



DEMONSTRATION-BASED TRAINING

**FOOD AND NUTRITION EDUCATION
FOR SUSTAINABLE SCHOOL FEEDING PROGRAMS**

COURSE CONTENTS

2020

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PRESENTATION

Dear friend,

The Government of Brazil and FAO, through the Project **Consolidation of School Feeding Programs for Latin America and the Caribbean**, have designed the **Demonstration-based Training Food and Nutrition Education for Sustainable School Feeding Programs** for selected Caribbean countries to strengthen country's capacities in implementing sound school feeding programs (SFP) and quality food and nutrition education (FNE).

It is an activity that is part of the regional actions planned by the aforementioned Project, which is developed by the technical cooperation between Brazil and FAO, under the framework of the South-South Cooperation and the Regional Initiative FAO 1 – Help eliminate hunger, food insecurity and malnutrition - which develop several projects around these issues.

In addition, this training, especially developed for the Caribbean region, is the result of a joint collaboration among the Government of Brazil, FAO and the Caribbean Agro-Economic Society to improve capacities in the area of SFP development and implementation in the sub-region. Likewise, it is a strategic action of the **Sustainable School Feeding Network** launched in 2018 within the framework of the **United Nations Decade of Actions on Nutrition**, contributing to the **Agenda 2030**.

The great purpose of the course is to empower government personnel and technicians and support governments in the management of their SFP, especially in regard to the planning and implementation of effective FNE initiatives and activities.

SFP have gone through great changes over the last decades in many countries in the world, and especially in Latin America and the Caribbean (LAC) region. They have reached an important space in governments' agendas as a comprehensive and intersectoral policy for the achievement of food and nutrition security, the fulfillment of the human right to food, the improvement of education and health of the students and the social and economic development of communities and countries.

Moreover, in addition, to the food supply, SFP have incorporated other elements into their design, such as intersectoral and interinstitutional coordination; healthy, adequate, seasonal and local foods; FNE and school gardens with an educational approach; procurement from local family (small holder) farmer; adequate infrastructure for school feeding; and a strong social participation.

The school role, in addition to contribute to the educational, social and health development of the students, is also to support them in becoming active and responsible citizens, aware of their surroundings and role in the world, which includes the development of skills and autonomy to make appropriate choices in life. Also, schools have the responsibility to support them in becoming empowered so that they can contribute to social, health and education changes in their own environment, community and also, at the policy level.

The school, therefore, in conjunction with the family, plays a very important role in the development of the individual's healthy food practices. That is why it is important to design, include in the school curriculum and implement effective FNE, that is cross-cutting, behaviorally-based, and that contributes to the development of informed, conscious and responsible decision-making skills in terms of healthy and sustainable dietary and life style practices.

We invite you, through the following pages, to read the contents carefully and to start reflecting on the realities and specificities of your country about the topics addressed.

Have a great reading!

ACKNOWLEDGEMENTS

This document was produced by Najla Veloso (Regional Coordinator of the Project “Consolidation of School Feeding Programs in Latin America and the Caribbean”, FAO RLC) and Flavia Schwartzman (Regional consultant, Coordinator of the FNE training, FAO RLC) under the technical lead of Ricardo Rapallo (Food Security Officer, FAO SLM) and Israel Rios-Castillo (Nutrition Regional Officer, FAO SLM).

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ACRONYMS AND ABBREVIATIONS

ABC	Brazilian Cooperation Agency
CARICOM	Caribbean Community
CB	Caterer Based
CECANE	Collaborating Center for School Food and Nutrition
CELAC	Community of Latin American and Caribbean
CSF	Centralized school feeding
COTED	Council on Trade and Economic Development
DALY	Disability Adjusted Life Year(s)
DSK	Decentralised School Kitchen
ENACT	Education for Effective Nutrition in Action
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAO HQ	FAO Headquarters
FAO RLC	FAO Regional Office for Latin America and the Caribbean
FAO SLC	FAO Subregional Office for the Caribbean
FAO SLM	FAO Subregional Office for Mesoamerica
FBDG	Food-based food dietary guidelines
F&V	Fruits and vegetables
FNDE	National Fund for Education Development
FNE	Food and nutrition education
FNS	Food and nutrition security
GDP	Gross Domestic Product
HFLACI	Hunger-Free Latin America and Caribbean Initiative
HRAF	Human right to adequate food
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICN2	Second International Conference on Nutrition
Idec	Institute of Consumer Protection of Brazil

LAC	Latin America and the Caribbean
MDG	Millennium Development Goal(s)
MPC	Meal production centre(s)
M&E	Monitoring and evaluation
NCD	Non-communicable diseases
NGO	Non-government organization
NSFC	National School Feeding Committees
NSFU	National School Feeding Units
PAHO	Pan American Health Organization
PFH	Parliamentary Front Against Hunger
PTA	Parent Teacher Association
RFNSP	Regional Food and Nutrition Security Policy
SDG	Sustainable Development Goal(s)
SFNE	School food and nutrition education
SFP	School feeding program(s)
SPS	Sanitary and phytosanitary
SU	Study unit
TBT	Technical barriers to trade
TWG	Technical Working Group
UDHR	Universal Declaration of Human Rights
USD	United States dollar
UN	United Nations
UNICEF	United Nations Children’s Fund
USAID	United States Agency for Development
UWI	University of the West Indies
WFP	World Food Programme
WHO	World Health Organization

MODULE 1

Food and nutrition context in the era of the Sustainable Development Goals

1



END POVERTY IN ALL ITS FORMS EVERYWHERE

Poverty goes beyond the lack of income and resources to guarantee sustainable livelihoods. Poverty is a human rights problem.

Among the different manifestations of poverty are hunger, malnutrition, lack of housing and access to other basic services such as education or health. There is also discrimination and social exclusion, which includes the absence of the participation of the poor in decision-making processes, especially those that affect them.

To achieve this Goal of ending poverty, economic growth must be inclusive, in order to create sustainable jobs and promote equality.

UNIT 1

THE HUMAN RIGHT TO ADEQUATE FOOD, FOOD AND NUTRITION SECURITY AND THE SUSTAINABLE DEVELOPMENT GOALS

OBJECTIVES:

Upon completion of this unit, you will be able to:

- understand the principles and conceptual basis of the topic of human rights, with a focus on the human right to adequate food (HRAF) and food and nutrition security (FNS);
- be aware of the situation of food and nutrition insecurity in the Latin American and Caribbean (LAC) region and in the world;
- become familiar with the 2030 Agenda and the Sustainable Development Goals (SDG); and
- describe the importance of the human rights approach in FNS policies.

1. INTRODUCTION

In this unit, we will address the topics of HRAF and FNS, initially from a more historical and conceptual perspective, and then from a more practical view, in order to understand the importance, the comprehensiveness and the intersectoral nature of the aspects related to food and nutrition.

We will also address the United Nations (UN) 2030 Agenda for Sustainable Development, and its 17 Sustainable Development Goals (SDG), highlighting how nutrition can be related to most of them, recognizing its central role for sustainable development.

In addition, some data related to food and nutrition insecurity in the world and in the LAC region will be provided, and then we will discuss how the rights-based approach can be incorporated into the design of public policies, programs and projects related to FNS, health and education of people, in order to ensure that the HRAF food is effectively enforced.

Before continuing with the reading, we recommend that you watch the video:

<https://www.youtube.com/watch?v=frOEGHtoVKM>

- This Shelbourne Community Kitchen, in Brithish Columbia, Canada, which focus on providing healthy food to those who need it in a supportive community setting, is an example of a strategy to promote FNS of the individuals. This program is very interesting since, in addition to providing nutritious food, it also provides opportunities for people to: a) Prepare and share healthy meals together; b) Work together to grow food and build gardening skills; c) Connect with other community resources and become resources for one another.
- In the municipality of Sao Paulo, Brazil, for example, the strategy of community kitchen is embedded in the First Municipal Plan for Food and Nutrition Security 2016-2020, under directive 2: Promotion of public supply and structuring of sustainable and decentralized systems, based on agro-ecological and solidary food production, processing, distribution and marketing.

Are you aware of comunity kitchens or other initiatives that promote FNS in your community?

2. HISTORICAL AND CONCEPTUAL FRAMEWORKS OF THE HUMAN RIGHT TO ADEQUATE FOOD

The first official reference to the **right to food**, as a human right, was made in article 25 of the **Universal Declaration of Human Rights (UDHR)** of 1948, launched after World War I. It is important to mention that this framework also recognizes other important individual rights to education, health and well-being.

“Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

However, it is only with the approval of the **International Covenant on Economic, Social and Cultural Rights (ICESCR)** by the UN, in 1966, that a broader vision of the right to food begins to be established, which means that not only the person must be free from hunger, but also involves ensuring **adequate food** to guarantee an adequate standard of living. This is reflected in article 11 of the ICESCR which says:

ARTICLE 11 OF 11 DEL ICESCR¹:

1. The States Parties to the present Covenant recognize the right of everyone to an **adequate standard of living** for himself and his family, including **adequate food**, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.
2. The States Parties to the present Covenant, recognizing the **fundamental right of everyone to be free from hunger**, shall take, individually and through international co-operation, the measures, including specific programs, which are needed
 - (a) To improve methods of production, conservation and distribution of food
 - (b) Considering the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.

To view the full document, go to:

<http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>

Despite these important frameworks, only from the 1990s onwards, significant progress was made in relation to the human right to food. In 1996, at the World Food Summit at FAO headquarters in Rome, the importance of this right having more concrete and operational content was recognized. From there, several global, regional and national initiatives were carried out.

One initiative was the approval of **General Comment No. 12** on the **right to adequate food**, in 1999, which established its definition, its main elements and the obligations of the States. This framework defines the right to adequate food as follows:

“The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement. The right to adequate food shall therefore not be interpreted in a narrow or restrictive sense which equates it with a minimum package of calories, proteins and other specific nutrients. The right to adequate food will have to be realized progressively. However, States have a core obligation to take the necessary action to mitigate and alleviate hunger...even in times of natural or other disasters”.

To see the complete document, click here <https://www.refworld.org/pdfid/4538838c11.pdf>

¹ As of July 2016, 164 countries had ratified the ICESCR, becoming States Parties, which means that they are obliged to take measures to realize the established rights and that they have to report to the UN about the progress made (Ferraz, 2017).

The HRAF means, therefore, that all persons must have **food in adequate quality and quantity** guaranteed **at all times**, and that the State must seek means to enforce this right, progressively. The obligation to “perform progressively” means that States may not be in a position to guarantee full realization immediately due to the multisectoral nature of this right or to resource limitations. However, the State must ensure, on an emergency basis, that no one goes hungry.

In 2004, FAO approved the “**Voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security,**” which provide practical guidance to States to achieve the progressive realization of the HRAF in the context of the FNS. To access the full document, go to: <http://www.fao.org/3/a-y7937e.pdf>

It is important to point out that, even in countries that have not ratified the ICESCR or where the HRAF is not recognized, people have human rights, they are universal and inherent to everyone, regardless of the specific policies of governments. The hope of such people lies in taking responsibility for organizing and joining other groups of civil society that are committed to the right to adequate food to pressure their governments.

At <http://www.fao.org/right-to-food-timeline/global-milestones/en/> you can access the Right to Food Timeline which highlights national, regional and global milestones for the realization of this right.

2.1 Main frameworks that recognize the right to food

At international level

The human right to food (or some of its aspects) has also been recognized and affirmed in declarations, multiple international meetings and summits and their corresponding final documents, including:

- **International conventions**, such as the Convention on the Elimination of All Forms of Discrimination Against Women (1979), the Convention on the Rights of the Child (1989), the Adoption of the 2030 Agenda for Sustainable Development (2015), among others.
- **Declarations**, such as the Universal Declaration on the Eradication of Hunger and Malnutrition (1974), the Declaration on the Right to Development (1986).
- **International meetings and summits** and their corresponding final documents, such as: the 1974 World Food Conference; the 1992 International Conference on Nutrition; the 1996 Rome Declaration on World Food Security and the World Food Summit Plan of Action, as well

as its subsequent follow-up meetings; the Framework of Action of the Second International Conference on Nutrition (ICN2) Rome, 2014; the 2015 Sustainable Development Summit, the Milano Pact on Urban Food Policy of 2015, among others.

At national level

In recent decades, a number of countries have developed and implemented constitutional reforms, national laws, strategies, policies and programs aimed at fulfilling the right to food (or some of its aspects) for all. In LAC, the human right to food has been recognized in legal frameworks in several countries, which is a very important step forward, as it demonstrates the political will to enforce this right in the region:

- **Constitutions:** At global level, an increasing number of States, 29 in total, explicit protect the right to food in their constitutions; and 14 of those States are among the 33 States in LAC. In other countries, national constitutions guarantee the right to food for specific groups, for example children or in the context of the right to work. To know in detail the situation of the right to food in the world, visit: <http://www.fao.org/right-to-food-around-the-globe/methodology/en/>
- **Sectoral laws:** in countries where there is no specific law on the right to food, there are sectoral ones such as laws on land reform, land management, fishing, consumer protection, protection of children, among others that regulate various aspects of the right to food, which can and should be considered when violations of the right to food are practiced.
- **Food and nutrition security laws:** several countries in the region have made great advances in implementing FNS laws based on the right to food. Argentina, Guatemala, Ecuador, Brazil, Venezuela, Nicaragua and Honduras are some of the countries that have already adopted these laws, whereas in others these frameworks are in the process of consideration by their parliaments.

Visit the Platform for Food and Nutritional Security of the Community of Latin American and Caribbean (CELAC) States, an information system on public policies and indicators that allows characterizing the elements that have contributed to LAC's progress in the eradication of hunger: <https://plataformacelac.org/en>

3. OBLIGATIONS AND RESPONSIBILITIES TO ENSURE THE FULLFILMENT OF THE HUMAN RIGHT TO ADEQUATE FOOD

Every human right implies obligations on the part of the State and responsibilities on the part of the different social actors. The recognition of a human right implies, first of all, the direct recognition of a **rights holder** and a **duty-bearer**. It is up to the State to comply with the norms that were ratified guaranteeing respect, protection, promotion and provision of these rights.

Some people understand the human right to food as an obligation of governments to distribute free food to everybody who requests it, i.e., they understand it as the right to be fed, but this idea is wrong. The human right to food is the right to feed oneself with dignity. The obligations of the States do not imply giving free food to the entire population, but that the State must:

- Guarantee - as a minimum - that no one suffers from hunger or severe malnutrition;
- Provide sufficient food that is safe and nutritious to those who cannot feed themselves, by buying food surpluses in other parts of the country or requesting international assistance;
- Adopt immediate measures to end discrimination related to access to food or to resources to produce it, such as the land;
- Adopt progressive measures, using the maximum available resources, to ensure that all individuals can feed themselves and their families with dignity.

This means that, from the point of view of the obligations of the States, the elimination or alleviation of hunger cannot be considered a matter of charity, but that it should be considered a matter of legal right, in which the measures are no longer discretionary actions of governments, donors, non-governmental organizations and beneficiaries, but instead, relations between the rights-holders and the duty-bearers (FAO, 2012).

Some examples of actions by governments to promote the HRAF in municipalities are the creation of food banks, popular restaurants and community kitchens.

3.1 Responsibilities and enforceability of the human right to food

Like any other human right, the HRAF also imposes three types or levels of obligations on States Parties, as stated in the General Comment No. 12: the obligation to **respect**, the obligation to **protect** and the obligation to **comply/enforce**.

To know more about these obligations of the States, read the document *Guidance Note: Integrating the right to adequate food into food and nutrition security programs*: <http://www.fao.org/3/i3154e/i3154e.pdf>

It is important to understand that, when talking about human rights, all members of the society (individuals, families, local communities, governmental and non-governmental organizations, civil society and the private sector) are responsible. Everybody has a role in identifying their own obligations and responsibilities so that the HRAF and the FNS can become a reality.

Another important point is that in practice, **it is not possible to talk about human rights and not mention mechanisms of complaints or enforceability**. For the effective realization of human rights, it is fundamental that the rights-holders have the right to demand their enforcement or, when they are violated, that the violation is repaired. Therefore, each State has the obligation to develop and provide appropriate mechanisms to ensure that all residents in its territory have access to the procedures that allow them to claim their rights.

Enforceability is the ability to demand respect, protection, promotion and provision of rights before the competent public authorities (administrative, political or judicial powers) in order to prevent violations of those rights or to repair them. In addition to the right to claim, it also implies the right to have a timely response and action to repair the non-enforcement by the public power (FAO, 2011).

For example, the **Administrative enforceability** is the possibility to claim before the public bodies directly responsible for the realization of the HRAF, which are the ones that are in permanent contact with the population and that implement the decisions of the agencies and political actors. Examples of these bodies are: local health and social welfare offices, schools. These institutions must be prepared to receive complaints concerning the prevention, repair or correction of threats or violations of the HRAF.

In addition to the administrative claim mechanisms, there are also political and quasi-judicial claim mechanisms. The document *Exigibilidade: Mechanisms to claim the human right to adequate food in Brazil* presents more information on these topics: <http://hrbaportal.org/wp-content/files/ap555e.pdf>

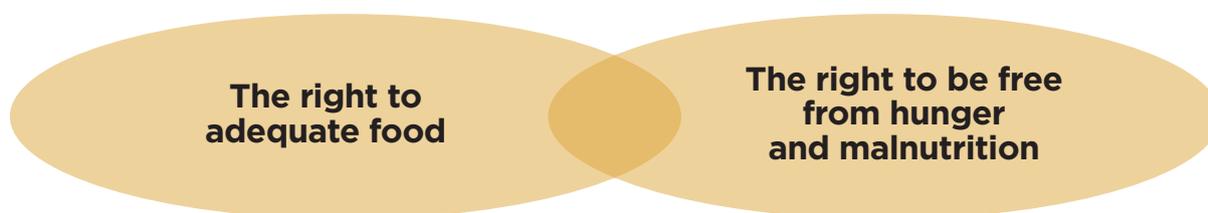
If there is a violation of the human right to food at the school setting, for example, the student, his/her parents or guardians can file a complaint at the school, who has the obligation to receive and investigate it and resolve the problem or repair the violation.

If the responsibility for the solution or repair of the violation is not directly the school's, the school has the obligation to submit the claim to the Court or the competent bodies, or to clarify the rights-holders about the measures to be taken. It is important to point out that the school cannot, in any way, refuse to receive the complaint or not assist in the process towards its solution.

Some of the instruments that have contributed to the enforceability of the HRAF in many countries have been the legal frameworks/laws related to FNS. In general, they all create participatory mechanisms that allow civil society organizations to maintain ongoing discussions with governments on what should be done to tackle hunger and malnutrition. These frameworks also recommend a better coordination among different ministries in seeking a coordinated strategy for the fulfillment of the HRAF.

