complete renovation of the infrastructure of the three other schools (construction works, furniture and utensils).

As a first step, the design of kitchens, storage areas and cafeterias was discussed with PTAs and school principals, and a company was hired for the construction. The work started in 2016 and was completed in November 2017. This component was developed in four phases:

Phase 1
- Inputs collected and diagnose of the conditions of schools undertaken to prioritize needs and allocate budget
- Participants: FAO, MoE, MoA, FAO engineering consultant, PTAs, schools' principals

Phase 2
- Meetings with the different actors/institutions to plan and coordinate the activities of the project

Phase 3
- Bidding processes to select company, under FAO administrative regulations
- Company selected
- Construction of kitchen, storage and lunchroom executed in the three schools

Phase 4
- Evaluation and delivery of the work

In the three schools where infrastructure conditions were improved with resources from the programme (San Luis Rey, Santa Cruz and Santa Elena), an investment of USD 20 000 was made for each school.

SANTA ELENA R.C. SCHOOL BEFORE THE SS MODEL

Old kitchen area,
July 2016.

Old kitchen infrastructure,
July 2016.

Old kitchen area,
July 2016.

Kitchen, storage and lunchroom.
Construction in process, July 2017.

SANTA ELENA R.C. SCHOOL AFTER THE SS MODEL

New kitchen, storage and lunchroom
infrastructure, November 2017.

New kitchen infrastructure,
November 2017.

SAN LUIS REY R.C. SCHOOL

New kitchen, storage and lunchroom infrastructure, November 2017.

New lunchroom, November 2017.

SANTA CRUZ R.C. SCHOOL

Old kitchen and storage room, July 2016.

Old kitchen and storage room, July 2016.

New lunchroom,
July 2018.

New lunchroom,
July 2018.

SAN FRANCISCO DE JERONIMO R.C. SCHOOL

New kitchen, storage and lunchroom area,
November, 2016.

New kitchen and lunchroom,
November, 2016.

Good practices:

✓ With the plan to improve conditions for school feeding in the four schools, it was possible to identify the previous conditions of the schools´ infrastructure, a new design adjusted to their needs and the cost for this component.

Results

- **Improvement of infrastructure for school feeding:** All four pilot schools have adequate infrastructure for school feeding, which includes kitchen, storage and lunchrooms, as well as utensils and stoves. They also have a school garden with a cover structure in place.
- **Scaling-up the improvement of infrastructure for the national school feeding programme:** The good experience of improving the infrastructure for school feeding in the pilot schools can be used by the national authorities as a model when planning to improve the school feeding conditions of other schools in the country.

Bottlenecks:

- In general, the infrastructure investment plans of the education sector have limited resources for the construction or improvement of school kitchens, storage areas and adequate lunchrooms. This was one of the limitations encountered in the four schools, since the initial infrastructure conditions were very limited.

3.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- The implementation of the SS model pilot has contributed to promoting a new vision of a sustainable school feeding programme in the country, changing the paradigm from a food assistance programme for vulnerable populations to a rights-based programme linked to health, education, agriculture, social and sustainable development. This was achieved through meetings, awareness raising workshops and trainings aimed at stakeholders from the highest political level, to local authorities and community actors and organizations from different sectors and levels.

- School feeding has proved to be a multisectoral policy because it contributes to achieving objectives from different strategic areas such as education, health, agriculture, social development, environment, territorial development, among others.

- The establishment of the National Sustainable School Feeding Technical Monitoring Committee (NSSFTMC) has shown that different sectors, institutions and stakeholders can work in a coordinated and sustainable manner towards a common and comprehensive agenda.

- As a result of this stronger coordination, Belize has made progress in its commitment to fighting against hunger, by taking steps towards the establishment of a national Parliamentary Front against Hunger and Malnutrition in the country.[iv]

- The experience of the pilot project has already contributed to the improvement and strengthening of the national school feeding programme.

- The territorial approach is fundamental to the success of the pilot project and the strengthening and sustainability of the SFP in Belize, as it allows identifying concrete needs and mobilizing collective interventions. For this reason, the involvement and active participation of the actors and institutions at local level is key, including their awareness-raising and participation in the whole process of the pilot implementation (planning, implementation, monitoring) and strengthening of the school feeding programme.

- The pilot project has demonstrated that the school community and other local actors are strongly committed to contributing with the implementation and execution of a sustainable school feeding programme in the long-term (especially the cooking, garden management and local production components), whenever the resources for procuring the food, as well as the other components, are secured.

- The development of a nutritional plan, which provided valuable information to all the stakeholders involved in the SS model at national and local level on the current conditions of the schools, the nutritional status and eating practices of the students, the food and nutrition education activities implemented at the schools and the availability of local agriculture production has been crucial for planning and developing the menus and implementing the other activities of the pilot.

- All four schools have a school garden with a cover structure in place.

iv The Belize Parliamentary Alliance against Hunger and Malnutrition was officially established in 2019.

- The pilot project strengthened food and nutrition education actions in the four schools, emphasizing the potential of the school environment, school feeding and educational school gardens as channels to boost the school curriculum and in health and environment education.

- The methodology of the pilot project regarding the food and nutrition education component has also promoted a greater coordination between the MoE, MoA and MoH towards a more integrated vision of food and nutrition education. However, there is a need for greater integration of school feeding, as well as nutrition, health and environment topics into the school curriculum, in a cross-cutting and continuous way, across all grade levels in the four schools, as well as in other schools of the country, and for the use of reflexive, experiential and cooperative methodologies.

- The methodology for the direct purchase from family farming for school feeding has been established among all the institutions and key players involved (MoA, MoH, MoE at national and district level, school communities, farmers and Toledo Catholic School Management). However, there is a need to strengthen this component and all the key players and institutions involved, at national, local and community levels.

- Family farmers of Toledo district were able to supply the four schools with quality food items, in the amounts and time required. However, as only a few producers in the region grow vegetables, some had to be acquired at regular local stores. The school feeding programme could be used as a strategy to support the increase in the diversity and production of these items by the farmers of Toledo.

- All four pilot schools have adequate infrastructure for school feeding, which includes kitchen, storage and lunchrooms, as well as utensils and stoves.

- There is a demand for constant training and capacity building of the various actors involved in school feeding: stakeholders at national and local levels, as well as principals, cooks, teachers, parents, students and farmers.

- It is possible to adequately replicate the SS model in other regions of the country, whenever a participatory and inclusive process is maintained, based on the needs and realities of each locality, and whenever there is a stronger communication between the three different levels (national, local and community level) about the processes and expected results of the activities.

RECOMMENDATIONS

The following are recommendations that would contribute to the scaling-up of the SS model, improving the institutional mechanisms and sustainability of the school feeding initiatives around the country, as well as ensuring the strengthening and sustainability of the national SFP.

The recommendations are presented according to each of the components of the SS model and a new component has been created to present recommendations related to financial capacities and the school feeding programme´s design.

Financial, design and regulation capacities of the school feeding programme

- ✓ It would be important to search for mechanisms to strengthen the country's commitment towards the institutionalization of the school feeding programme in its legal, political and budgetary frameworks, strengthening its sustainability as a comprehensive state policy, based on the human right to adequate food approach, which would contribute to the fulfilment of the SDGs.
- ✓ In order to promote and consolidate the institutionalization of the SFP in the country, with the establishment of legal and policy frameworks, the following is proposed:
  - o It is suggested that the MoE, MoH and MoA, with the support of its partners, engage in active policy and advocacy processes with political leaders, public officials, parliamentarians and civil society on the importance of the school feeding programme, and the need for its institutionalization as a government policy and within other national and sectoral related policies.
  - o It is fundamental that these policies address mechanisms for a better collaboration and harmonization between nutrition, health, education, school feeding, agriculture and social development, and that they incorporate the various elements that would guarantee the sustainability of the programme.
  - o In order to have a national policy for school feeding, it is suggested that such policy be drafted setting the normative standards for the SFP, including all the information about the programme's principles, objectives, targets, conditions of implementation, mechanisms to ensure food quality and safety and of social participation, as well as monitoring and evaluation at all levels. It is suggested that the MoE, the MoA and the MoH lead the process of its approval, with the support of their partners, and that a national campaign to promote awareness about the policy be carried out.
- ✓ It is important to guarantee resources, in the national and local budgets, for increasing the coverage of the national school feeding programme to all schools in the country.
- ✓ Mechanisms to guarantee financial resources to secure the continuity of the six components in the four pilot schools are needed; as well as, in the mid-term, to scale-up the SS model to other districts and schools of the country. In this way, this school feeding initiative may fulfil its role of guaranteeing food security and nutrition, and adequate and healthy food for all students.
- ✓ For the scaling-up of a sustainable SFP, it is recommended that the MoE, with the support of the other line ministries, leads the discussions and negotiations with the government in order to ensure the establishment of a budget line for the school feeding programme, within the national and local budgets, based on realistic governmental funding conditions, that