4. DIMENSIONS OF THE HUMAN RIGHT TO ADEQUATE FOOD

Based on what we have seen so far, the HRAF is delimited by two inseparable rights:



And three key elements - **availability**, **accessibility** and **adequacy** - form the basis of the HRAF (FAO, 1999; De Schutter, 2012a):

AVAILABILITY: implies, on the one hand, that food should be available from natural resources, either through food production - by cultivating the land or raising livestock - or by other means for obtaining food, such as fishing, hunting or gathering. On the other hand, it means that food should be available for purchase in markets and shops, and that mechanisms to transport the food from the place of production to where is needed, according to the needs of the population, should exist.

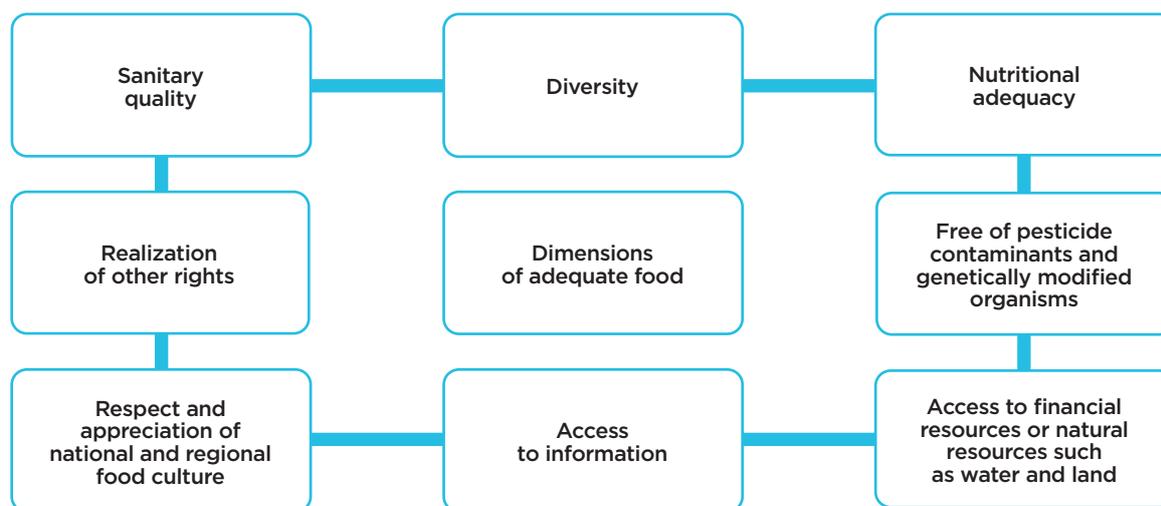
ACCESSIBILITY: implies that physical and economic access to food is guaranteed.

- **Economic accessibility:** food must be affordable. People should be able to buy adequate food without compromising other basic needs, such as those related to housing, education or health. Socially vulnerable groups such as landless people and other particularly impoverished segments of the population may require the attention of special programs.
- **Physical accessibility:** Food should be accessible to everyone, including physically vulnerable people, such as infants and young children, the elderly, the sick, people with physical or mental disabilities, or for whom direct access to food can be difficult. Many groups of indigenous peoples whose access to ancestral lands may be threatened are especially vulnerable.

ADEQUACY: It means that the food must satisfy the dietary needs, considering several factors of the individual, such as age, living conditions, health, occupation, gender, etc. Food must also be safe for human consumption and without harmful substances, such as pollutants from industrial or agricultural processes, including residues of pesticides, hormones or veterinary drugs. Adequate food must also be culturally acceptable. Finally, foods must be diversified in a balanced manner, in order to be healthy and not expose the person to non-communicable diseases related to diet.

4.1 The realization of the HRAF and the promotion of healthy and adequate food

It is clear that, in order to guarantee the HRAF effectively, it is necessary to understand food from a perspective that goes beyond the biological and nutritional aspects, not conditioning it solely to the supply of energy and nutrient recommendations; in the end, individuals do not eat calories and nutrients, but food. For this reason, it is essential to understand the HRAF from a broader and holistic perspective, considering the various dimensions of the adequate food.



Source: Ferraz, 2017.

The promotion of healthy and adequate food involves the articulation of three key concepts: promotion of health, food and nutrition security and adequate food, which, in turn, requires coordinated strategies and actions of the various government sectors.

For example, the health sector should ensure actions for the promotion of breastfeeding; routines in the maternity ward to ensure this practice; orientation of mothers on the introduction of complementary foods to infants after sixth month of life; food and nutrition education in all stages of life. In turn, school feeding programs should offer adequate, healthy and culturally appropriate foods, and agriculture must produce healthy products at fair prices.

At the same time, a marketing network with enough capillarity is needed, so that everyone has access to purchase healthy food at an accessible cost; processed foods must be healthy (in terms of calories and nutrient composition) and have labels with appropriate information and which are easily understood by the population; family farmers (smallholder producers) and family farming systems need to have access to land, credit, seeds, inputs, etc. (ABRANDH, 2010).

A concrete commitment is required from all actors and sectors at the government level (health, education, agriculture, social development), from parliamentarians, private initiative, academia, civil society, to ensure the development, implementation, follow up and evaluation of the policies that promote health and compliance with the HRAF.

5. CONCEPTS AND FUNDAMENTALS OF FOOD AND NUTRITION SECURITY

The concept of FSN has evolved over time and the definition that will be used in this course is the one adopted at the World Food Summit, held in Rome in 1996, and formally approved worldwide by the States:

Food security, at the individual, household, national and global levels is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

FNS is a multidimensional concept, since many factors affect the condition of FNS at the household, community, country, region and global level: agricultural production, trade, income, food quality, water quality, sanitation services, food culture, food selections and health conditions of each individual, governance and political stability, among others. It is very important that we understand the two dimensions of the concept of FNS:

FOOD DIMENSION

It has to do with the aspects of production, marketing and availability of food. It implies the production and availability of food sufficient to meet the demand; that is stable and permanent, neutralizing seasonal fluctuations; autonomous to achieve national self-sufficiency of staple foods; equitable to guarantee universal access to adequate nutritional needs for different population groups; and that it is sustainable from the agroecological, social, economic and cultural point of view.

NUTRITIONAL DIMENSION

It incorporates the relationships between humans and food. It involves the selection of healthy foods; the preparation of foods that preserve their nutritional and sanitary value; the intake of adequate and healthy food; good health and hygiene conditions to guarantee the biological use of the foods consumed by the family and the community; access to health services in a timely manner; consideration of environmental factors that intervene in health and nutrition, such as psychosocial, economic, cultural and environmental conditions.

The challenge, today, is to promote both the **nutritional dimension** and the **food dimension**.

5.1 Fundamental pillars of FNS

The definition of FNS adopted at the 1996 World Food Summit reinforces its multidimensional nature and incorporates four fundamental pillars:



AVAILABILITY of food at local or national level. It means ensuring the availability of food in quantity, quality and diversity sufficient for the whole population, which involves aspects of production, international and domestic trade, food supply, storage and distribution, including food aid, if necessary.

ACCESS – physical and economic access to food. This happens when everyone has the capacity to obtain food in a socially acceptable way, either through production or collecting/hunting (which implies access to land, water, materials, technology and knowledge), or through

purchasing. Lack of access is often the cause of food and nutrition insecurity and it can have a physical origin (not enough food due to several factors, such as population isolation, lack of infrastructure), or an economic origin (lack of financial resources to buy food due to high prices or low income). This dimension is complex and involves factors such as food pricing and of other basic needs that compete with them, in addition to everything else that affects the total of resources available to the family.

BIOLOGICAL UTILIZATION of food. The utilization of food and its nutrients is usually considered in terms of its biological utilization, which would be influenced by the sanitary conditions and the health of the individuals, as well as by the chemical and microbiological safety of food and water. It is important to ensure the biological utilization through adequate food, potable water, sanitation and health care, in order to reach a state of nutritional well-being where all physiological needs are met. Also, individuals must have the ability to select and prepare foods that meet their nutritional and sanitary needs, diversity, culture and food preferences. Availability, access and stability alone are not enough to guarantee food security as inadequate biological use may result in under nutrition and/or other manifestations of malnutrition.

STABILITY is a cross-cutting dimension to all the other three components listed above. People should not be at risk of losing access to food as a consequence of sudden crises (e.g., economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). Problems with availability, access and utilization of food may be chronic, seasonal or temporary, and it is important to consider them for the definition of actions, both the strategies that are adopted at the household and the public policies.

5.2 Food and nutrition insecurity

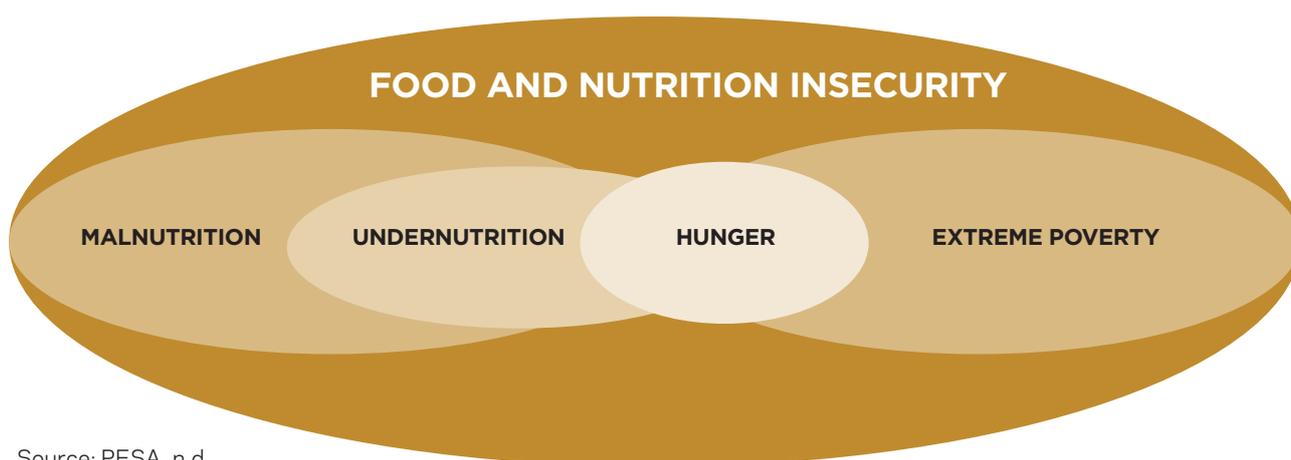
Considering the nutritional aspects related to food and nutrition insecurity, it is important to differentiate between its various manifestations:

- **MALNUTRITION:** indicates compromises in nutritional status derived from either excess calories (overweight or obesity) or insufficient calories and/or nutrients (malnutrition or hidden hunger).
- **UNDERNOURISHMENT:** food intake that is insufficient to meet dietary energy requirements of an individual in a given physiological state. It is the hunger measure used by FAO, referring to the proportion of the population whose energy intake, through food consumption, is below a certain threshold, which depends primarily on age, physiological state and activity of the person.
- **UNDERNUTRITION.** Pathological state resulting from the deficiency in the consumption of proteins, carbohydrates, fats, vitamins and/or minerals, or from a poor assimilation of food. The different forms of undernutrition are:
 - **Acute undernutrition (wasting):** refers to a low weight for height. Also called extreme thinness or emaciation. It results from weight loss associated with recent periods of famine or illness that develop very rapidly and are limited in time. This indicator is used to measure the SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
 - **Chronic undernutrition (stunting):** refers to low height for age. It is normally associated with a process of sustained and accumulated episodes of poor nutritional conditions (insufficient food and/or nutrients) and/or repeated infections that have occurred during early childhood (or even during pregnancy) and which have affected linear growth (increase in height). This indicator is used to measure the SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- **Underweight:** an indicator of global undernutrition, which refers to a condition of low weight for age in children.
- **HIDDEN HUNGER:** malnutrition due to lack of micronutrients, such as iron, iodine, vitamin A, among others. Hidden hunger is a public health problem with high prevalence in the child population and that prevents children from reaching their full physical and intellectual potential.
- **OVERWEIGHT AND OBESITY:** refer to an excessive or abnormal accumulation of fat resulted from an energy imbalance between calories consumed and spent, which can be detrimental to health.

As it can be seen, FNS is a complex phenomenon and food and nutrition insecurity manifests itself in numerous physical disorders resulting from multiple causes. Malnutrition and nutritional deficiencies cause serious damage to the health and welfare of those affected, especially children and adolescents. It prevents a person from maintaining adequate bodily functions, such as growth, pregnancy, lactation, physical work, cognitive function, resistance to disease and health recovery.

A better understanding of the FNS concept and its dimensions is fundamental to understand the causes of the various manifestations of food and nutrition insecurity and, hence, to develop and implement policies and strategies that are truly effective.

The concept of food and nutrition insecurity encompasses the concept of hunger and under-nutrition, but it is broader than that, and also includes other situations such as extreme poverty and malnutrition, in general, including overweight and obesity.



Source: PESA, n.d.

Poverty is cause and consequence of food insecurity. Although poverty is undoubtedly a cause of hunger, lack of adequate and sufficient food is, in turn, one of the causes that increase poverty and weakens the ability of societies to eradicate it. Hunger and food insecurity prevent the poor from escaping poverty, as they reduce their ability to learn, work, and to care for themselves and their families.

It is well known that the main causes of hunger and malnutrition are not lack of food in the world. Nowadays, at global level, food is produced in sufficient quantity for all inhabitants. The problem is that many people do not have access to food, let alone to healthy food, due to poverty, among other reasons.

Hunger is closely related to poverty and, in particular, to extreme poverty. The lower incomes in the most vulnerable population limit their ability to purchase food, and considering that the poorest also have less access to health services, a scenario is created in which food is improperly utilized, favoring the appearance of undernutrition and other problems related to malnutrition (FAO, 2014).

On the other hand, economic development by itself is not enough to overcome malnutrition. In LAC, countries with similar levels of extreme poverty present variable rates of undernutrition. Many factors, other than poverty, influence malnutrition and FNS, such as sanitary conditions (housing, access to safe water and adequate sewage collection) and limited access to health care services (WFP, 2006).

It is essential that economic growth be inclusive and offer opportunities to improve the livelihoods of poor people and the limited access to health care services.

The best strategy to quickly reduce poverty and hunger is to combine comprehensive and sustainable strategies to combat poverty with policies that guarantee FNS and direct interventions in nutrition, health, water, gender, education and agriculture.

5.3 Nutrition transition

Another challenge of food and nutrition insecurity is manifested in the **nutrition and epidemiological transition** that many countries have undergone in recent decades, where there has been a rise in the prevalence of overweight and obesity and also of non-communicable diseases (NCD), also called chronic diseases.

Nutrition transition is the term used to define long-term changes in the diet, physical activity, health and nutrition of populations, with significant increases in the consumption of foods high in fats, sugar, cholesterol and processed products, and decreases in the consumption of healthy and fresh foods and home-cooked meals, such as fruits, vegetables and traditional culinary preparations; and, at the same time, an accentuated reduction in physical activity levels. The nutrition transition, along with other factors, leads to an **epidemiological transition**, resulting in changes in patterns of mortality, morbidity and disability that characterize a specific population.

As a result, many countries have been presenting a reduction in mortality due to infectious and communicable diseases concomitantly to an increase in NCD, characterized by cardiovascular

diseases, cancer, diabetes and chronic lung diseases. NCD constitute the leading cause of death worldwide and a threat to human health and development.

Among the causal factors of the nutrition transition, one can mention income growth, inadequate food-systems, industrialization and mechanization of production, urbanization, increased production of unhealthy foods and food products, increased access to foods in general, including the processed ones, and the globalization of unhealthy life style habits.

To access the document **Ultra-processed food and drink products in Latin America: Trends, impact on obesity, policy implications**, go to:

http://iris.paho.org/xmlui/bitstream/handle/123456789/7699/9789275118641_eng.pdf

Suárez Herrera (2006) highlights a very important point with regards to the current coexistence of undernutrition and obesity: “There is a misconception about the meaning of the decline in the prevalence of undernutrition and the increase in obesity. A superficial analysis might make it look like that the increased prevalence of obesity - a nutritional disease due to excess - is an indicator of wealth situated at the opposite pole of undernutrition”.

“Considering obesity an opposite condition of undernutrition is not only a mistake, but it can have serious consequences when addressing the nutritional problems and FNS in the community.” (Suárez Herrera, 2006).

However, he emphasizes that obesity and undernutrition coexist in the same regions and identical social strata, in the same families (obese mothers and undernourished children) and even in the same individual (obesity with chronic malnutrition), clearly showing the double burden of malnutrition and food insecurity that compromises people nowadays. Inequality, poverty, lack of education and information, inadequate distribution and access to quality food are risk factors for both.

6. HUNGER AND MALNUTRITION TODAY

Since 2015, after a prolonged period of reduction in hunger, the number of undernourished people in the world has increased and remained virtually unchanged in the past three years at a level slightly below 11%. Meanwhile, the number of people who suffer from hunger has slowly increased. In 2018, more than 820 million people worldwide were still hungry, underscoring the immense challenge of achieving the Zero Hunger target by 2030.

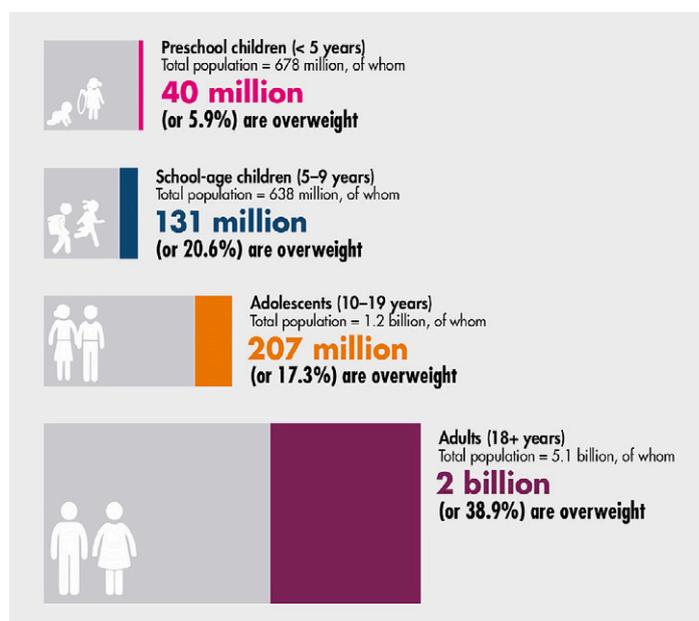
Hunger is on the rise in almost all African subregions, and is also slowly rising in LAC, where 6.5% of the population was undernourished in 2018, which is equivalent to 42.5 million people (FAO et al., 2019a,2019b).

On the other hand, the number of children under five years, worldwide, affected by stunting has decreased by 10% in the past six years. However, this condition still poses major challenges, with 149 million children still stunted, compromising reaching the 2030 target of halving the number of stunted children (FAO et al 2019a).

The LAC region has also shown significant progress in reducing child malnutrition. Chronic undernutrition of boys and girls maintains their downward trend, and the prevalence of acute undernutrition is also very low (1.3%), well below the global average (FAO et al 2019b).