would guarantee the implementation of all the components (food procurement, food and nutrition education, school gardens, infrastructure, trainings, follow-up).

- ✓ In order to strengthen the institutional capacity of the SFP, the establishment of a unit responsible specifically for the programme under the MoE is recommended, establishing its operational components, roles and responsibilities.
- ✓ The Government of Belize should put in place a resource mobilization action plan for the school feeding programme that would allow complementing government efforts by external funding from donors working in the country, as well as other relevant funding sources like the private sector or international financing institutions.
- ✓ Academia and other key partners could be involved in the design, implementation and monitoring and evaluation of the SFP through contributions with the following specific inputs:
  - o capacity building and awareness raising on the importance of the school feeding programme:
  - o research and studies on topics related to school feeding, school health, food and nutrition education, in order to identify the situation of the students, the school and the school meals, and to determine the effects of the SFP and food and nutrition education on the students´ health, practices and attitudes, and on the teachers and families as well; and
  - o creation and dissemination of materials for food and nutrition education, such as manuals and guides, and provide capacity trainings and awareness raising about food, nutrition, health promotion and sustainability among the school community.
- ✓ The development of standards and guidelines for the school feeding programme, setting clear goals, targeting criteria based on proper targeting methodology, standardizing food menus as well as operational procedures, planning and procurement mechanisms, food and nutrition education interventions, and monitoring and evaluation processes is fundamental. These guidelines should be shared with all relevant staff, other government and non-government stakeholders and sectors, the community, as well as with partners and major donors, at national and local levels.

Inter-institutional and intersectoral coordination

- ✓ Further engagement of all sectors, institutions and stakeholders involved (government, public sector, academia and research institutions, private sector, NGOs) would be needed at all levels – central, local and at community level.
- ✓ The proposed actions to strengthen the coordination around the school feeding programme are:
  - o development of a common agenda integrating all existing governmental and non-governmental programmes and projects, directly or indirectly related to the SFP, at national and local level; and
  - o promotion of coordination of the school feeding programme with other government programmes to ensure full operation of the programme (infrastructure, food and nutrition education, school gardens, follow-up, procurement from local producers, among others).
- ✓ It is advisable to promote the institutionalization of the coordination between the different ministries at the district level through the creation of a local inter-institutional and intersectoral committee, in order to facilitate the smooth communication between the national level and the schools. This would contribute to assessing schools´ necessities more effectively

(such as more trainings for the school garden, trainings and certification for food handlers, availability of fresh water in the schools), which would contribute to the improvement and sustainability of school feeding initiatives.

- ✓ The improvement of the school feeding programme´s design, regarding an integrated approach around issues of food and nutrition, health, education, social development and agriculture, is needed, in order to guarantee the implementation of a sustainable SFP that goes beyond food provision and incorporates all the elements that are fundamental to its adequate execution and to the compliance with the expected results.
- ✓ It would be advisable to include in the agenda of the Parliamentary Front against Hunger and Malnutrition of Belize discussions about the importance of the school feeding programme as a strategy of fulfilment of the human right to adequate food and, thus, as a fundamental right of children to a better life.
- ✓ Belize should continue to strengthen coordination with other relevant international stakeholders with a mandate on issues related to school feeding programmes, such as FAO, UNICEF, WHO, PAHO, international financial institutions and NGOs, in order to continue receiving technical assistance, training and policy advice for the sustainability of the SFP in the country. In this sense, support is recommended in the following areas:
  - o technical support in the process of improvement of the design and implementation of the school feeding programme (local procurement projects, development of legal and policy frameworks, among others);
  - o strengthening the educational community (school feeding committees, PTAs), family (small-scale) farmers and other local actors in all issues related to the school feeding programme through training and educational materials;
  - o advice for the formulation and implementation of monitoring and evaluation methodologies and systems; and
  - o guidance in the adoption of the human rights-based approach, considering principles such as participation and social control, and accountability mechanisms (complaints and claims).