By contrast, overweight and obesity continue to increase in all regions and age-groups, particularly among school-age children and adults. In 2018, an estimated 40 million (5.9%) of children under five were overweight. In 2016, 131 million (20.6%) children 5–9 years old, 207 million (17.3%) adolescents and 2 billion adults (38.9%) were overweight. About a third of overweight adolescents and adults, and 44 % of overweight children aged 5–9 were obese (FAO et al 2019a).

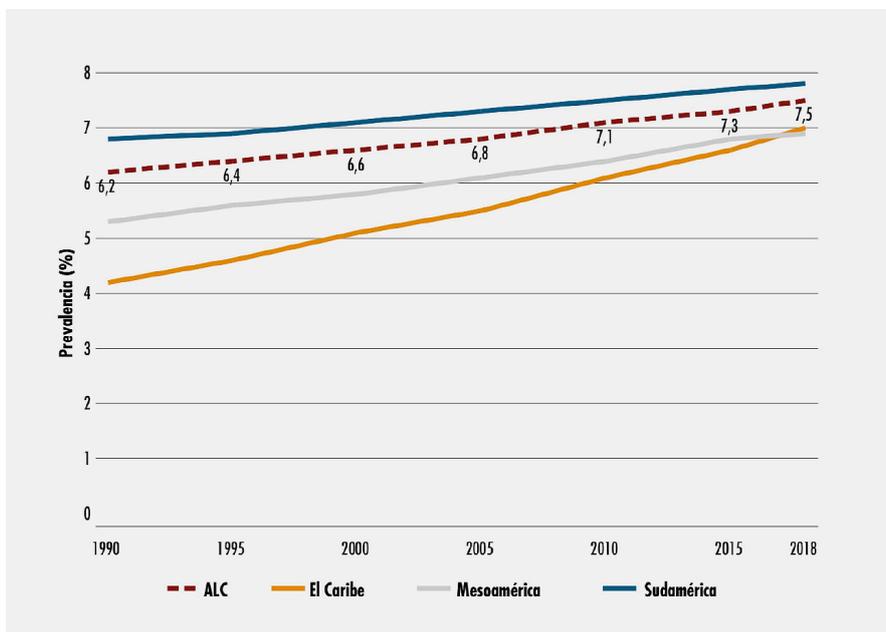
The figure below shows that overweight prevalence, at global level, increases over the life course and is highest in adulthood.



Source: FAO et. Al., 2019a.

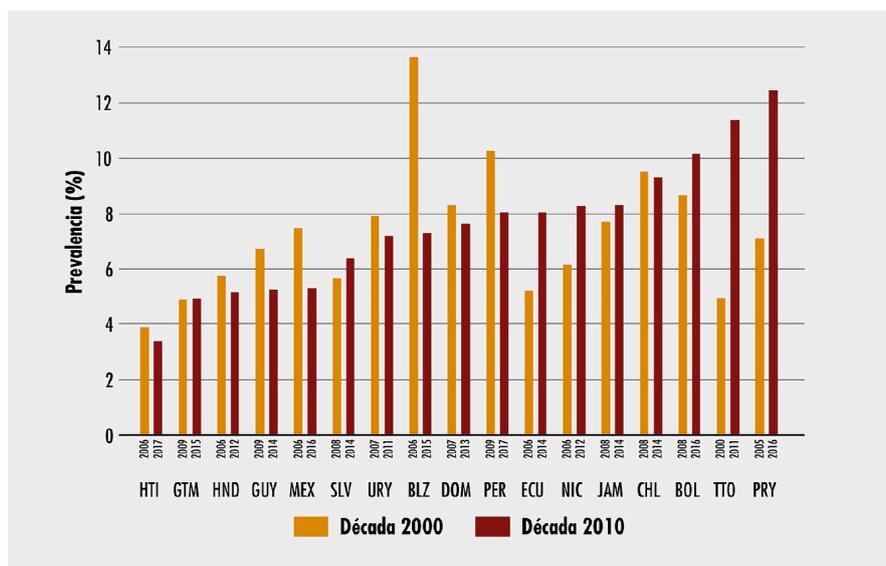
In LAC region, the prevalence of overweight has also increased in all age groups, especially in adults and in school-age children. Child overweight affects 4 million children (7.5%) under five, exceeding the global average of 5.9%. Obesity in adults maintains its upward trend, affecting almost one fourth of the region’s population and constitutes an important risk factor for the development of NCD (FAO et al, 2019a, 2019b).

**EVOLUTION OF OVERWEIGHT IN CHILDREN UNDER 5 YEARS
 IN LAC, PREVALENCE IN PERCENTAGE, 1990-2018.**



Source: FAO et. Al., 2019b.

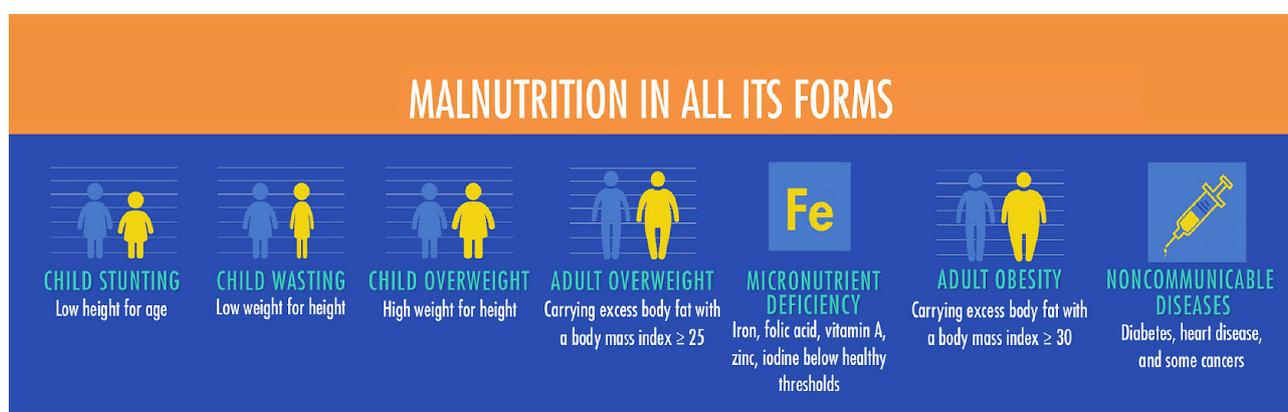
**OVERWEIGHT IN CHILDREN UNDER 5 YEARS IN VARIOUS LAC COUNTRIES,
 PREVALENCE IN PERCENTAGE, MOST RECENT DATA FROM DECADES 2000 AND 2010.**



Source: FAO et. Al., 2019b.

The deficiency of micronutrients, also called hidden hunger, remains another serious problem in the region and in the world. Iron deficiency anemia, lack of calcium, vitamin A and other important nutrients have serious implications for the health and the physical and cognitive development, especially of children. In adults, iron deficiency anemia can also have consequences on work capacity.

“Malnutrition is an obstacle to achieving personal development, with consequences throughout society... guaranteeing FNS is one of the fundamental and transversal elements to ensure fulfillment of the 17 SDG of the 2030 Agenda for sustainable development” (FAO et al., 2018b).



Source: Global Nutrition Report, 2016, IFPRI.

7. THE SUSTAINABLE DEVELOPMENT GOALS

The year 2015 marked the end of the monitoring period of the goals set in the Millennium Development Goals (MDG). In the same year, at the UN Summit on Sustainable Development, the heads of State and government of 193 countries adopted the **2030 Agenda for Sustainable Development**, which contains a set of **17 SDG**.

These were built on the results of the Rio + 20 Conference (the UN Conference on Sustainable Development, 2012), through an extensive dialogue between UN member states, local authorities, civil society, private sector and other important actors and institutions. The SDG consider the legacy of the MDG, but include new areas such as climate change, economic inequality, innovation, sustainable consumption and peace and justice as a priority, and are primarily aimed at eradicating poverty, protecting the planet and ensuring peace and prosperity for all. Each objective has specific goals that must be achieved in the next 15 years. Unlike the MDG, which were focused on developing countries, the SDG apply to all countries. The 17 SDG are:



Objective 2 clearly addresses the issue of “nutrition” when it establishes as priority “**End hunger, achieve food security and improved nutrition, and promote sustainable agriculture**”; however, most of the other SDG, if not all, as it can be seen in the figure below, also contain indicators of great relevance to nutrition, confirming its central role for sustainable development. An example of the importance of the nutritional status of a population is that the nutritional status of children has been recognized as a key indicator of poverty and hunger within the SDG (UN, 2014).

It is important to emphasize that under MDG 1 - *Eradicate extreme poverty and hunger* - the 1C goal was **to halve**, between 1990 and 2015, **the percentage of people who suffer from hunger**. In contrast, the equivalent MDG, Objective 2, proposes not the reduction, but the **absolute eradication of hunger and malnutrition**, based on the following targets:

- **Target 2.1:** by 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round.
- **Target 2.2:** by 2030, end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.

In addition, Goal 2 seeks not only to end hunger, but also to achieve food security and improvement in nutrition, as well as to promote sustainable agriculture.

As well pointed out in the Panorama of Food and Nutrition Security in Latin America and the Caribbean 2018, **“Improved nutrition is the platform for progress in health, education, employment, female empowerment, and poverty and inequality reduction. In turn, poverty and inequality, water, sanitation and hygiene, education, food systems, climate change, social protection, and agriculture all have an important impact on nutrition outcomes”** (IFPRI,2016).



Source: http://scalingupnutrition.org/wp-content/uploads/2016/06/Nutrition-at-the-heart-of-the-SDGs_001.jpg

8. HOW TO GUARANTEE ENFORCEMENT OF THE RIGHT TO ADEQUATE FOOD IN PRACTICE?

Despite all the important progress in the development of national and international legal frameworks that recognize the HRAF, especially in LAC, millions of people, in the region and worldwide, still don't have their right to food guaranteed and suffer the serious consequences of the lack of food or the consumption of food with inadequate quality, diversity and safety.

It is important to emphasize, once more, that the non-enforcement of the HRAF, globally, is not a consequence of low food availability (low food production), but it is associated with inadequate and ineffective food production methods and food systems, which hinder or make it impossible for people in urban and rural areas to have access to adequate food, in a sustainable way.



The fact that a country officially recognizes food as a human right is not enough to actually enforce it. If a country really intends to treat adequate food as a human right - if the country is determined to make that right a reality for all - what should be done?

An approach based on the right to food and good governance to address the structural causes of hunger and reduce the high number of people suffering from hunger and malnutrition is required. A FNS policy that is consistent with the human rights approach should incorporate key elements and actions in order to ensure the enforcement of the right to food.

In order to have the human right to food really enforced in countries, it will be necessary political will, empowerment and participation of civil society, accountability mechanisms and the monitoring of progress in the implementation of multi-year strategies (De Schutter, 2012b).

The “rights-based” approach considers the promotion of FNS by the government as a State obligation and not as a way of benevolence, and insists on the responsibility of the duty-bearer towards the rights-holders. Its conception of good governance places special emphasis on the active participation of all stakeholders in policy development, on government transparency and on making sure, through an independent legal framework, that people have access to effective mechanisms when they have not been granted their rights (FAO, 2006).

It is essential that not only the State recognizes all individuals as rights-holders, but also that individuals recognize themselves as such, and are able to act towards its fulfillment. **That means the individual must be empowered through knowledge about his/her rights.** Since everyone, without distinction, is entitled to enjoy all human rights, non-discrimination is another essential principle of the rights-based approach. And this implies a different approach to those who are most vulnerable, because they are the ones whose right to food is more likely to require, from the State, not only the respect, but also the protection and enforcement.

These elements – **accountability, transparency, human dignity, participation, non-discrimination, empowerment and rule of law also known as the PANTHER principles** – make the rights-based approach crucially different from other approaches towards development.

8.1 How to integrate the right to food approach into food and nutrition security policies?

The rights-based approach is not just a theory or a goal, it is very practical: the non-realization of human rights is not only a frequent consequence of poverty, but also one of its main causes, which means that the effort to fulfill these rights is fundamental to tackle poverty. Therefore, the rights-based approach is also a key tool in achieving the SDG.

Furthermore, no government will make the human right to food a reality unless it pursues, with equal determination, the realization of other human rights with which the right to food is inseparably connected. Among them, are the universal rights to freedom of assembly and expression, to safe drinking water, to information, to education and to the highest attainable standard of health. The importance of these rights and their deep interdependence require a holistic approach to the development and realization of FNS.

As pointed out by De Schutter:

“A multisectoral approach is needed to promote the realization of the right to food. Ensuring the realization of the right to food goes beyond constitutional provisions and FNS laws, depending also on a range of other laws and regulations concerning access to land, employment, social security, drinking water, etc. Hence, a key challenge for the effective implementation of food policies and strategies is to ensure effective coordination amongst different sectors and government ministries.” (2012a).

The promotion of the human right to food requires specific actions for different groups and it also involves the promotion of agrarian reforms, support to family farming, food supply policies, incentives for agroecological practices, food safety surveillance, water supply and sanitation, school feeding, high quality prenatal care, non-discrimination of people, ethnicity and gender, among others.

Besides coordinating the implementation of policies and strategies by the different sectors and ministries, the coordinating bodies should facilitate the participation of civil society in formulating policies, identifying priorities and specific measures and in monitoring, through ongoing consultations and dialogues, in order to create or expand programs that are a priority for fulfilling the right to food.

In conclusion, the right to food approach introduces the fundamental concept of human rights into the design and implementation of FNS policies and programs. The principles of the right to food contribute to improve the effectiveness and sustainability of the efforts to tackle hunger and malnutrition by strengthening the key dimensions of governance such as participation, empowerment, transparency and accountability.

Next, a summary of the key elements considered essential to the implementation and effectiveness of FNS policies based in the human right to food are presented (FAO, 2006; De Schutter, 2012b):

- **POLITICAL WILL:** we have seen that laws and legal frameworks are not enough by themselves. To effectively implement laws and policies based on human rights, they must be accompanied by real political commitment.
- **ADEQUATE RESOURCES:** governments must plan to have a secured budget line in the national budget for FNS policies and strategies to ensure their sustainability.
- **INCLUSIVENESS AND LEGITIMACY OF PROCESSES:** FNS programs and strategies should be embedded in specific legislations and operational plans, so they can survive government changes. A strong involvement of civil society, social movements and farmers' organizations is also key in the design and implementation of programs aimed at the enforcement of the right to food.
- **ACCOUNTABILITY AND JUSTICIABILITY:** only through effective justice, trusted institutions and a legal system oriented towards the human right to food, the rights-holders will be able to demand from the carriers of duties the fulfillment of their FNS.
- **ASSESSING NEEDS AND OUTCOMES:** it is essential to identify the rights-holders that are neediest and meet their demands for FNS. Budget allocations and targeting of programs need to be based on a continuous needs assessment and monitoring of outcomes of FNS programs.
- **EFFECTIVE INTERSECTORIAL AND INTERINSTITUCIONAL COORDINATION:** an effective intersectoral and interinstitutional coordination that ensures an active participation of all stakeholders involved in a coordinated implementation and follow-up of FNS programs and policies should be in place.
- **EFFECTIVE MONITORING AND EVALUATION:** to achieve a lasting impact, it is important:
a) to establish concrete targets and indicators, which must be established through a consultative and transparent process with public participation; b) that the authorities responsible for the implementation be accountable for the results; and c) that the indicators that will measure progress are based on the normative contents of the right to food, including non-discrimination.

9. CONCLUSION

At the end of this unit, we must remember that the fulfillment of the HRAF and the realization of FNS is fundamental for the sustainable and inclusive development of countries and individuals.

Countries must develop and implement policies, plans and strategies with a rights-based approach and have a good governance that guarantees a multisectoral approach in the fight against hunger and malnutrition. It is also essential to promote and strengthen social participation, through transparent accountability and monitoring mechanisms.

In unit 2, we will talk about the design, conceptualization and implementation of the Caribbean Community (CARICOM) Regional Food and Nutrition Security Policy (RFNSP).

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2



END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

The food sector and the agricultural sector offer key solutions for development and are vital for the elimination of hunger and poverty. Properly managed, agriculture, forestry and aquaculture can supply nutritious food to the whole planet, as well as generate decent income, support the development of rural people and protect the environment.

However, right now, our soils, oceans, forests and our drinking water and biodiversity are undergoing a rapid process of degradation due to over exploitation processes.

Added to this is climate change, which affects these sources on which we depend and increases the risks associated with natural disasters such as droughts and floods. Many peasants and peasants can no longer earn a living on the lands they work for, which forces them to migrate to cities in search of opportunities.

We need a profound reform of the world agrarian and food system if we want to nourish the 815 million hungry that currently exist on the planet and the two billion additional people who will live in the year 2050.

UNIT 2

FOOD AND NUTRITION SECURITY POLICY IN THE CARIBBEAN

OBJECTIVES:

Upon completion of this unit, you will be able to:

- describe and evaluate the policy design process for the Caribbean Community (CARICOM) Regional Food and Nutrition Security Policy (RFNSP);
- explain the difference between Food Security and Nutrition Security;
- define food security in the Caribbean context, to include access, dietary needs and food preferences;
- state the developmental goals of RFNSP with respect to CARICOM member states; and
- identify and analyse the steps for implementation of the Food and Nutrition Security Action Plan in CARICOM member states.

1. INTRODUCTION

In this unit we will address the design, conceptualization and implementation of the CARICOM RFNSP. Malnutrition and food insecurity are still big issues in the CARICOM region. These issues arise not only from the price of food but from other factors, such as un-sustainable nature of agricultural production, the safety and quality of food, as well as other natural and environmental factors uniquely related to the CARICOM region. The CARICOM Regional RFNSP was established to enact a policy framework to deal with these issues and factors.

2. DESIGN OF THE CARICOM REGIONAL FOOD AND NUTRITION SECURITY POLICY

The RFNSP was endorsed in Grenada at the special meeting of the CARICOM Council on Trade and Economic Development-(COTED Agriculture) in October 2010.