Social participation

- ✓ It is very important to take advantage of the community organizations in place and support their active participation and empowerment in the various activities related to the school feeding programme.
- ✓ Further strengthen the community's awareness of the importance of school feeding as a right of all students, not only of the most vulnerable, and, based on this, of the importance of the participation of the entire community in ensuring quality and sustainability of the school feeding programme is necessary.
- ✓ It would be important to disseminate widely the SFP guidelines and regulations among the school and local community, in order to promote awareness about the responsibilities, rights and obligations of all stakeholders involved in the programme, through the development of information and educational materials and awareness-raising and capacity building activities for these actors.

Adoption of adequate, healthy and culturally appropriate menus

- ✓ The interests and efforts of the Government of Belize to improve the quality of school meals should be continued and strengthened.
- ✓ Current nutritional standards and recommendations for the school feeding programme need to be reviewed, based on appropriate methodologies and taking into account the different age ranges, gender, and special dietary needs.
- ✓ It would be important to review the menus developed in the nutritional plan, in order to identify the need for adjustments.
- ✓ It is suggested that more trainings and certificates for cooks on safe food handling are provided, as well as trainings in new recipes, preparations and different portion sizes.

Food and nutrition education using educational school gardens

- ✓ Given the high rates of overweight, obesity and non-communicable chronic diseases prevalence in the country, prioritization of the strategies to promote healthy eating in schools is suggested. The actions related to food and nutrition education in schools should be connected with the school meals provided, with the school curriculum and with the educational school garden. Therefore, it is important to strengthen further the coordination between the MoE, the MoA and the MoH at a district level to optimize the actions at the schools.
- ✓ It is advisable that the approach used for food and nutrition education be holistic and comprehensive, considering, in addition to the nutritional and biological aspects of food, also the cultural, anthropological and cultural elements, among others, and fostering awareness about and promoting good practices around food systems and the environment among the students, school community and families.
- ✓ Other best practices of food and nutrition education across the country should be identified, assessed and shared with other regions or schools.
- ✓ In order to guarantee the sustainability of the food and nutrition education interventions, it is advisable to incorporate them into the school curriculum in a cross-cutting and continuous manner, at all grades, in the educational plans of the teachers and institutionalized in the MoE and its representations at local level.
- ✓ In order to achieve best results, it is suggested that food and nutrition education activities be age and culturally adapted, transdisciplinary, permanent and based on behaviour change. It is also suggested that they include various and participatory methodologies inside and outside the classroom, such as the use of school gardens, culinary classes, field trips to markets, food fairs, among others.
- ✓ The existing coordination mechanisms between the health and the education sector, at national and local levels, should be strengthened in order to guarantee cohesiveness and synergy around the actions aimed at schoolchildren at the local and school level.
- ✓ Continuous training and capacity building of the school community, as well as monitoring, on the use and maintenance of the school garden, as well as on its importance and use as an educational tool should be provided.
- ✓ The involvement of families in the development of healthy habits among children and on food and nutrition education activities in the schools is extremely important and should be encouraged.

- ✓ It would be advisable to reinforce the technical capacity of the school community regarding the management of school gardens, through continuous coordination between the MoA and the MoE, to ensure alignment between the crop calendar and the school calendar, so that students can accompany the whole production process, from plating, harvesting and to consumption.
- ✓ The Toledo Agriculture District´s Office capacity related to trainings, technical support and capacity building for the schools should be improved, especially regarding management of vegetables production under the cover structure, the use of alternative agricultural techniques for pest management and use of organic fertilizers.
- ✓ At the school level, it is important to search for mechanisms to ensure the functioning of school gardens at weekends, holidays and vacation, so that they can be functional throughout the whole school year. The experience with other countries has shown that the involvement and participation of the entire community has been instrumental in addressing this challenge.
- ✓ Attention should be paid to create a healthy environment, in terms of availability of healthy foods and absence of junk foods in schools, which would include regulation and monitoring of the school vendors inside the schools.
- ✓ The MoA, in coordination with the MoE, has promoted the establishment of school gardens in different regions of the country. It is suggested that, taking into consideration these experiences, a national school garden strategy be developed, and that it is integrated into the development of the sustainable national school feeding programme.