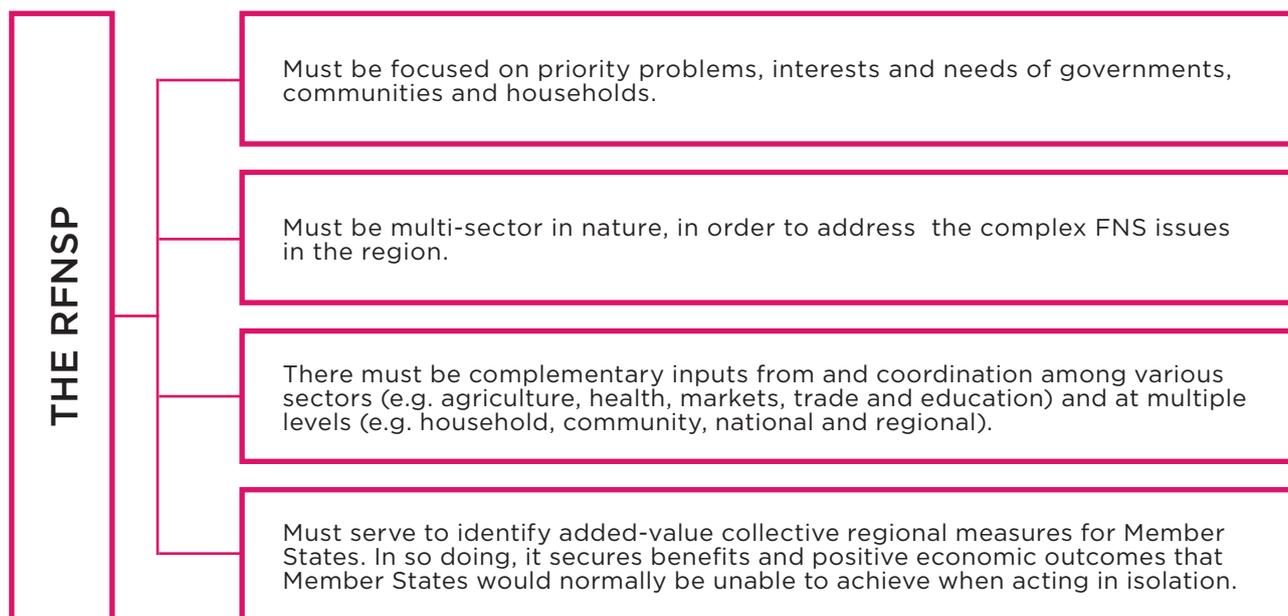
Whereas consultants, who may or may not have been citizens of the CARICOM region, had typically been utilized in formulating nutrition security policy in previous years, the RFNSP was developed utilizing a multidisciplinary team, whose focus was on those issues unique to the CARICOM region. This team included individuals from Member States, regional technical institutions, the CARICOM Secretariat and the Food and Agriculture Organization of the United Nations (FAO). They formed a Technical Working Group (TWG) to formulate the RFNSP.

In 2010, the TWG held a series of workshops to discuss the formulation of the policy and how national and regional issues in the formulation process were interrelated. A thorough assessment of the region's food security constraints and opportunities was undertaken by the TWG, and this led to the identification of national priorities and areas, where regional actions could intervene more effectively in food and nutrition security (FNS). The TWG drafted a revised RFNSP based on the appropriate conclusions to the workshops' research.

The goals of the RFNSP aim to address issues of various national and regional development policies, strategies and programs, and FNS in member states. The resolution of these issues calls for a multi-disciplinary and holistic approach and measures that are a composite of the following:

- policy;
- legislation;
- institutional realignment actions;
- enhanced professional and technical capacity;
- improved processes;
- improved infrastructure;
- a client-service orientation; and
- public-private sector partnership arrangements.

It is with these measures in mind that the conclusion is made, that for successful policy outcomes, the RFNSP must have the following features:



3. FOOD SECURITY AND NUTRITION SECURITY

The CARICOM RFNSP aligns closely with the definition of FNS adopted at the 1996 World Food Summit: **“Food security may be said to exist when all people at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life”** (World Food Summit, 1996).

This definition includes not only food availability and sufficiency but also socio-economic, nutritional aspects of having adequate economic and physical access to safe and nutritious food supplies. There is, therefore, a clear departure from equating food security with food availability.

Since food security is concerned *inter alia* with access to food, a household is food secure if it can reliably gain access to food in sufficient quantity and quality for all its members to enjoy a healthy and active life. Food security is, thus, a component of nutrition security.

Nutrition security is concerned with the utilization of the food obtained by a household in addition to its access to food. A household achieves nutrition security when it has secure access to food – that is, food security – coupled with a sanitary environment, clean drinking water, adequate health services, and knowledgeable care to ensure a healthy life-style for all household members.

Member states of CARICOM have, to varying extents, the dual problems of segments of the population with chronic undernutrition and increasing levels of over-nutrition, resulting in obesity and Non-Communicable Diseases (NCD).

4. THE FOUR DIMENSIONS OF FOOD SECURITY AND CARICOM

The four dimensions of food security are as follows:



The CARICOM policy takes into consideration the specific regional issues with respect to these dimensions. Therefore, the RFNSP defines these dimensions as follows:

- **Food Availability** as the promotion of sustainable production, processing, preparation, commercialization and consumption of safe, affordable, nutritious, high quality Caribbean food commodities/products. **This dimension is concerned with food and agricultural production, rural infrastructural development, land use, and trade issues within and outside of the CARICOM region.**
- **Food Access** as ensuring regular access of Caribbean households, especially the poor and vulnerable, to sufficient quantities of safe, affordable, quality food at all times, particularly in response to diverse socioeconomic and natural shocks. **This dimension is related to prices, incomes, agricultural public health, food safety and social development issues.**
- **Food Utilization/Nutritional Adequacy** as the improvement of the nutritional status of the Caribbean population, particularly with respect to NCD, including diabetes, hypertension, overweight and obesity. **This dimension concerns healthy lifestyle choices from early childhood, nutrition education, other health, nutrition and social welfare issues.**
- **Stability of Food Supply** as the improvement of the resilience of communities and households in the region to natural and socio-economic crises. **This requires awareness of information and early warning systems, disaster preparedness and management, and adaptation to climate change issues.**

5. GOAL OF THE RFNSP IN CARICOM

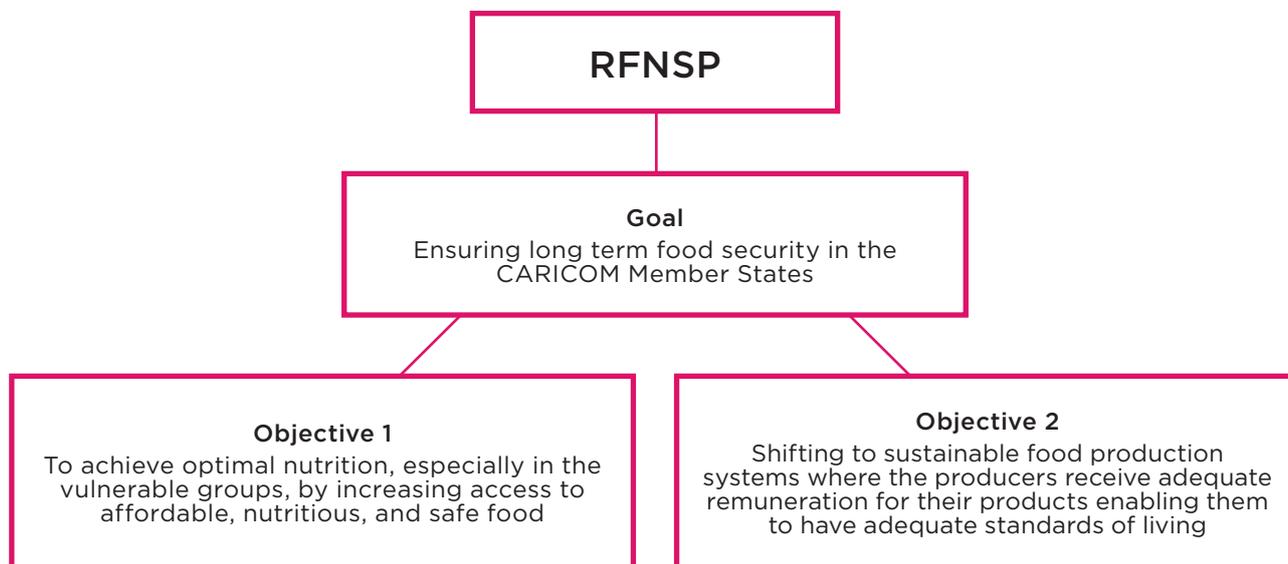
The achievement of food security is an integral part of a process of nutrition and health development. Therefore, it is the goal of the RFNSP that Caribbean people have sustainable access to nutritious food, which meets their dietary needs and food preferences, for an active and healthy life.

In order to ensure this sustainable access to food in the Caribbean, the RFSNP must take into account the methods in which people acquire food in the region, the effects of these methods and how existing policy affects access to food by these methods. These methods include:

FOOD PROCUREMENT METHOD	EFFECT/OUTCOME	HOW POLICY AFFECTS ACCESS TO FOOD
Food may be produced by an individual (farming or gardening)	Self Sufficiency in individuals	May be affected by policies altering the demand and supply of factors used in production; some factors may relate to international trade
Food may be obtained by selling or bartering of personal assets by individuals	Augmentation of food consumption (by exchanging either a surplus of some crops or food purchase)	Augmentation may be affected by policies that affect the level and variability of prices for food relative to what individuals are able to exchange
Food may be obtained by individuals ‘hiring out’ their own labor	Food security is then determined by the level and location of employment opportunities	Ability to purchase quality food may be affected by trade policy
Food may be obtained via informal gifts to individuals or formal transfers of aid from governments or other organizations	This may be utilized when other adequate means discussed are not available to the individual	Food aid may be influenced by multilateral trade agreements

Food insecurity exists when people do not have adequate physical, social or economic access to food. Caribbean food policy must be structured in such a way as to limit those factors which lead to food insecurity within the region, and ensure that food policy does not inhibit the means of procurement of food that are related to individual sustainable food production (sustainable agriculture and organic farming practices).

It is with this in mind that the development goal of the RFNSP is to contribute to ensuring long-term food security in the CARICOM Member States. This goal and the objectives of the RFNSP can be illustrated as follows:



6. IMPLEMENTATION OF THE FNS ACTION PLAN IN CARICOM MEMBER STATES

Arising from the RFNSP, should be comprehensive plans for the implementation of the policy that would lead to increased FNS within the CARICOM region. A holistic approach for implementation is required because of the multi-sectoral nature of the issues surrounding FNS in the region. In the preparation of such implementation or action plans for each Member State, the following areas of concern should be given priority:

AREAS OF CONCERN	PRIORITY FOCUS
<p>1. Promotion of increased availability of regionally produced nutritious food at remunerative market prices so as to increase production, productivity and returns to farmers</p>	<p>The whole supply chain from farmer to consumer</p>
<p>2. Identification and mapping of vulnerable groups (who are the food insecure, why are they food insecure and where are they located?), and establishment of a national and regional database of this information</p>	<p>Special emphasis on women, children, the elderly and the physically and mentally handicapped</p>
<p>3. Removal of non-tariff barriers to trade (phytosanitary measures and technical barriers to trade -SPS-TBT barriers) that increase marketing costs and hinder access to and distribution of food within the Region, as well as the development of strategies to address these issues</p>	<p>Focus on nutrition education at all stages of the education system in the Region</p>
<p>4. Promotion of healthy Caribbean diets and optimal nutrition to reduce Non-Communicable Diseases (NCD), obesity and malnutrition</p>	<p>Regional transportation so as to reduce distribution costs and improve the movement of food commodities across the Region</p>
<p>5. Building of resilience to the recurring threats to food security, bearing in mind that the Region is prone to the risks posed by climate change and natural disasters, through the establishment of a Regional Information and Early Warning System for Food and Nutrition Security</p>	<p>Construct risk profiles for the Region’s main crops in support of emergency preparedness, agricultural risk management and crop insurance</p>

It is recommended, therefore, that in each Member State, the implementation of the RFNSP should go through a comprehensive set of steps that has been endorsed by the COTED as follows:

- **STEP 1** – Establish or strengthen multi-sector government institutions dealing with food and nutrition policy: A multi-sector national governance mechanism is needed in order to reach different sectors through advocacy and the development of partnerships.
- **STEP 2** – Revise current FNS action plans and sector policies: The revised action plans should clearly identify the time scale for implementation of the different actions, the lead implementing agency and the allocation of resources. Member States should establish specific targets for each of the FNS goals, as well as specific food safety goals, considering available resources and priorities.
- **STEP 3** – Prioritise the implementation of specific actions: The choice of actions should be based on the stage of national policy and capacity development reached.
- **STEP 4** – Operationalise the Action Plan through a combination of macro-economic policies, regulatory frameworks (legislation, regulations, etc.) and fiscal and other measures: Actions should, inter-alia, be designed at both national and local levels, with particular attention paid to community interventions and the potential of building awareness in settings, such as schools, hospitals, and workplaces.
- **STEP 5** – Establish dialogue and partnerships with all stakeholders: private and public non-profit (especially civil society) and for-profit organisations should be engaged in the implementation of action plans, with clear identification of their expected roles.
- **STEP 6** – Allocate resources: Allocating the right mix of human, financial and temporal resources is crucial for successful implementation.
- **STEP 7** – Monitor implementation and accountability: the multi-sector governance mechanism on food and nutrition policy should periodically report to the government, as well as to international fora. The RFNSP and regional and national action plans should be reviewed periodically and their effects and impacts evaluated at the end of five-year periods, or more frequently as deemed necessary.

In unit 3 we will see, in a more practical way, some FNS policies, plans and strategies in the LAC region and at global level, that address all these challenges related to malnutrition. We will also begin to discuss how school feeding is reflected in these frameworks.

Finally, we will discuss the concept of adequate and healthy eating and identify examples of practices for its promotion in countries, such as the regulation of labeling and advertising, the incentive to create healthy institutional environments and to implement food and nutrition education, among others.

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3



ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

In order to achieve the Sustainable Development Goals, it is essential to guarantee a healthy life and promote universal well-being.

In recent decades, great progress has been made in relation to the increase in life expectancy and the reduction of some of the most common causes of death related to infant and maternal mortality. Improvements in access to clean water and sanitation, reduction of malaria, tuberculosis, poliomyelitis and the spread of HIV/AIDS have also been achieved.

However, we need many more initiatives to completely eradicate a wide range of diseases and to address numerous and varied persistent and emerging health issues.

UNIT 3

THE GLOBAL AGENDA FOR FOOD AND NUTRITION SECURITY

OBJECTIVES:

Upon completion of this unit, you will be able to:

- identify global and regional policies, strategies and plans of food and nutrition for combating malnutrition in all its forms; and
- describe examples of current country strategies for the promotion of adequate and healthy food.

1. INTRODUCTION

In this unit we will discuss, in more details, how the topics “food” and “nutrition” are included in the global and regional agendas, identifying some strategies, policies and plans of food and nutrition security (FNS) to address the challenges related to malnutrition discussed in the previous units; and, at the same time, reflecting on how the school environment and school feeding are embodied in these frameworks.

We will also present some strategies that have been implemented by countries for the promotion of adequate and healthy food, such as fiscal and food regulation policies, front-of package labelling, the creation of institutional environments that promote adequate and healthy food and food and nutrition education (FNE).

Before continuing with the reading, we recommend that you watch the following video:

<https://www.youtube.com/watch?v=NshhoiixLJE>

This video from the American Heart Association shows the various ways food companies find to advertise their products in schools. We will be discussing this in this unit.

2. INTERSECTORAL STRATEGIES OF FNS FOR THE FULFILLMENT OF THE HUMAN RIGHT TO ADEQUATE FOOD

In Unit 1, we discussed how hunger and malnutrition compromise, not only the physical and cognitive development of individuals, but also the social and economic development of countries. Among the various benefits of combating hunger and malnutrition for the entire population, there are strong indications that show that the elimination of malnutrition in young children has multiple benefits, such as (Haddad, 2013):

- increase gross domestic product (by 11% in Africa and Asia, for example);
- prevent the mortality of children more than a third per year;
- improve school attendance with another year of schooling;
- increase wages by 5-50%;
- reduce poverty since well-fed children have 33% more of probability of fleeing from poverty as adults;
- empower women to be 10% more likely to run their own business; and
- break the cycle of poverty between generations.

As we have been discussing, the fight against hunger, malnutrition and the realization of FNS imply multidimensional and comprehensive approaches considering economic, social, political and environmental aspects.

Addressing all these challenges will require the development and implementation of multisectoral strategies and the concentration of efforts to improve education, health, food and nutrition in a sustainable manner, through coherent plans, policies and programs that involve all sectors (governments, civil society, private initiative, media, non-governmental organizations) at international, regional, national and community levels.

The multisectoral strategies must be focused not only on promoting access to more food, but ensuring its adequate quantity, quality, diversity and safety, while also promoting inclusive and sustainable development. It will be necessary to promote both adequate supply and demand, which requires reorienting public policies to create sustainable and nutrition-sensitive food systems that can provide an adequate supply of healthy foods.

At the same time, policies must be established to guarantee favorable food environments for all, and also to promote the empowerment and autonomy of individuals so that they can make appropriate, more informed and responsible food choices (FAO et al., 2018).

Thus, in order to combat food and nutrition insecurity, a coordinated approach and a common agenda among the various sectors are necessary for the effective formulation, implementation and monitoring of an array of policies, such as:



3. FOOD AND NUTRITION IN THE GLOBAL AGENDA

In recent decades, the situation of malnutrition in the world has increased the interest around “food” and “nutrition” issues and raised them to a privileged place on global, regional and national agendas. Countries have been recognizing the importance of fighting against all forms of malnutrition as a strategy for sustainable human, social, economic, and even cultural development.

The agendas are many and we will mention here some of the most important. It will be interesting to identify how the school environment, school feeding and the school feeding programs (SFP) are recognized as important channels for the promotion of adequate and healthy food, linked to the development of health and education of children and adolescents.

In 2004, the World Health Organization (WHO) approved the **Global Strategy on Diet, Physical Activity and Health** as a response to the burden of chronic noncommunicable diseases (NCD). Its general objective is to promote and protect health by guiding the creation of a favorable environment for the adoption of sustainable measures at the individual, community, national and global levels that, together, lead to a reduction in morbidity and mortality associated with unhealthy eating and lack of physical activity.

Specifically, in relation to the school environment, this strategy highlights that:

- School policies and programs should support the adoption of healthy diets and physical activity.
- Schools influence the lives of most children in all countries. They should protect their health by providing health information, improving health literacy, and promoting healthy diets, physical activity, and other healthy behaviors.
- Governments are encouraged to adopt policies that support healthy diets at school and limit the availability of products high in salt, sugar and fats.
- Schools should consider, together with parents and responsible authorities, issuing contracts for school lunches to local food growers in order to ensure a local market for healthy foods.

In November 2006, representatives from 185 countries and the European Community, as well as representatives of inter-governmental and non-governmental organizations, assembled in Rome for the **World Food Summit**. The objective of the Summit was to renew global commitment at the highest political level to eliminate hunger and malnutrition, and to achieve sustainable food security for all people. The event produced two documents: Rome Declaration on World Food Security and World Food Summit Plan of Action. The high visibility of the Summit raised awareness among decision-makers in the public and private sectors, in the media and with the public at large. It also set the political, conceptual and technical blueprint for an ongoing effort to eradicate hunger in all countries with the target of reducing by half the number of undernourished people by no later than the year 2015.

The World Food Summit Plan of Action recognizes the importance of school gardens and school feeding, and establishes actions for governments, in partnership with all actors of civil society:

Objective 2.3: To ensure that food supplies are safe, physically and economically accessible, appropriate and adequate to meet the energy and nutrient needs of the population.