Establishment of direct purchases from family farming for school feeding

- ✓ Given the recognition of the strategic role of school feeding in promoting food security and nutrition, and the current positive experience of the SS pilot in procuring directly from family farmers, it is recommended that the line ministries, with the support of other institutions and national and international agencies and organizations working with social food transfer programmes, initiate or strengthen the advocacy process to promote or reinforce the linkage between school feeding and family farming sector by creating specific policies, programmes and strategies.
- ✓ It is advisable to continue with and strengthen the process for the next phase of local procurement from the farmers, in order to incorporate more vegetables and other food items used in the school feeding.[v]
- ✓ The lessons learned and good practices of Toledo Catholic School Management could be used to strengthen the direct procurement modality in the Toledo area and to replicate the experience to other districts of the country.
- ✓ It would be important to improve the channels of communication with farmers, so that they would know way ahead of time the food items, their exact amounts and the frequency with which the schools would need them, so that they can plan their production and be able to ensure their produce availability.
- ✓ The strengthening of agricultural extension services to provide information, technology and knowledge to family (small-scale) farmers is advised, so that they can produce the food needed to supply the school feeding programme, in sufficient quantity and quality, at a fair price, using sustainable production techniques.

v The second phase of local procurement was carried out in 2019.

Improvement of school infrastructure

- ✓ It is important to search for mechanisms to guarantee resources for school infrastructure in the national and local budgets.
- ✓ It is advisable to promote coordination with other existing governmental and non-governmental programmes and projects.
- ✓ Encouraging coordination among central, regional and local level is important to ensure short and medium-term alternatives for infrastructure improvement.

NOTES

1. **WFP**. 2017. *How School Meals Contribute to the Sustainable Development Goals*. A Collection of Evidence.

2. **FAO, IFAD, UNICEF, WFP & WHO**. 2017. *The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security*. Rome, FAO. https://www.fao.org/3/I7695e/I7695e.pdf

3. **FAO**. 2015. *State of Food Insecurity in the CARICOM Caribbean: Meeting the 2015 hunger targets: Taking stock of uneven progress*. Rome, FAO.

4. **Galicia, L., López de Romaña, D., Harding, KB., De-Regil, LM., & R. Grajeda**. 2016. Tackling malnutrition in Latin America and the Caribbean: challenges and opportunities. *Revista Panamericana de Salud Pública*, 40(2): 138–46.

5. **Center for Disease Control and Prevention (CDC)**. 1996. ***Guidelines for School Health Programs to Promote Lifelong Healthy Eating. Morbidity and mortality weekly report***. Atlanta.

6. **FAO & WHO.** 2014. C*onference Outcome Document. Framework for Action. Second International Conference on Nutrition*. Rome.

7. **FAO, OPS, WFP & UNICEF**. 2018. *Panorama de la seguridad alimentaria y nutricional en América Latina y el Caribe 2018*. Santiago, FAO.

8. **WHO**. 2013. *Vienna Declaration on Nutrition and Non-communicable Diseases in the Context of Health*. Vienna.

9. **FAO & CELAC**. 2014. *The CELAC Plan for Food and Nutrition Security and the Eradication of Hunger 2025*. Santiago.

10. **WFP.** 2017. *How School Meals Contribute to the Sustainable Development Goals. A Collection of Evidence.*

11. **FAO & WFP**. 2018. *Home-Grown School Feeding Resource Framework Synopsis* – March 2018.

12. **World Bank**. Belize. https://data.worldbank.org/country/belize

13. *Country programming for framework Belize: 2011-2015*. Adopted: Belize & FAO, Belmopan, 2011.

14. **Carneiro, F**. 2016. *Belize: right choices, bright future. Systematic Country Diagnostic*. World Bank Group.

15. *The Food and Nutrition Policy and Plan of Action for Belize.* Adopted: Food and Nutrition Security Commission of the Government of Belize, Belmopan, February 2010. http://extwprlegs1.fao.org/docs/pdf/blz171040.pdf

16. *Action Plan. Reduction of Chronic Malnutrition in Belize 2011-2015*. Adopted: Ministry of Health of Belize, December 2010.

17. *National Agriculture and Food Policy of Belize 2015-2030*. Adopted: Ministry of Agriculture of Belize, Belmopan, November 2015.

18. **Ministry of Health of Belize**. 2011. *Global School-based Student Health Survey*. Belize 2011 Fact Sheet.

19. *The Food and Nutrition Policy and Plan of Action for Belize.* Adopted: Food and Nutrition Security Commission of the Government of Belize, Belmopan, February 2010. http://extwprlegs1.fao.org/docs/pdf/blz171040.pdf

20. **Statistical Institute of Belize & UNICEF**. 2017. *Belize multiple indicator cluster survey 2015–2016*. Belmopan.

21. **Ministry of Health of Belize, WFP, IDB & UNICEF**. 2007. *Towards eradicating malnutrition in Belize*.

22. **Statistical Institute of Belize & UNICEF**. 2017. *Belize multiple indicator cluster survey 2015–2016*. Belmopan.

23. *Country programming for framework Belize: 2011-2015*. Adopted: Belize & FAO, Belmopan, 2011.

24. **FAO**. 2018. *Final Report: Support the strengthening of the School Feeding Programme of Belize*.

25. *National Agriculture and Food Policy of Belize 2015-2030*. Adopted: Ministry of Agriculture of Belize, Belmopan, November 2015.

26. **My Belize**. 2015. Education in Belize. In *My Belize.net*. https://www.mybelize.net/education-in-belize

27. **Ministry of Education of Belize**. 2018. *Quick Facts 2017-2018*.

28. Idem

29. **My Belize**. 2015. Education in Belize. In *My Belize.net*. https://www.mybelize.net/education-in-belize

30. **Ministry of Education of Belize**. 2018. *Quick Facts 2017-2018*.

31. Information gathered based on interviews and field visits by the consultant Dimsoy Cruickshank for the Belize Public procurement review: Opportunities & Constraints to linking small farmers to institutional markets with a focus on the SFP.

32. Idem

33. **Carneiro, F.** 2016. *Belize: right choices, bright future. Systematic Country Diagnostic*. World Bank Group.

4.

ANNEXES

ANNEX 1. METHODOLOGY OF THE SYSTEMATIZATION PROCESS

The process of systematization involved desk research, interviews and visits to the four schools.

Desk research and collection of information included revision of the pilot project's reports and country documents concerning food security and nutrition, school feeding, agriculture; as well as meetings with the Technical Coordinator of the pilot in Belize in order to gather data about all the aspects of the implementation process since the beginning of the activities in the country.

A field visit to Belize including the four pilot schools was carried out in November 2018, with the objective of interviewing some government officials and the main stakeholders involved in the pilot at national, local and community levels and of seeing the components implementation at each school.

During that field visit, government representatives and technical staff of the following sectors and institutions were interviewed: MoA, MoE, MoH (Nutrition Unit) at national level; Toledo Education Office, Agriculture Office and Toledo Catholic School Management. At the school level, principals of the four schools, two teachers and one family farmer (and gardener) were also interviewed.

ANNEX 2. PROCUREMENT PLAN FROM FAMILY FARMERS OR FARMERS OGANIZATIONS FOR THE FOUR SUSTAINABLE SCHOOLS FOR THE FIRST PHASE OF FOOD DELIVERY

School: San Luis Rey R.C. School
Village: San Antonio
Duration of first phase of food delivery: 20 days
Total number of students enrolled in 2016: 313