- Encourage, where appropriate, the production and use of culturally appropriate, traditional and underutilized food crops, including grains, oilseeds, pulses, root crops, fruits and vegetables, promoting home and, where appropriate, school gardens and urban agriculture, using sustainable technologies, and encourage the sustainable utilization of unused or underutilized fish resources.

Objective 2.4: To promote access for all, especially the poor and members of vulnerable and disadvantaged groups, to basic education and primary health care provision in order to strengthen their capacity for self-reliance, the document recognizes the importance of school feeding:

- Promote access to, and support for, complete primary education, including, where appropriate, school feeding programmes, with particular attention to children in rural areas and to girls.

In 2012, recognizing that accelerated global action was needed to address the double burden of malnutrition, the World Health Assembly endorsed a **Comprehensive implementation plan on maternal, infant and young child nutrition**, which specified a set of six **global nutrition targets that by 2025** (Global targets 2025) aim to:

- 1 achieve a 40% reduction in the number of children under-5 who are stunted;
- 2 achieve a 50% reduction of anaemia in women of reproductive age;
- 3 achieve a 30% reduction in low birth weight;
- 4 ensure that there is no increase in childhood overweight;
- 5 increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%;
- 6 reduce and maintain childhood wasting to less than 5%.

The Plan establishes the need to develop sectoral strategies that consider nutrition problems, in order to promote the demand and supply of healthy food and eliminate restrictions that hinder access and consumption of healthier foods. To access the Plan, go to:

https://apps.who.int/iris/bitstream/handle/10665/113048/WHO_NMH_NHD_14.1_eng.pdf;jsessionid=1F0C984B53C0D9A00C1827B793931ED1?sequence=1

In the Plan, investment in school nutrition policies is presented as one of the measures to reduce the double burden of malnutrition and overweight.

In 2013, WHO launched the **Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020**, which contains the **Global Goals for NCD**:

-  A **25%** relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.
-  At least **10%** relative reduction in the harmful use of alcohol, as appropriate, within the national context.
-  A **10%** relative reduction in prevalence of insufficient physical activity.
-  A **30%** relative reduction in mean population intake of salt/sodium.
-  A **30%** relative reduction in prevalence of current tobacco use in persons aged 15+ years.
-  A **25%** relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances.
-  **Halt the rise** in diabetes and obesity.
-  At least **50%** of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes.
-  An **80%** availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities.

Under objective 3 of the Plan, *To reduce modifiable risk factors for noncommunicable diseases and underlying social determinants through the creation of health-promoting environments*, the school environment and school feeding are recognized as healthy food promoting channels:

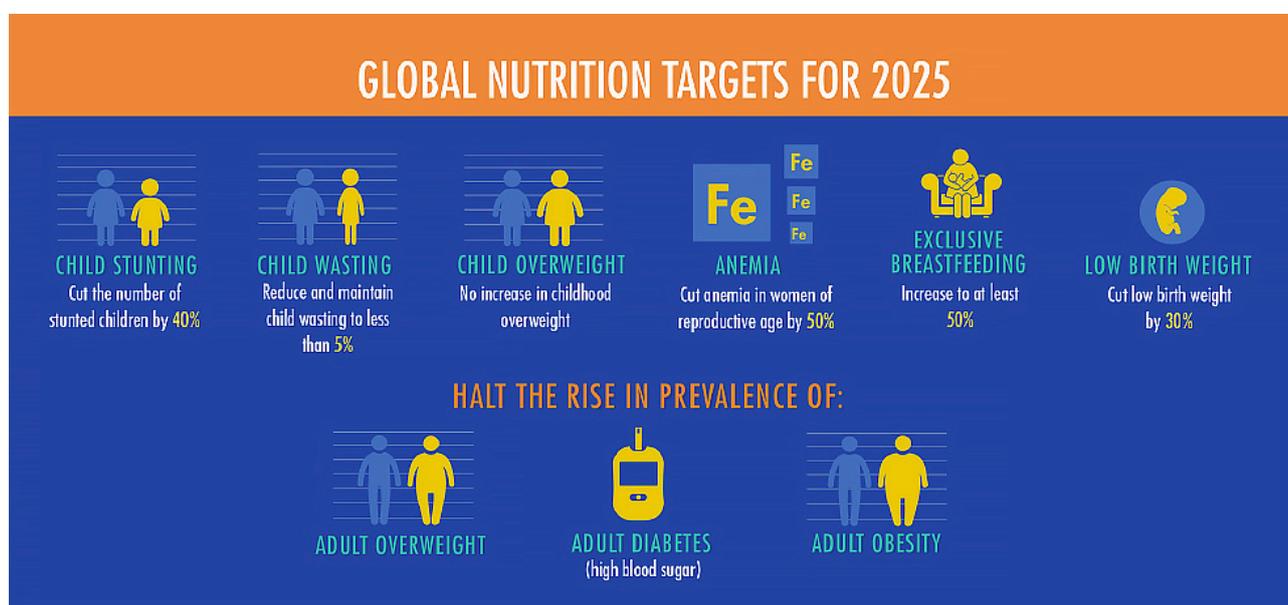
It is recommended that national food and nutrition policies and programs should aim to:

- Promote the provision and availability of healthy food in all public institutions including schools, other educational institutions and the workplace.
- Create health- and nutrition-promoting environments, including through nutrition education, in schools, child care centers and other educational institutions, work-places, clinics and hospitals, and other public and private institutions.

To see the full document, click here: http://africahealthforum.afro.who.int/first-edition/IMG/pdf/global_action_plan_for_the_prevention_and_control_of_ncds_2013-2020.pdf

In 2014, the Pan American Health Organization launched the **Plan of Action for the Prevention and Control of Noncommunicable Diseases in the Americas 2013-2019** aligned with, among other plans, the Global Action Plan mentioned above. To access this document, click here: <https://www.paho.org/hq/dmdocuments/2015/action-plan-prevention-control-ncds-americas.pdf>

The Global Nutrition Targets presented below represent the two sets of targets adopted by the World Health Assembly - the **WHO Targets on Maternal, Infant and Young Child Nutrition**, and the **WHO Global Goals for NCD**.



Source: Global Nutrition Report 2016, IFPRI.

In November 2014, the **Second International Conference on Nutrition (CIN2)** was held in Rome, a high-level intergovernmental meeting that focused worldwide attention on the fight against malnutrition in all its forms. The governments participating in the conference approved the two main documents resulting from the CIN2 - the **Rome Declaration on Nutrition** and the **Framework for Action** - that commit world leaders to establish national policies aimed at the eradication of malnutrition and the transformation of food systems to make nutritious diets available to everyone. The **Framework for Action** presents a set of 60 recommendations on policies and programs, in order to create favorable environments and improve nutrition in all sectors. There are several recommendations related to educational environments:

- Recommendation 16: Establish food or nutrient-based standards to make healthy diets and safe drinking water accessible in public facilities such as hospitals, childcare facilities, workplaces, universities, schools, food and catering services, government offices and prisons, and encourage the establishment of facilities for breastfeeding.
- Recommendation 19: Implement nutrition education and information interventions based on national dietary guidelines and coherent policies related to food and diets, through improved school curricula, nutrition education in the health, agriculture and social protection services, community interventions and point-of-sale information, including labelling.
- Recommendation 23: Use cash and food transfers, including SFP and other forms of social protection for vulnerable populations to improve diets through better access to food which conforms with the beliefs, culture, traditions, dietary habits and preferences of individuals in accordance with national and international laws and obligations, and which is nutritionally adequate for healthy diets.

To know more about the Framework for Action: <http://www.fao.org/3/a-mm215e.pdf> and other documents resulting from CIN2: <http://www.fao.org/about/meetings/icn2/documents/en/>

In this same year, the countries of the Region of the Americas approved the **Plan of Action for the Prevention of Obesity in Children and Adolescents**, whose goal is to stop the increase of the epidemic so that there is no increase with respect to the current rates of prevalence of obesity, emphasizing the need for a multisectoral approach. Among the recommended measures is the application of fiscal policies, such as taxes on sugary drinks and products with high caloric content and poor nutritional value, regulation of advertising and food labeling, improvement of school environments in regards to food and physical activity, and promotion of breastfeeding and healthy eating. If you want to read the Plan, click here <https://www.paho.org/hq/dmdocuments/2015/Obesity-Plan-Of-Action-Child-Eng-2015.pdf>

Under the Strategic Line *Improvement of school nutrition and physical activity environments*, the Plan establishes:

- To ensure that national SFP, as well as the sale of foods and beverages in schools (“competitive foods”) comply with norms and/or regulations that promote the consumption of healthy foods and water and prevent the availability of energy-dense nutrient-poor products and sugar-sweetened beverages.

In 2015, the Community of Latin American and Caribbean States (CELAC, in Spanish) committed to enforce FNS. The **CELAC Plan for Food Security, Nutrition and Hunger Eradication** was approved by 33 countries in the region, consolidating the fight for the eradication of hunger

and poverty in member States. School feeding is embodied in the Plan as Line of Action 1, under Pillar 3: *Nutritional well-being and nutrient assurance, respecting the diversity of eating habits, for all vulnerable groups*. To access the CELAC Plan, go to: <http://www.fao.org/3/a-bo925e.pdf>

The proposed measures related to school feeding are:

- universalize SFP;
- link SFP to the public procurement system of family farming;
- promote healthy food environments within schools;
- incorporate nutrition education into school curriculums; and
- establish healthy, varied menus within SFP.

Also in 2015, the **Milan Urban Food Policy Pact** was signed by 100 cities in the world. The Pact is the first international protocol focused on the municipal sphere that contains solid proposals to “develop sustainable, inclusive, resilient, safe and diversified food systems, to ensure healthy and accessible food to all in a context based on human rights, minimizing waste and protecting biodiversity while adapting to climate change and reducing its impact.”

The school and school feeding are reflected as follows:

Recommended actions under **Sustainable diets and nutrition**:

- Promote sustainable diets (healthy, safe, culturally appropriate, environmentally friendly and rights-based) through relevant education, health promotion and communication programs, with special attention to schools, care centers, markets and the media.
- Adapt standards and regulations to make sustainable diets and safe drinking water accessible in public sector facilities such as hospitals, health and childcare facilities, workplaces, universities, schools, food and catering services, municipal offices and prisons, and to the extent possible, in private sector retail and wholesale food distribution and markets.

Recommended actions under **Social and economic equity**:

- Reorient school feeding programs and other institutional food service to provide food that is healthy, local and regionally sourced, seasonal and sustainably produced.

The full Milan Urban Food Policy Pact can be reached at: <http://www.milanurbanfoodpolicypact.org/wp-content/uploads/2016/06/Milan-Urban-Food-Policy-Pact-EN.pdf>

In 2015, as already mentioned in unit 1, as a result of the Rio + 20 Conference (the UN Conference on Sustainable Development, 2012), the heads of State and government of 193 countries adopted the **2030 Agenda for Sustainable Development**, which contains a set of

17 Sustainable Development Goals (SDG), that are primarily aimed at eradicating poverty, protecting the planet and ensuring peace and prosperity for all.

In 2016, the United Nations designated the period 2016–2025 as the UN **Decade of Action on Nutrition**. The objective of the Decade is to accelerate the implementation of the commitments assumed in CIN2, achieve the targets of global and dietary nutrition related to NCDs by 2025 and contribute to the achievement of the Sustainable Development Goals (SDG) by 2030, in order to eradicate hunger and malnutrition in all its forms (undernutrition, micronutrient deficiencies, overweight and obesity) and reduce the burden of food-related NCD in all age groups.

OTHER IMPORTANT INITIATIVES FOR THE PROMOTION OF FNS IN LAC

Hunger-Free Latin America and Caribbean Initiative 2025

It is also essential to highlight the implementation of an initiative that has been fundamental in the promotion of FNS in LAC region - the **Hunger-Free Latin America and Caribbean Initiative (HFLACI) 2025**. It was launched by the Governments of Guatemala and Brazil during the first Latin American Summit on Chronic Hunger held in Guatemala in September 2005 to promote and implement public policies aimed at eradicating hunger in the region, based on a joint effort among governments, civil society, private sector, media, international organizations and donors. The Initiative has the support of the Heads of State of the region and is carried out by the countries themselves, with the support of FAO. Visit the Initiative site: <http://www.ialcsh.org/> (in Spanish).

The HFLACI intends to place hunger on the political and economic agendas of LAC countries, based on the consideration that food is a right, and developing appropriate legal frameworks. It emphasizes medium and long-term structural public policies and cooperation among countries in the region to reduce malnutrition below 2.5% in each of the countries before the year 2025.

One of the public policies that has stood out, over the last years, as an important tool for strategic intervention of social protection and for the fulfillment of the human right to adequate food has been the school feeding policy.

FAO-Brazil Cooperation Projects

In 2019, based on its extensive experience in the field, the Government of Brazil established a cooperation with FAO for the development of the Project ***Strengthening of School Feeding Programmes under the framework of the Hunger-Free Latin America and Caribbean Initiative 2025*** - with the objective to contribute to the strengthening of local and sustainable

public school feeding policies, with a focus on the human right to food. As of 2018, Brazilian Cooperation continues through the Project **Consolidation of School Feeding Programs in Latin America and the Caribbean**. Since its inception, these projects have contributed, in different ways, to broadening the spaces for discussions and for strengthening school feeding in several Latin American and Caribbean countries. To learn more about the Project, visit: <http://www.fao.org/in-action/program-brazil-fao/projects/school-feeding/en/>

Parliamentary Front Against Hunger in Latin America and the Caribbean

In 2009, with the participation of FAO, through the Regional Project to Support HFLACI, accompanied by the Spanish Agency for International Development Cooperation (AECID, in Spanish), the **Parliamentary Front Against Hunger (PFH) in Latin America** was created as a plural platform that brings together regional, sub regional and national legislators interested in promoting the right to food and tackling hunger, food and nutrition insecurity and malnutrition. To learn more about the Front and other important issues related to the FNS agenda, visit the website <http://parlamentarioscontraelhambre.org/en/>

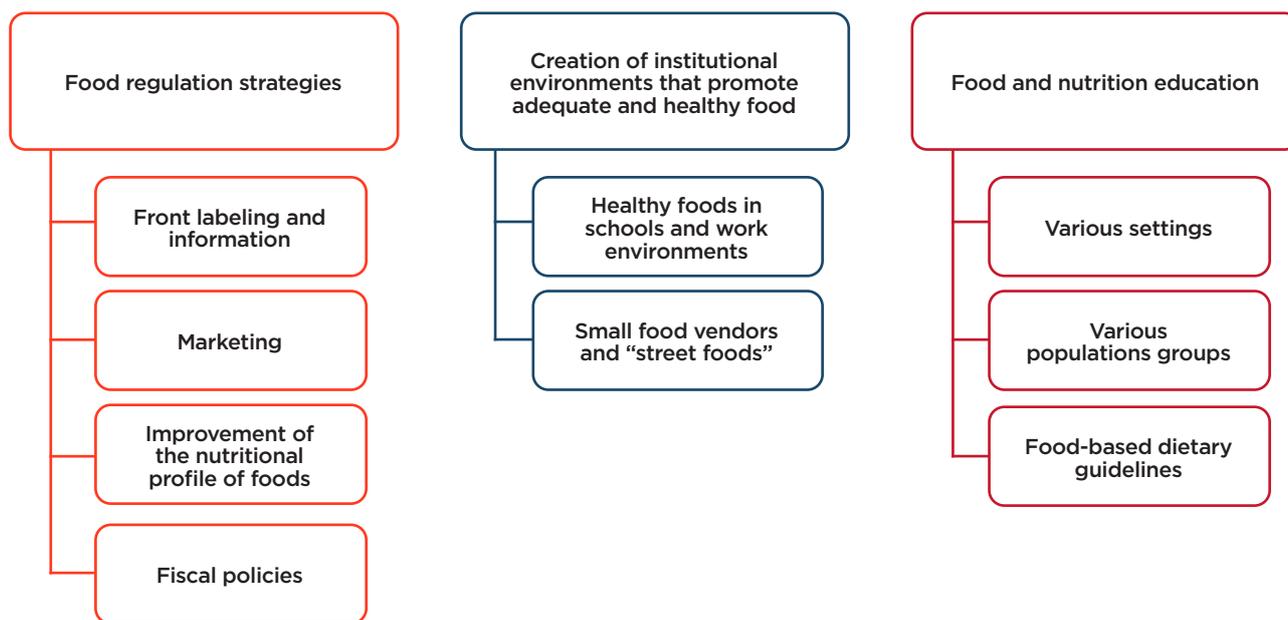
4. PRACTICES OF PROMOTION OF ADEQUATE AND HEALTHY FOOD

We already know that adequate and healthy food goes beyond the nutritional content of foods and preparations. A more practical concept that can be considered as an example is the one used in the Dietary Guidelines for the Brazilian Population of 2014 (Brazil, 2015).

Adequate and healthy food is a basic human right that implies the guarantee of permanent and regular access, in a socially just way, to food practices that: are appropriate to the biological and social aspects of the individual; in accordance with the special nutritional needs; respect food culture and the dimensions of gender, race and ethnicity; are physically and financially accessible; harmonic in quantity and quality, complying to the principles of variety, balance, moderation and pleasure; and based on adequate and sustainable productive practices.

Likewise, it is essential that people have access to reliable and understandable information, so that they are able and empowered to, autonomously, make the best consumer choices and understand the implications of their selections for themselves, their surroundings and the environment.

In several of the frameworks mentioned at the beginning of this unit, there is a recognition of the need for countries to adopt multiple strategies for the promotion of adequate and healthy food while, at the same time, to help curb the consumption and sale of foods with high-calorie and low nutritional content. The strategies that have been implemented by countries are presented below:



Many countries have already implemented these strategies. In Chile, **Law No. 20,606**, on the **Nutritional Composition of Foods and its Advertising** came into force in 2016, as a response to the high consumption of sugary drinks and the increase in overweight and obesity in the country.

The Law is quite complete and is the first in the world that regulates, simultaneously and comprehensively, measures that are fundamental for the reduction of obesity and the increase in healthier food consumption - the frontal warning labeling; restrictions on advertising aimed at children under 14 years of age, and the prohibition of food sales in schools and their surroundings, as shown in the figure below:

LAW NO. 20.606
NUTRITIONAL COMPOSITION
OF FOODS AND ITS ADVERTISING, CHILE.



The document **Approval of a new Food Act in Chile: Process summary** of the Pan American Health Organization/World Health Organization (PAHO / WHO) and FAO is very interesting for those who want to know how the process of the approval of this new food act took place.

https://www.paho.org/chi/index.php?option=com_docman&view=download&slug=approval-of-a-new-food-act-in-chile-1&Itemid=1145

4.1 Front-of-package food warning label

Ecuador has been a pioneer in implementing frontal labeling, in 2014, when it implemented the traffic light system, followed by Bolivia, in 2016. The different types of frontal labeling that have been implemented by countries serve to alert consumers, in a more clear and practical way, about the level of certain critical ingredients, such as sodium, saturated fat, sugars and calories in processed food products.