Nº	PRODUCTS	TOTAL POUNDS	TOTAL UNITS	PRICE PER LB OR UNIT (BZD)	TOTAL PRICE (BZD)
1	Banana (apple)		939	0.16	150.24
2	Beef	58		5.00	290.00
3	Carrots	142		2.00	284.00
4	Cassava	66		1.00	66.00
5	Chicken	646		2.75	1 776.50
6	Cooking oil (gallons 3.75 ltrs)		28		
7	Yellow corn	275		0.40	110
8	Eggs		939	3.75	3 521.25
9	Lime		939	0.33	309.87
10	Onion	143		3.00	429.00
11	Orange		939	0.16	150.24
12	Papaya		45	4.50	201.21
13	Pork	176		5.00	880.00
14	Red beans	413		2.00	826.00
15	Rice	413		1.25	516.25
16	Sweet pepper	42		4.50	189.00
17	Sweet potato	33		1.50	49.50
18	Tomato	177		3.00	531.00
				BZD	**10 280.06**
				USD	**5 140.03**

School: San Francisco de Jeronimo R. C. School
Village: Pueblo Viejo
Duration of first phase of food delivery: 20 days
Total number of students enrolled in 2016: 155

Nº	PRODUCTS	TOTAL POUNDS	TOTAL UNITS	PRICE PER LB OR UNIT (BZD)	TOTAL PRICE (BZD)
1	Banana (apple)		465	0.16	74.40
2	Beef	29		5.00	145.00
3	Carrots	70		2.00	140.00
4	Cassava	33		1.00	33.00
5	Chicken	320		2.75	880.00
6	Cooking oil (gallons 3.75 ltrs)		13		
7	Yellow corn	204		0.40	81.60
8	Eggs		465	3.75	1 743.75
9	Lime		465	0.33	153.45
10	Onion	71		3.00	213.00
11	Orange		465	0.16	74.40
12	Papaya		22	4.50	99.64
13	Pork	87		5.00	435.00
14	Red beans	204		2.00	408.00
15	Rice	204		1.25	255.00
16	Sweet pepper	20		4.50	90.00
17	Sweet potato	16		1.50	24.00
18	Tomato	88		3.00	264.00
				BZD	**5 114.24**
				USD	**2 557.12**

School: Santa Elena R.C.School
Village: Santa Elena
Duration of first phase of food delivery: 20 days
Total number of students enrolled in 2016: 54

Nº	PRODUCTS	TOTAL POUNDS	TOTAL UNITS	PRICE PER LB OR UNIT (BZD)	TOTAL PRICE (BZD)
1	Banana (apple)		162	0.16	25.92
2	Beef	10		5.00	50.00
3	Cantaloupe	-	32		
4	Carrots	25		2.00	50.00
5	Cassava	12		1.00	12.00
6	Chicken	111		2.75	305.25
7	Cooking oil (gallons 3.75 ltrs)		5		
8	Yellow corn	100		0.40	40.00
9	Eggs		162	3.75	607.50
10	Lime		162	0.33	53.46
11	Onion	25		3.00	75.00
12	Orange		162	0.16	25.92
13	Papaya		8	4.50	34.71
14	Pork	30		5.00	150.00
15	Red beans	100		2.00	200.00
16	Rice	100		1.25	125.00
17	Sweet pepper	7		4.50	31.50
18	Sweet potato	6		1.50	9.00
19	Tomato	31		3.00	93.00
				BZD	**1 888.26**
				USD	**944.13**

School: Santa Cruz R.C. School
Village: Santa Cruz
Duration of first phase of food delivery: 20 days
Total number of students enrolled in 2016: 112

Nº	PRODUCTS	TOTAL POUNDS	TOTAL UNITS	PRICE PER LB OR UNIT (BZD)	TOTAL PRICE (BZD)
1	Banana (apple)		336	0.16	53.76
2	Beef	21		5.00	105.00
3	Carrots	51		2.00	102.00
4	Cassava	24		1.00	24.00
5	Chicken	231		2.75	635.25
6	Cooking oil (gallons 3.75 ltrs)		10		
7	Yellow corn	150		0.40	60.00
8	Eggs		336	3.75	1 260
9	Lime		336	0.33	110.88
10	Onion	51		3.00	153.00
11	Orange		336	0.16	53.76
12	Papaya		16	4.50	72.00
13	Pork	63		5.00	315.00
14	Red beans (RK beans)	150		2.00	300.00
15	Rice	150		1.25	187.50
16	Sweet pepper	15		4.50	67.50
17	Sweet potato	12		1.50	18.00
18	Tomato	63		3.00	189.00
				BZD	**3 706.65**
				USD	**1 853.33**

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