Chile implemented a front-of-package food warning label system in 2016. Its system has been used as a reference by several other countries. Peru and Uruguay also already adopted mandatory warning systems in 2018. In Brazil and Canada, the system has already undergone public consultations; however, at least in Brazil, the process has not advanced so quickly due to the strong pressure from the processed food industries, which do not want to see their products rated as unhealthy.

WARNING LABELS FOR PRODUCTS SURPASSING MAXIMUM CRITICAL INGREDIENT CONTENT LEVELS, CHILE.



Translation: High in sugars; high in saturated fats; high in sodium; high in calories.

It is important to note that the school feeding program of Chile follows the recommendations of the **Law No. 20,606** and cannot offer any food or product that is labeled “high in”, nor can these items be sold in the schools.

4.2 Regulation of food advertising

Several other countries have already implemented legal frameworks and initiatives to regulate the advertising of foods with high caloric content and low nutritional value, especially for children and adolescents, with the aim of reducing their consumption.

Measures such as prohibiting the exhibition of advertising of these types of food for children, restricting the time and place of exhibition, or preventing fast-food chains from linking toys to their products have been used in the country, but not without the challenge of facing the strong power and pressure of the food industries.

4.3 Fiscal policies

Another front of action are fiscal policies, whether in the form of taxes or subsidies. Taxes are applied to sugar-sweetened beverages and other high-calorie products, in the same way as was done with alcohol and tobacco, with the aim of reducing sales and consumption; subsidies are applied to healthy foods, in order to reduce their prices and increase consumption. Mexico has been a forerunner in applying a 10% tax on sugary drinks since January 2014.

The report **Fiscal Policies for Diet and Prevention of Noncommunicable Diseases (NCD)**, published in 2015 by WHO, states that:

- 1) When linked to other actions, such policies have the potential to achieve positive effects in relation to the promotion of healthy diets;
- 2) Subsidies for fruits and vegetables, with a 10% to 30% reduction in prices, has the potential to increase consumption;
- 3) On the other hand, taxes applied to certain food products and beverages, especially those rich in sugar, and that cause an increase of at least 20% in the final price, seem to actually cause a reduction in consumption.

However, this is still a complex issue, which involves decisions such as: to which types of food to apply the tax, what type of and how much tax, among others. Access to this document and other important information on this topic can be found here: <https://www.who.int/news-room/detail/11-10-2016-who-urges-global-action-to-curtail-consumption-and-health-impacts-of-sugary-drinks>

4.4 Improvement of nutritional profile of foods

The reduction of sodium, sugar and saturated fats and the elimination of trans fatty acids (trans fats) from industrialized products have also been recommended as a way to reduce the supply of unhealthy products.

In 2008, PAHO launched the **Trans Fat Free Americas - Declaration of Rio de Janeiro**, through which the importance of replacing industrially produced trans fatty acids and reducing their presence in industrialized foods was agreed. The document recommends that the nutritional label of processed foods should be obligatory, including the declaration of the content of trans fat acids. Also, restaurants and service companies should decrease their use and report their content in preparations. The Declaration also stresses that public funded food programs should be an important part of this effort through food aid programs, hospitals, school feeding programs, etc. The document can be read at: [https://www.paho.org/hq/dmdocuments/2009/transfat-declaration-rio\[1\].pdf?ua=1](https://www.paho.org/hq/dmdocuments/2009/transfat-declaration-rio[1].pdf?ua=1)

In some countries, agreements have already been signed between the food industry and the government for the reduction of certain critical ingredients in the composition of industrialized foods (even though with criticism due to insufficient reduction), while in others, there have not been concrete advances.

4.5 Food-based dietary guidelines

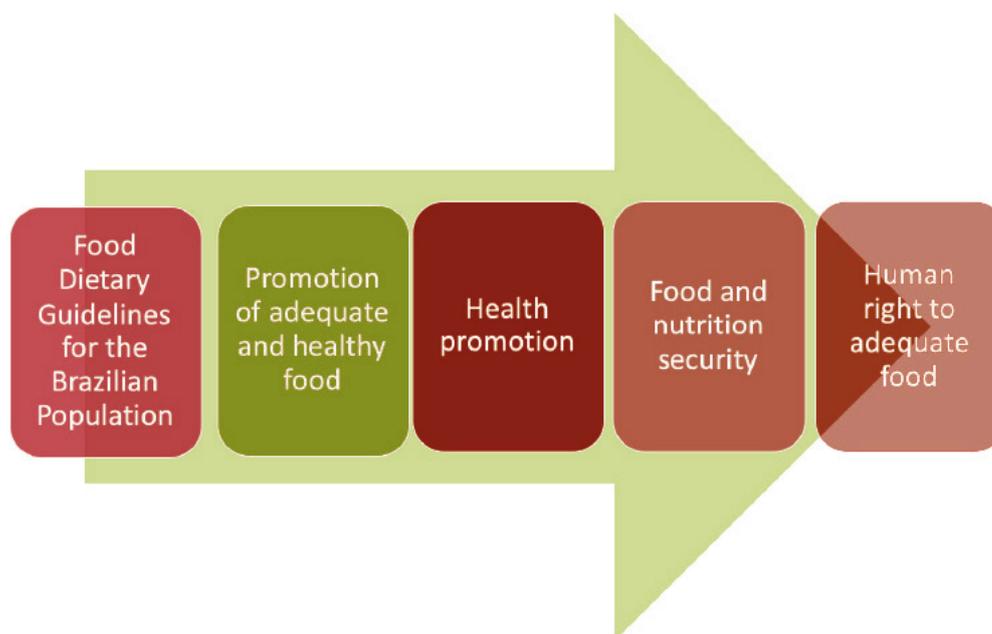
An important tool for health promotion and prevention of NCD are the food-based food dietary guidelines (FBDG), which provide the public with recommendations on foods, food groups, food patterns and healthy lifestyles.

Its purpose is to serve as a basis for the development of national policies and programs related to food and nutrition, health, agriculture and FNE. Countries must formulate their specific food-based food dietary guidelines based on scientific evidence and patterns of food consumption and diseases of their population.

The vast majority of the FBDG are still mainly focused on food groups and their nutritional content. More recently, however, some countries have already recognized the importance of their guidelines incorporating a more holistic and sustainable view of food and nutrition, and that the guidelines also include recommendations that promote: 1) different preparations and food combinations; 2) the social aspect of the act of eating together with other people; 3) the sustainability aspect of food, through the consumption of local and seasonal foods; 4) the consumption of food without pesticides; 5) respect for different cultures; 6) a diet based mainly on foods of plant origin; among other important considerations.

An example of a dietary guideline that reflects this new vision is the **Dietary Guidelines for the Brazilian Population** of 2014, which have been used as a reference by several countries. This document is one of the strategies for the implementation of the component “*promotion of adequate and healthy food*” that is part of the National Food and Nutrition Policy of Brazil. The guideline is an instrument that serves to support and encourage healthy food practices at the individual and collective level, as well as to subsidize policies, programs and actions aimed at encouraging, supporting, protecting and promoting health, FNS and the human right to adequate food for the population.

To access the document, in English, click here. http://bvsmms.saude.gov.br/bvs/publicacoes/dietary_guidelines_brazilian_population.pdf



Does your country have a Food-Based Dietary Guideline?

Is the Guideline used as a reference for policies, plans and programs for promotion of health and FNS of the population?

You can search the FBDG of various countries at:

<http://www.fao.org/nutrition/education/food-dietary-guidelines/background/en/>

5. CONCLUSION

It is clear that, in order to achieve FNS of all people, along with a sustainable and inclusive development of individuals and societies, a multisectoral approach is necessary, one that fosters and strengthens the convergence and coordination among the various sectors and institutions, as well as among the various policies and strategies developed and implemented.

The urgency to fight poverty, food and nutrition insecurity, the various forms of malnutrition and imbalances in food systems, in a comprehensive and coordinated manner, is recognized through various global, regional and national frameworks, and the school environment and the SFP are key strategies to overcome these challenges.

The promotion of adequate and healthy food will require initiatives that affect both demand, that is, in sensitizing, educating and supporting individuals in the processes of buying, preparing, using and discarding food, through FNE; as well as the supply, through public policies of food production, food regulation and incentives to create healthy institutional environments. In the next units of the course, we will address, in more details, the strategies related to the creation of healthy environments and to FNE in schools.

In unit 3, we will begin to focus more on the importance of the school environment and SFP, and how these programs have advanced over the last decades, becoming key strategies for the realization of FNS and the fulfillment of several of the SDG.

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MODULE 2

Sustainable School Feeding Programs for achieving multiple Sustainable Development Goals

4



ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

Education is the basis for improving our life and sustainable development. Therefore, access to quality education must be universal. In the last five-year periods, important progress has been made in terms of improving access at all levels and with the increase in school enrollment rates, especially in the case of women and girls. The minimum literacy level has also been greatly improved.

However, it is necessary to redouble efforts to achieve greater progress. The Organization for Education, Science and Culture is entrusted with the coordination of the achievement of this Goal. Know your proposal on what should be the education of the XXI century.

UNIT 4

SUSTAINABLE SCHOOL FEEDING PROGRAMS IN LATIN AMERICA AND THE CARIBBEAN

OBJECTIVES:

Upon completion of this unit, you will be able to:

- explain the importance of school feeding programs (SFP) for the promotion of adequate and healthy food, the realization of food and nutrition security (FNS) and the fulfillment of several of the Sustainable Development Goals (SDG);
- become familiar with the evolution and main progresses of SFP in Latin America and the Caribbean (LAC) region, including the core elements that contribute to their strengthening and sustainability; and
- identify some of the main initiatives for promotion of adequate and healthy food in the school environment.

1. INTRODUCTION

We have seen to date, that there is a very strong relationship between FNS and the social, economic and educational development of individuals, communities and societies.

Also, there is a consensus about the urgency to develop and implement policies and strategies to promote adequate and healthy food and curb the sale and consumption of foods with high-calorie and low-nutritional content to prevent various forms of malnutrition.

In the past unit we saw that some of these strategies are: a) the creation of institutional environments that promote adequate and healthy food, such as schools (including child care centers and preschools) and b) food and nutrition education (FNE).

We will start this unit discussing the connections between proper nutrition, FNS, school feeding and schooling. Then, we will focus on the importance of SFP and how these programs have advanced over the decades, becoming important intersectoral policies of FNS and social development; also, how can they contribute to the construction of healthy school environments,

to the improvement of education, to the fulfillment of the human right to adequate food of students and to several of the SDG.

We will also identify the elements that contribute to the strengthening and sustainability of the SFP and, finally, we will present some initiatives to promote healthy school environments within the framework of SFP, highlighting the actions of FNE in these settings.

Before continuing with the reading, we recommend that you watch the video Strengthening School Feeding Programmes in LAC: <https://www.youtube.com/watch?v=X8BH-7Z8UjU&t=4s>

This video invites us to reflect on the paradigm shift through which SFP have gone through in the last decades, from assistance programs to rights-based programs. It also gives us the opportunity to comprehend the idea of a sustainable SFP and the experience of Sustainable Schools that have been developed in several LAC countries, with the support of the Government of Brazil and FAO.

You can watch another video about the implementation of Sustainable Schools in Guatemala: <https://www.youtube.com/watch?v=Yt6OxlDONmO&t=24s>

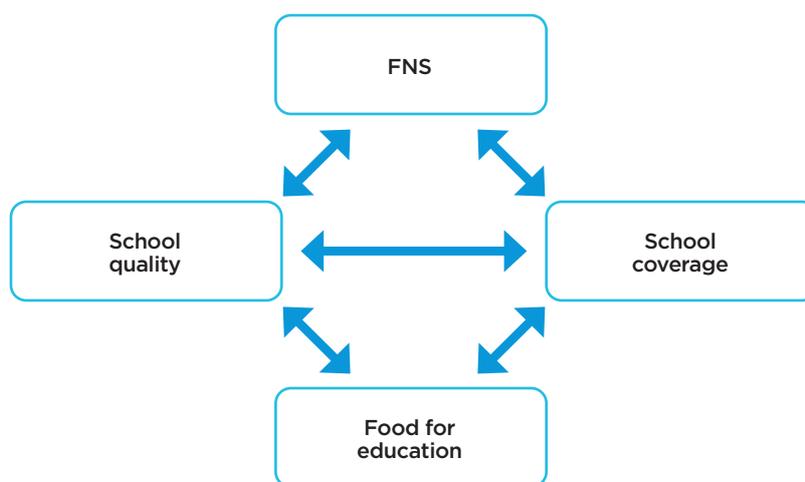
2. THE LINKAGE AMONG FNS, SCHOOL FEEDING AND SCHOOLING

We know that healthy eating habits and good nutrition in childhood promote growth, health and learning. A well-balanced diet is necessary for children and adolescents to lead a healthy and productive life and have a good performance in school. On the other hand, unhealthy eating and lifestyle practices can increase the risk of many health problems, such as undernutrition, overweight and obesity, iron deficiency anemia and other vitamin and mineral deficiencies, eating disorders and dental caries, as well as long-term health problems, such as chronic non-communicable diseases (NCD) (World Bank, 2019).

Some of the negative effects of poor nutrition in children and adolescents are shown below (CDC, 1996):

NUTRITIONAL PROBLEM	IMPACT
Moderate undernourished children	<ul style="list-style-type: none"> • Present lasting negative effects on cognitive development and school performance
Chronically undernourished children	<ul style="list-style-type: none"> • Achieve lower scores on standard achievement tests, particularly tests of language ability
Hungry or undernourished children	<ul style="list-style-type: none"> • Struggle to resist infection, are more likely to get sick and miss school • Are irritable and have difficulty concentrating, which can interfere with learning • Are more likely to repeat a grade and require special education and mental health services more often • Can have little energy, which can limit their physical activity
Iron deficiency anaemia	<ul style="list-style-type: none"> • Hinders the body’s ability to produce haemoglobin - needed to carry oxygen in the blood - which can: <ul style="list-style-type: none"> • increase fatigue • reduce attention span • decrease work capacity • reduce resistance to infection • impair intellectual performance
Overweight and obesity	<ul style="list-style-type: none"> • Is associated with elevated cholesterol levels in the blood and high blood pressure • Obese children are often: <ul style="list-style-type: none"> • excluded from peer groups and discriminated against by adults • have psychological stress • suffer from body image • Very obese young individuals may: <ul style="list-style-type: none"> • suffer immediate health problems, such as respiratory disorders and orthopaedic problems • Have been associated with increased mortality in adulthood.

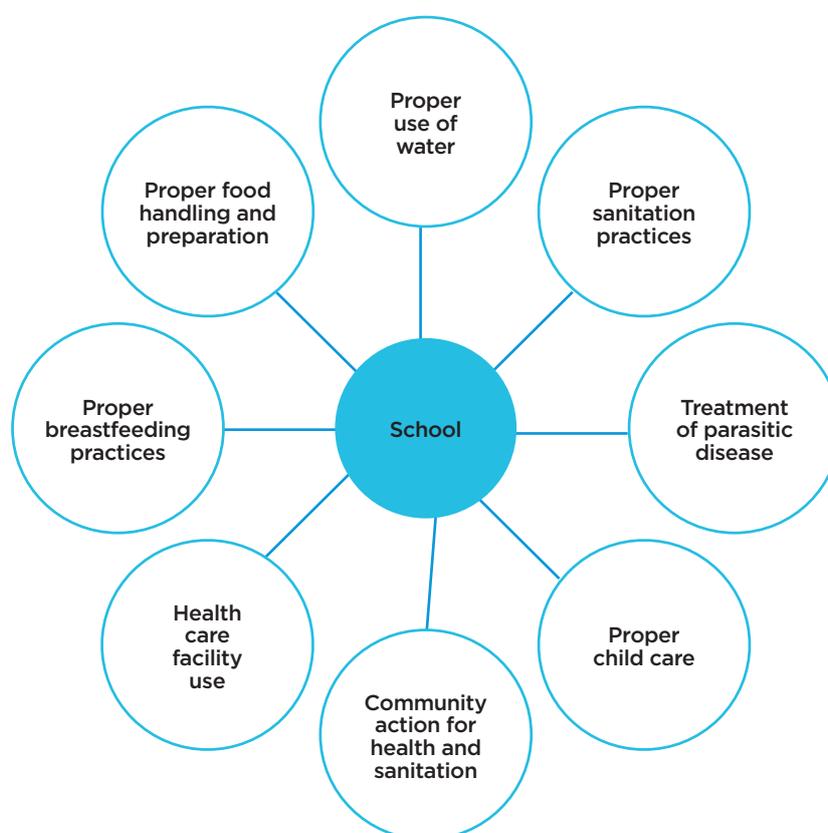
School feeding has a key role in the process of contributing to the improvement of nutrition, education and FNS. In fact, there is a virtuous circle among education, nutrition (through school feeding) and FNS, as well pointed out by Levinger (2005) in the document **School Feeding, school reform, and food security: Connecting the dots**. Instead of “school feeding,” the author uses the term “Food for Education,” as this would include a significantly broader range of interventions designed to improve school enrollment, attendance, links between community and school, and learning. Levinger develops four main ideas to explain the dynamic interactions between the variables below:



Source: Levinger (2005).

- 1. Universalization of primary education improves food security.** People who receive a quality education are more likely to make a living with cash or in-kind resources and, consequently, to obtain nutritious food. People with education are also more likely to practice safe food storage and preparation techniques and to practice the basic principles of nutrition, health and child care. The unifying element among all these factors that promote food security is schooling.
- 2. “Food for Education” boosts participation in primary school and, therefore, food security.** SFP have been shown to contribute to promote school attendance, particularly in settings where attendance is not high and where children come from rural areas and relatively low socioeconomic settings. SFP seem to contribute to improving attendance and enrollment when there is a good fit between the design of the program and the environment in which the program operates. In doing so, the SFP and especially the “Food for Education” contribute to improving FNS.
- 3. Primary education contributes to food security, even when the quality is modest, although greater quality of education leads to greater achievements in food security.** “Quality education,” according to the author, describes an environment in which properly trained and certified teachers provide an instructional program that is appropriate to the

needs of students, from the linguistic, cognitive and pedagogical point of view. Through exposure to quality education, students acquire and develop skills, knowledge and attitudes necessary to ensure an adequate livelihood, participate in civic affairs, contribute to the well-being of their family and participate in sustainable learning throughout lifetime. Once he/she knows how to read and write, the individual has the ability to “decode, interpret and act efficiently”, taking advantage of technical change and new information. In the agricultural sector, for example, studies indicate that four years of basic education significantly increase agricultural production. You can see the effects of schooling on the FNS component “food utilization” in the figure below, adapted from Levinger (2005).



4. Efforts to improve the demand for schooling and school quality are highly inter-related and mutually reinforcing. According to the author, “Food for Education” can generate a greater demand for schooling, that is, by contributing to families as an income transfer, or with cognitive effects on hungry children, families usually enroll and support the attendance of their children at school. This, in turn, generates a virtuous interrelation between the demand and the supply of quality schooling: when more children go to school, a demand for higher quality education is generated; quality education generates more retention and greater coverage; satisfied families mobilize and get more involved, which contributes positively to the quality of education and demand for schooling.

3. CONCEPTS AND CONSIDERATIONS ON SCHOOL FEEDING PROGRAMS

Almost every country in the world, regardless of income, offers some kind of school feeding to students. Data from 2013 indicate that, based on a sample of 169 countries, at least 368 million students of pre-primary, primary and secondary ages were fed in schools. At the time, a potential annual investment for school feeding was estimated between 47,000 and 75,000 million USD, with most coming from government budgets (WFP, 2013).

Among countries, their SFP differ in terms of institutional and management mechanisms, coverage, supply modalities, costs, mechanisms of social participation, among other elements. Depending on the region and country, they have been implemented to achieve different objectives: (1) to meet social needs and provide a social safety net to students and their families during crises and/or (2) to support child development through better education, health and nutrition (WFP, 2013; FAO et al., 2018).

In this course, we will focus our analyzes and discussions on the SFP in LAC countries. In order to reduce poverty rates in these countries, governments have developed policies and social protection programs targeting the most vulnerable populations. It is in this context in which SFP have emerged, some since the 40s, initially created as food assistance programs, aimed at alleviating short-term hunger, reducing undernutrition among primary school students, and attracting and maintaining children in school (WFP, 2013; FAO, 2015).

Most of these programs were created with financial support from international agencies, such as the World Food Programme (WFP), the United States Agency for Development (USAID) and the World Bank. The level of external dependence varied according to the socio-political and economic circumstances of each country.

These SFP have been implemented and developed very differently worldwide, based on several factors, such as the social policies and resources of countries, international collaboration, the realities of the school population, the possibilities of social participation and priorities according to vulnerability.

Some characteristics were common to these programs, mainly in their initial phases: targeting, dependence on external resources and technical assistance, centralized management, resources available mainly for food purchase and distribution; centralized procurement process, basically from large suppliers and international markets; standardized and poorly diversified menus, consisting primarily of basic grains (rice, beans, corn) and/or processed foods, with little fresh foods (fruits and vegetables) and, often, in disagreement with local culture and habits.

3.1 Advances of the SFP in the region

Over the years, school feeding policies and programs, including kindergartens and preschools, have advanced and been recognized as key in health promotion and disease prevention, as they provide the most effective way to reach a large number of people, including youth, school staff, families and community members (WHO, 2004; WHO, 2013a).

We have seen that several international organizations such as the Food and Agriculture Organization (FAO), the United Nations Children’s Fund (UNICEF), the Pan American Health Organization (PAHO), the World Health Organization (WHO), the European Union (EU) have developed policy frameworks and launched strategies on nutrition, overweight and health problems related to obesity, in which the school environment and comprehensive SFP have been strongly recognized as potential intervention channels.

In practice, it is important that countries create healthy food and drink school environments and advance the implementation of the **Global Strategy on Diet, Physical Activity and Health** and the **Global Action Plan for the Prevention and Control of Noncommunicable Disease 2013-2020**, by supporting the adoption of adequate, healthy and culturally appropriate meals and physical activity at school, the implementation of food and nutrition education (FNE) integrated with the core curriculum, and also encouraging procurement of healthy and seasonal foods directly from local producers for school meals (WHO, 2013b; FAO and WHO, 2014).

In this regard, in recent years, through the Hunger-Free LAC Initiative 2025 (HFLACI), FAO has supported LAC countries to develop and strengthen public policies of FNS that contribute to eradicate hunger and malnutrition in the region. One of the policies promoted has been school feeding, which plays a key role in improving the social scene of the region.

Brazil, given its strong experience with its SFP, has been a partner of FAO in this endeavor in 17 countries in LAC region, initially through the project *Strengthening of School Feeding Programmes in the Framework of the Hunger Free Latin America and the Caribbean 2025 Initiative*, under the framework of the technical cooperation between the government of Brazil, through the Brazilian Agency for Technical Cooperation of the Ministry of Foreign Affairs (ABC) and the National Fund for the Development of Education of the Ministry of Education, FNDE/MEC, and FAO Regional Office for LAC (RLC).

The objective of the Project is to contribute to strengthening local and sustainable public school feeding policies, under a rights-based approach. Subsequently, assistance has continued to be provided through another FAO-Brazil technical cooperation funded project entitled *Consolidation of School Feeding Programs in Latin America and the Caribbean*.

The methodology adopted by these projects comes from the lessons learned and best practices of the Brazilian SFP, which has the following principles:

- I.** The use of healthy, adequate, varied and safe foods, that respect local culture and traditions, contributing to the growth and development of students and for the improvement of school performance, in accordance with age group and health status, including those who have specific needs;
- II.** The inclusion of FNE in the process of teaching and learning, throughout the school curriculum, focusing on topics on food and nutrition and the development of healthy life practices, under the perspective of FNS;
- III.** Universal access to free school feeding for all students enrolled in basic public education.
- IV.** The participation of the community in social control, in the follow-up of actions carried out by the states, the Federal District and the municipalities to guarantee the supply of healthy and adequate school feeding;
- V.** Support for sustainable development, with incentives for the acquisition of diversified food products, produced locally and preferably by family farming (small-scale producer) and rural family businesses, prioritizing traditional indigenous communities and quilombos (slave descendents); and
- VI.** The right to school feeding, in order to guarantee FNS of students, with equitable access, respecting the biological differences between ages and health conditions of students who need specific attention and those in social vulnerability.

Throughout this unit, we will see how these cooperation projects have contributed to strengthen SFP in the region and to promote their sustainability. The great majority of SFP in the region have undergone major changes in recent decades. Governments have prioritized these programs and have been increasingly participating in their school feeding policies, through greater political and financial commitment, increased coverage and the creation of intersectoral mechanisms among different sectors, policies and programs involved with school feeding, education, health, agriculture and FNS (FAO, 2015).

As a result, school feeding has become increasingly important, not only in LAC, but worldwide, and countries have been considering SFP from a comprehensive perspective, as a social policy and safety net linked to the improvement of education, health and nutrition, and as a strategy for the promotion of sustainable food production, FNS and local development in communities (FAO et al., 2014; FAO, 2019).

Also, other elements have been incorporated into the food offer. Nowadays, in many countries, SFP:

- Include FNE and school gardens with educational approach as key components on its design and execution.
- Buy directly from local family (small-scale) producers.
- Are implemented in better equipped schools, which guarantee the quality of the food provided and a pleasant and socially appropriate ambience for the students, while eating and enjoying the food with their colleagues.
- Are linked to other school health programs, such as oral health, vaccination and nutritional surveillance.

The concept of school feeding we have worked with translates this more comprehensive vision:

Policy of offering food in schools in order to guarantee the **human right to adequate food** during the school period, the **improvement of eating habits and health**, through the offer of **healthy and culturally appropriate foods** and **implementation of FNE**, aiming at the cognitive, physical and social development of the students.

Did you know that SFP can also contribute, directly or indirectly, to several of the SDG? Let's see how ...

3.2 School feeding programs and the Sustainable Development Goals

THE SFP AND SDG 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE.

When school menus are properly designed and complemented with school food and nutrition education (SFNE) and other health and nutrition services, they can contribute with adequate consumption of calories, protein, carbohydrates, fats, vitamins and minerals and, hence, have the potential to improve the nutritional status of students. This leads to better nutrition and health, decreased morbidity and increased learning abilities.

THE SFP AND SDG 3: ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

The provision of adequate and healthy food at school, from early on, contributes to the promotion of healthy lifestyles in students throughout life. In addition, when SFP are linked to other

activities, such as FNE, implementation of school gardens, construction of healthy school environments, practice of physical activity, they have the potential to promote the well-being of the entire educational community, including the student's family.

THE SFP AND SDG 4: ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL.

When a comprehensive SFP is part of an education investment package, it can help maximize the return on these investments, because school feeding promotes access to school, increases enrollment and attendance rates, and improves the nutritional status, the health and the cognitive development of students.

THE SFP AND SDG 5: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS.

Girls have more difficulty than boys to access education; one in ten girls in the world is out of school, while with boys this figure is one in twelve. Women and girls are also more exposed to hunger and malnutrition than boys; they represent 60% of all undernourished people in the world. And when teenage girls are out of school, they are more vulnerable to forced marriage, early pregnancy, violence and even human trafficking. When properly designed, SFP can reduce gender gaps and help break the vicious cycle of discrimination against girls.

THE SFP AND SDG 1: END POVERTY IN ALL ITS FORMS EVERYWHERE THE SFP AND SDG 8: PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL THE SFP AND SDG 10: REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

Well-designed SFP have direct benefits for children: they improve their nutritional status, their health and educational level. These direct results contribute to broader processes, such as reduction of poverty and inequality and economic growth.

Studies show that:

- people with more years of study have the possibility of having higher income;
- people with a certain educational level (at least until primary school) and their children tend to be healthier;
- children of more educated mothers are more likely to attend school;
- additional years of education also have a positive impact on the Gross Domestic Product (GDP) per capita and the poverty rates of the countries; and
- SFP can create employment opportunities and improve the livelihoods of communities near schools, when they buy from family farmers and local markets, contributing to local economic development, reducing the cycle of poverty and promoting FNS in the communities.

THE SFP AND SDG 12: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

When SFP includes, in its design and execution, local procurement from family farmers, and preferably of organic products, it is contributing to more sustainable food systems.

If you want to know more about the linkage between the SFP and the SDG, you can access the document **How School Meals Contribute to the Sustainable Development Goals. A Collection of Evidence** (WFP, 2017) at:

<https://docs.wfp.org/api/documents/b91da1b2fa2344f6b9f4bad1cfbca40a/download/>

Despite all its benefits, it is very important to highlight that school feeding, by itself, cannot lead to positive effects on the health and the physical and intellectual development of students. The results achieved will greatly depend on the quality of education, the educational and social environment, and on other health, education, social and maternal and child nutrition strategies targeted at the child and youth population. Thus, school feeding policy must be one of several components of a comprehensive and intersectoral educational strategy.

To achieve a significant effectiveness, it is important that SFP are developed within the framework of the FNS considering: (1) an integrated implementation with State policies aimed at combating hunger and malnutrition, including nutrition policies for mothers and children under two years of age; (2) the exercise of the human right to adequate food and the Rights of the Child, considering the SFP as an instrument of these rights, and applying their justiciability and (3) coordination with complementary programs of health, education, food and agriculture, social development, among other sectors (FAO, 2008).

3.3 Challenges of SFP

Despite several advances, the SFP in some countries in the region still present significant gaps in sustainability, legislative support, institutional mechanisms, coverage, nutritional quality, collaboration with the private sector, staff training, research and development of new technologies, social participation and control, monitoring and evaluation. Some of the biggest challenges the SFP in the region face are:

- lack of a legal framework that institutionalizes the program in the State policy and guarantees its stability and sustainability;
- lack of a budget for school feeding that guarantees the human and structural resources necessary for its proper implementation and monitoring;

- lack of effective intersectoral mechanisms among school feeding policy and others, such as education, health, nutrition and agriculture; and
- lack of adequate monitoring and evaluation systems.

However, it is important to mention that, to date, like Brazil, Paraguay, Bolivia, Honduras and Guatemala also have specific laws for school feeding. Other countries in the region are in the process of developing their legal frameworks.

To read a Panorama Study of the situation of the SFP in some countries of the region in the year 2012, (Bolivia, Colombia, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and Peru), consult the document **School Feeding and possibilities of Direct Purchase from Family Farming. Case study from eight countries.** <http://www.fao.org/3/a-i3413e.pdf>. It is a good opportunity to understand where these programs were in comparison to today.



In your opinion, what are the factors that contribute to ensure the sustainability of a SFP?

4. SUSTAINABLE SCHOOL FEEDING PROGRAMS

Given its wide scope, benefits and importance on global, regional and national agendas, it is essential that governments take measures to ensure the proper development, implementation, execution and monitoring and evaluation of their SFP, with a view to ensuring their sustainability.

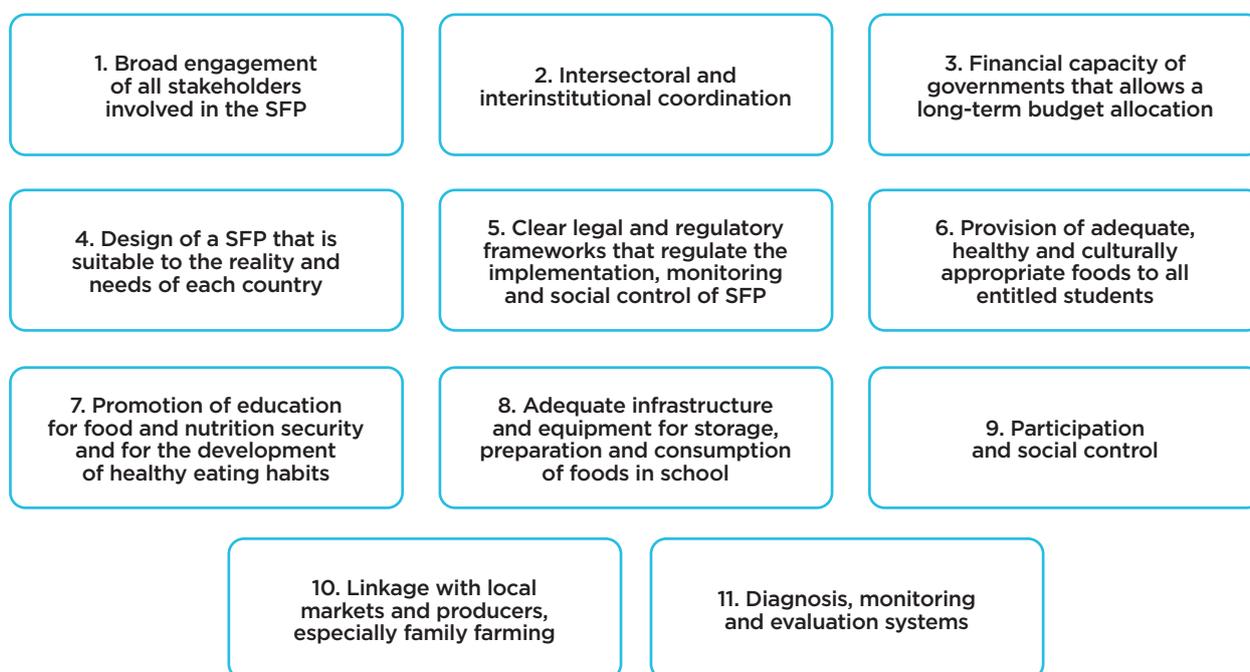
As an answer to this, in 2012, an **Expert Forum on Sustainable School Feeding Programs for Latin America and the Caribbean** was carried out at FAO RLC in Santiago, Chile, with the objective to establish a reference for a **sustainable SFP**, identifying the elements that would characterize such programs. The Forum was organized by the project *Strengthening of School Feeding Programs in the framework of the Hunger-Free Latin America and the Caribbean 2025 Initiative*. Participants of the event were experts from academia, representatives of FNS councils, SFP government managers from different countries, and specialists from international organizations working with school feeding.

Recognizing the importance of SFP as a strategic intervention tool for social protection and for the application of the human right to adequate food; as well as one of the key components of sustainable development in the long term; as a strategy for local economic development, for breaking the poverty cycle and for promotion of FNS; and, therefore, recognizing the need to promote and develop actions to strengthen the institutionalization process of sustainable SFP and policies at

national, regional and local level, the participants of the Forum signed a Declaration, proposing to the States the consideration of 16 elements as suggestions of short, medium and long-term goals for developing sustainable SFP. The identification of these elements has allowed developing a vision of what a national sustainable SFP program should be.

4.1 The 11 Elements of Sustainability for School Feeding Programs

With the aim of facilitating the understanding and use of these 16 elements in a more practical manner, these elements were systematized in a simplified manner the following **11 Elements of Sustainability for SFP**.



These elements translate the vision of a school feeding model that goes beyond a conception in which the role of the program is limited to providing food to poor and vulnerable children; and which is strongly based on the human right to adequate food approach considering, not only the biological and nutritional dimension of food, but also the environmental, cultural, social and economic sustainability of these programs.

How to work with the Elements of Sustainability?

The experience in working with several countries has shown that, despite the differences in their realities, specificities and needs, it is possible to apply these elements to the different SFP, always adapting them to the specific local scenario, if the objective is to guarantee their sustainability as an effective and lasting State policy.

These elements have been used as a reference for the development, implementation and/or strengthening of sustainable SFP in several countries in LAC including: Belize, Costa Rica, El Salvador, Granada, Guatemala, Guyana, Honduras, Jamaica, Paraguay, Peru, Dominican Republic, Saint Lucia, Saint Vincent and the Grenadines, and also in Ukraine.

In addition, several of these countries have conducted a comprehensive analysis of the current status of their SFP in the light of these elements. In a very practical way, this methodology has facilitated the understanding, by the institutions and stakeholders involved with school feeding, of the advances and challenges of the programs in their countries, while allowing the development of clear and concrete recommendations. This model has proven effective and successful in strengthening SFP towards their sustainability. The main achievements in many of the countries have been:

- Institutionalization of the SFP through the development and approval of legal frameworks on school feeding, under the human rights approach
- Strengthening of intersectoral and inter-institutional mechanisms among the various sectors/institutions/ actors involved with school feeding, nutrition, agriculture, social development and other related areas, at national and local levels
- Increased coverage of the programme
- Increased budget for school feeding
- Improved school menus
- Implementation of FNE in a continuous and cross-cutting way and, implementation of educational school gardens
- Strengthening of community participation in the development, implementation and monitoring of the programme
- Improvement of school infrastructure for school feeding

5. COUNTRY INITIATIVES FOR PROMOTION OF HEALTHY SCHOOL ENVIRONMENTS

In the previous unit, emphasis was placed on the need for countries to adopt multiple strategies to encourage the creation of healthy environments, promote the consumption of healthy eating and decrease the supply of food products with high energy density and low nutritional quality. The **Global Strategy on Diet, Physical Activity and Health** (WHO, 2004) highlights the importance of the school as an environment that promotes healthy lifestyle practices.

The school is a space of development and strengthening of life practices and, depending on the existing practices in these environments, they can contribute to the formation of healthy or, unfortunately, unhealthy habits. Therefore, it is important that countries develop and implement national and local policies, regulatory frameworks and strategies that favor a school environment conducive to healthy lifestyle practices.

Next, we will share some experiences of promotion of adequate and healthy food and restriction of unhealthy foods in schools in Brazil and other countries, making a brief analysis of the legal and regulatory frameworks developed.

In Brazil, for example, in 2010, the Interministerial policy No. 1.010 of the Ministries of Education and Health was approved, through which the guidelines for promotion of healthy food in public and private preschools, as well as elementary, middle and high schools was instituted at national level. This framework establishes some priority axes, such as: the restriction to advertise and promote foods and preparations with high levels of saturated fat, trans fat, free sugar and salt; the incentive to the consumption of fruits and vegetables; implementation of FNE, among others.

For the experiences of Brazil, at the state and local levels, we will use, as reference, the publication **Healthy Food in Schools - Guide for Municipalities** (in Portuguese), of the Institute of Consumer Protection, developed to serve as an orientation guide for managers and technical teams in the area of health and education for the development of local frameworks (Idec, 2018).

Experiences that have shown a high degree of effectiveness are those that, in addition to encouraging purchases of healthy food, also promote, **in a clear and objective way**, restrictions on the advertising and sale of unhealthy food products (Idec, 2018).

The various initiatives will be presented according to four categories: a) Regulation of competitive foods sold at kiosks, canteens or any other retail sale in schools; b) Food advertising; c) Training of food vendors inside the school (owners of the small shops) and d) FNE activities.

5.1 Regulation of competitive foods sold at kiosks, canteens or any other retail sale inside schools

It is important that these places support the construction of a healthy school environment and that the school community has access to a wide variety of healthy food options in schools, such as fruits and vegetables and healthy snacks and drinks. Through legal devices, it is possible to regulate what is allowed or prohibited to be sold at schools.

Examples of regulatory frameworks with clear information (with high degree of effectiveness):

- **Municipal Law No. 5.853/2001 of Florianopolis (SC), Brazil.** First regulatory framework in Brazil for kiosks or any other retail sale in schools. Prohibits the marketing of unhealthy products listed (including soft drinks, candies and industrialized sausages, among others) and allows the sale of listed healthy foods (including breads, fruits and natural juices). It also establishes the need for exhibition of educational materials about food and nutrition. It is valid for public and private education networks.
- **National Law No. 20.606/2012 and Guide of Kiosks and Healthy Snacks of Chile.** Prohibits the sale, commercialization, promotion and advertising of foods classified as “high in calories”, “high in salt” or with another equivalent denomination within kindergarten, basic and secondary education establishments.

- >> The use of very broad and inaccurate terms in regulatory devices can lead to non-compliance and difficult control.
- >> The information in the regulatory frameworks must be objective and clear. It is important to clearly define the list of foods and preparations allowed and those prohibited in the school environment.

5.2 Food advertising in schools

WHO recognizes, in the document **Set of recommendations on the marketing of foods and non-alcoholic beverages to children** (WHO, 2010), the urgency of countries planning policies regarding advertising messages for food directed at children, in order to reduce the effect of the promotion of foods rich in fats, trans fatty acids, free sugars or salt on this group. The document establishes 12 recommendations to support the development and implementation of these policies. Recommendation 5 (below) establishes that educational environments be free of advertising of such foods.

“Settings where children gather should be free from all forms of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt. Such settings include, but are not limited to, nurseries, schools, school grounds and pre-school centers, playgrounds, family and child clinics and pediatric services, and during any sporting and cultural activities that are held on these premises”.

To access the WHO document, visit:

https://apps.who.int/iris/bitstream/handle/10665/44416/9789241500210_eng.pdf;jsessionid=EC0270DFD488D9E54B3E38D732DB8FE3?sequence=1

Although several countries have restrictions on the advertising of alcohol and tobacco in schools, many have few or no restrictions on the promotion of brands of food and beverage. In the United States, for example, in 2008, food companies spent USD 186 million on advertising at the school, 90% of which was spent on the promotion of soft drinks. It is also quite common for school kiosks to have advertising posters from suppliers, mostly of soft drinks (WHO, 2013c; BRAZIL, 2007).

Regulating food advertising in schools means creating legislation/regulatory devices that prohibits the marketing of unhealthy foods and beverages and that promotes the marketing of healthy products. The marketing of unhealthy food and drinks in schools can occur in different ways, explicitly or veiled:

Advertising	<ul style="list-style-type: none"> • Posters, paintings, brochures
Sponsorship	<ul style="list-style-type: none"> • Financial resources offered by food and beverage manufacturers for events or activities, such as competitions, Olympics, cultural activities
Merchandising	<ul style="list-style-type: none"> • Display the brand or message of food manufacturers on objects of interest to students, such as the covers of notebooks and textbooks, pens, clothes and other school objects
Sales promotions	<ul style="list-style-type: none"> • Actions that stimulate the purchase of a certain product in exchange for gifts and participation in raffles

Source: Adapted from Healthy Eating in Schools - Guide for Municipalities (Idec, 2018).

Examples of regulatory frameworks with clear information (with high degree of effectiveness):

- **Municipal Law No. 4.992 /2011 of Campo Grande, Brazil**

Art. 11. Advertising of products whose commercialization is prohibited by this Law is prohibited in the school environment.

Single paragraph. The constant prohibition of this article extends to advertising modalities through sponsorship of school activities, even extracurricular.

- **Guide of Healthy Kiosks and Snacks of Chile**

Foods that exceed the established limits may NOT be publicized, given away, or promoted in school kiosks, or anywhere within schools.

- **State Law No. 13.582/2016 of Bahia, Brazil:** prohibits advertising for children throughout the state, including, in public and private schools.

Art. 1º Advertising, aimed at children, of foods and beverages that are poor in nutrients and high in sugar, saturated fat or sodium is prohibited in the state of Bahia.

§ 1st The prohibition will be extended in the period between 06 (six) and 21 (twenty-one) hours, on radio and television, and at any time in public and private schools.

§ 2º The use of celebrities or children’s characters in marketing is impeded, as well as the inclusion of promotional gifts, toys or collectibles associated with the purchase of the product.

Art. 2º Advertising during the permitted hours must be followed by public warning about the problems caused by obesity.

>> It is essential that policy and regulatory frameworks inhibit any type of publicity in schools, both explicit and, especially, veiled.

5.3 Capacity-building trainings for kiosk owners

In general, the vast majority of the products that the owners of these establishments sell are unhealthy products, rich in saturated fat, trans fat, free sugar and salt. On the other hand, they offer a low diversity of healthy foods and preparations. Therefore, these actors should also be

sensitized and trained in relation to the importance of their role in the process of development of healthy habits by the students and the school community, how to offer healthier options and how to comply with safety health standards. The training of these actors, in a systematic and continuous way, must also be embedded in the policy frameworks, something that does not happen often.

In Brazil, **Portaria** nº 02/2004 of the municipality of Rio de Janeiro, which disciplined the consumption of foods in public and private schools, established the implementation of awareness-raising and training workshops, of a non-mandatory nature, on the promotion of healthy foods in schools for those responsible for the canteens and kiosks. By contrast, in the state **Law No. 3.695 of the Federal District**, these trainings were mandatory; however, the trade union of the kiosk owners positioned themselves against the regulation because, according to them, there would be loss of income, since prohibited foods are the most sought after by children. In the end, these two devices were repealed.

The FNS Policy Observatory of the University of Brasilia conducted a study with children from 4th to 7th grades in one of the schools participating in the project **The School Promoting Healthy Eating Habits**, in which there was the transformation of the kiosk into a healthy kiosk. The results showed that 98% of the respondents liked the new type of kiosk and 33% of the students reported an increase in the consumption of healthy foods after the implanted changes. Another study carried out by the same Project verified that 66.7% of the kiosks that stimulated and offered opportunities for the consumption of healthy snacks added value to the business, increasing its profit in a range from 30% to 50% (BRASIL, 2010).

- >> To be sustainable, it is important that the capacity trainings be included in laws/regulatory frameworks, as continuous and systematic actions.
- >> To be more effective, they must be implemented in conjunction with other initiatives, such as the regulation of products sold in these establishments (Idec, 2018).

It would also be important to involve, in the whole process, the food vendors in the school surroundings, who often sell unhealthy products. Although the school has no control over them, since they are out of school premises, it is essential to develop and implement awareness and education strategies for all these actors, through coordination with other programs and institutions linked to the promotion of health and FNS of the community.

5.4 School food and nutrition education activities

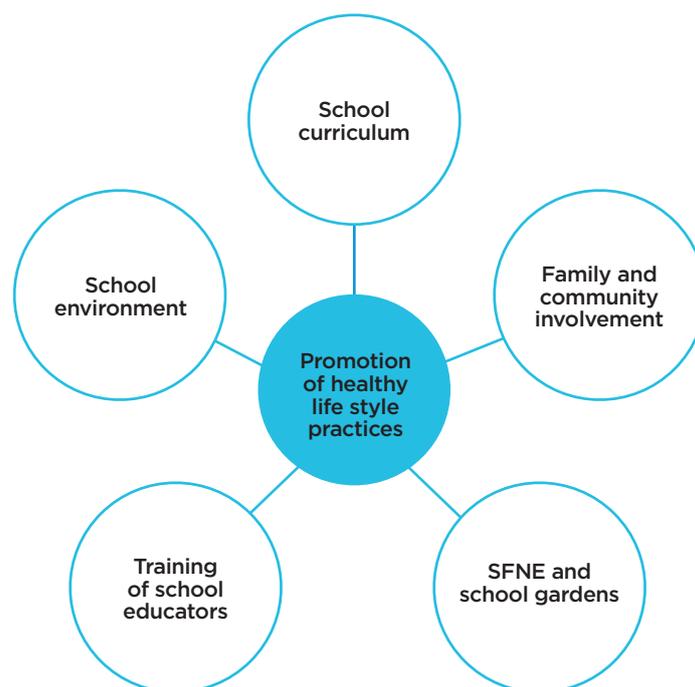
One of the most important environments for health promotion and healthy living practices is the school, as individuals spend much of their time there. During the school age, extra-familiar influences, such as colleagues, teachers and school staff, progressively become important references. Thus, in addition to the family environment, the school becomes one of the most important spaces for long-term exposure to information and practices to acquire knowledge and support the adoption of healthy habits, in addition to allowing interaction and exchange of experiences with other people. Schools are the ideal place for FNE for several reasons (CDC, 1996):

- reach almost all children and teenagers;
- they offer opportunities to practice healthy eating, through the school meals offered. Many of the children and adolescents eat at least one of their three main meals of the day at school;
- they can teach students how to resist social pressures. Eating is a socially learned behavior that is influenced by social pressures. School health programs can directly target group pressure that discourages healthy eating and harness the power of peer pressure to reinforce healthy eating habits; and
- qualified personnel are available at school. With proper training, teachers can use their instructional skills, and SFP staff can bring their experience to FNE programs.

In this sense, it is extremely important to also take advantage of the potential of school feeding, as discussed at the beginning of the unit. SFP, with all their components - the meals offered, the experiences of the shared moments in the cafeteria, the kitchen, the school garden and other SFNE strategies - constitute a powerful channel, not only to teach, but also to experience the application of the learned contents about health, food, different cultures, food systems, the environment and sustainable living practices.

At the same time, it is possible to boost the school curriculum by implementing an integrated curriculum that links nutrition, health, food, culture and the SFP itself with the core curriculum, in a constructive, playful and practical way. In doing so, students also have the opportunity to learn science, health, history, social sciences, mathematics and other subjects, in a way that is connected to their real-world experiences, and while discussing social and environmental issues.

We will talk further about approaches and didactics for the practice of SFNE in the subsequent units. However, to introduce the topic, it is important to keep in mind that, to promote effective and lasting healthy lifestyle practices in children and youth, it is important to adopt a multifaceted approach that incorporates the following elements:



- **School environment.** A sustainable SFP must include the offer of healthy and culturally appropriate foods; a cozy and pleasant ambience for eating and adequate infrastructure for school feeding (and also for physical activity practices).
- **School curriculum.** The cross-cutting characteristics of the topics “food” and “nutrition” should be considered to integrate them into the different content areas of the school curriculum. However, it is important to emphasize that only the inclusion of these topics in the curriculum does not guarantee learning achievements by the students. It is important to identify if the information is correct and based on evidence, how it is addressed, if the skills they intend to develop are linked to well-being, self-care, promotion of diversity, empathy. Likewise, it must also be ensured that what is in the curriculum is really implemented as planned, and that evaluations of the achievements occur as planned (UNESCO & FAO, 2019).
- **SFNE activities and learning school gardens.** SFNE must go beyond just providing technical information. It is essential that the actions are participatory, that they promote reflection and critical thinking, and that they consider the psychological, anthropological, cultural, emotional, economic dimensions that the foods and the act of eating represent for each individual or group. They should promote empowerment and autonomy for conscious and responsible food choices. There are numerous possibilities for activities such as visits to fairs, local markets and family (smallholder) farms, participatory creation of murals, school events for the community, investigation, drama classes, interdisciplinary projects and learning school gardens; the latter will be further addressed in unit 9.

- **Family and community participation.** Families, educators, school program managers, school staff, kiosk owners and other community members, such as family farmers and food vendors around the school, should participate in the actions of SFNE. This commitment will not only benefit the students, but also the entire community, as they also need to develop healthy practices. In addition, teachers and school staff play a fundamental role, as they serve as role models.
- **Training of educators.** The professionals who have the role of implementing SFNE in a systematic, integrated and continuous manner are the educators/teachers, who can (and should) have the technical support of a nutritionist. They must be permanently trained, not only with respect to the technical contents about food and nutrition but, also, in relation to the educational strategies and methodologies appropriate to the contents, age-groups of the students and established objectives. For this, it is recommended that these trainings be institutionalized within the Ministries of Education and, in the same way as FNE activities for students, participatory, practical and problem-solving methodologies should be used for educators (UNESCO & FAO, 2019).

Regarding the legal frameworks for the implementation of FNE in schools, the **National Law No. 13.666/2018** has been recently approved in Brazil, which includes the cross-cutting topic of FNE in the school curriculum, through the Law of Guidelines and Bases of National Education.

National Law 11.947/2009 of Brazil, also called the School Feeding Law, establishes, as one of the guidelines, “the inclusion of FNE in the teaching and learning process, which comprises the school curriculum, addressing the topics of food and nutrition, and the development of healthy lifestyle practices, under the FNS approach”. This same Law establishes the following responsibilities of the states and municipalities, among other:

“Promote food and nutrition, health and environmental education in schools under their administrative responsibility, with the purpose of developing healthy eating habits in the students served, through joint actions of the health and education professionals, and the nutritionist responsible for the SFP”.

According to the Idec Guide, in Brazil there are initiatives of legal devices to promote FNE actions in schools, both for students and also for educators.

- **Municipal Decree No. 21.217/2002 of Rio de Janeiro (RJ), Brazil.** It prohibits the establishments of the municipal education network from acquiring, manufacturing, distributing and selling the listed products and establishes the responsibilities of each of the institutions involved in the Healthy Food program aimed at combating obesity. The clear establishment of the responsibilities of each one is very positive and contributes to the fulfillment of the decree. Each institution must:

- I. The Annes Dias Institute: create a food guidance booklet for schools, another for students and another for students’ parents, based on food accessible to the population and their habits.
 - II. The Department of Education at local level: will include the booklet as a program in all schools, directing it through research and work.
 - III. The Municipal Multimeios Company – MULTIRIO: include in its TV programs and editions of magazines and newspapers aimed at schools.
 - IV. The local Department of Health: through the booklet with the support of the Annes Dias Institute, guide the communities served by community health agents of all kinds, in addition to distributing these booklets in their health units.
- **Municipal Law No. 1414/2010 of Manaus (AM), Brazil.** It establishes the training of educators (teachers) for SFNE.

Art. 3. The schools will promote the training of their teaching staff for multidisciplinary and cross-cutting approach to food and nutrition education, respecting regional eating habits and encouraging the consumption of fruits and vegetables.

Art. 4º Strategies to inform and involve families in the process will be developed, highlighting the importance of healthy eating and illnesses caused by unhealthy eating.

In order to be sustainable and effective, it is important that SFNE strategies:

- >> Are included as systematic and on-going activities in policy and regulatory frameworks;
- >> Should be comprised of coordinated actions between the education and health sectors, as a priority;
- >> Are included in the school curriculum, in a cross-cutting manner;
- >> Do not rely solely on transmission of technical information, on pre-established prohibitions and norms. They must consider approaches and methodologies that respect the values, the various meanings and dimensions of food, both for the individual, as well as for the family and the community;
- >> Be coordinated with other actions in the school, such as the offer of healthy school meals, the regulation of advertising and of food kiosks;
- >> Involve students’ families and other important community actors;
- >> Promote awareness raising and continuous training of stakeholders and educators; and
- >> Include monitoring of students nutritional status.

6. CONCLUSION

At the end of this unit, we must remember that there are very important dynamic interactions between school feeding, school quality, FNS and education coverage and that, because of this, governments must strengthen the synergy among all these elements, through comprehensive and coordinated policies and strategies.

Over the decades, SFP have established themselves as powerful strategies for human, social and economic development, as well as for promoting healthy eating habits. It is important that countries plan their sustainability, so that they can fulfill their full potential and contribute to the fulfillment of several of the SDG.

Within the framework of the SFP, several countries have already developed legal and regulatory frameworks aimed at promoting adequate and healthy food and curbing the consumption of foods with high caloric and low nutritional contents in schools, such as the regulation of kiosks and of food advertising, the training of kiosk owners and the systematic and integrated implementation of SFNE.

However, it is essential to ensure proper implementation of these frameworks and the planned actions, through the coordination between the state and local Departments of Education and Health, the participation of all the actors and institutions involved, from the national to the local level, and the systematic and continuous monitoring and control.

Our recommendation is that the school should never become a space for promotion (marketing, advertising, brands, food labels, packaging) of any type of advertising for unhealthy foods.

The school's role is to educate for healthy lifestyle practices, guarantee a healthy school environment and promote critical, conscious and responsible citizenship.

In addition, it is important to note that although schools and SFP play an important role in helping to improve the health and nutrition of students, they are not sufficient to combat, by themselves, the high rates of food and nutritional insecurity and malnutrition among children and youth. It is important to recognize that there is a broad set of elements that contribute to the school environment and the student's life, such as their cultural, social and economic environment, advertising, access to healthy food, among others. Therefore, it becomes essential to identify the various possibilities of actions and efforts in favor of building healthy food environments inside and outside the school.

Therefore, simultaneously to the offering of healthy food in schools, it is essential to: a) guarantee FNE for all; b) discuss and regulate food advertising, labeling and fiscal policies - both taxes on food and beverages with high sugar, salt, saturated fat and trans-fat content, and subsidies for healthy foods, such as vegetables and fruits.

And, equally important, families, food stores, restaurants, the food industry, community centers, governmental and non-governmental institutions, universities and the media must be actively involved in the process, so that students and all individuals could be in a social environment favorable to their health and well-being.

We suggest visiting the following websites of FAO and the WFP which have many information and publications on school feeding, food environments and systems, and FNE:

<http://www.fao.org/school-food/overview/en/>

<https://www.wfp.org/publications?f%5B0%5D=topics%3A2135>

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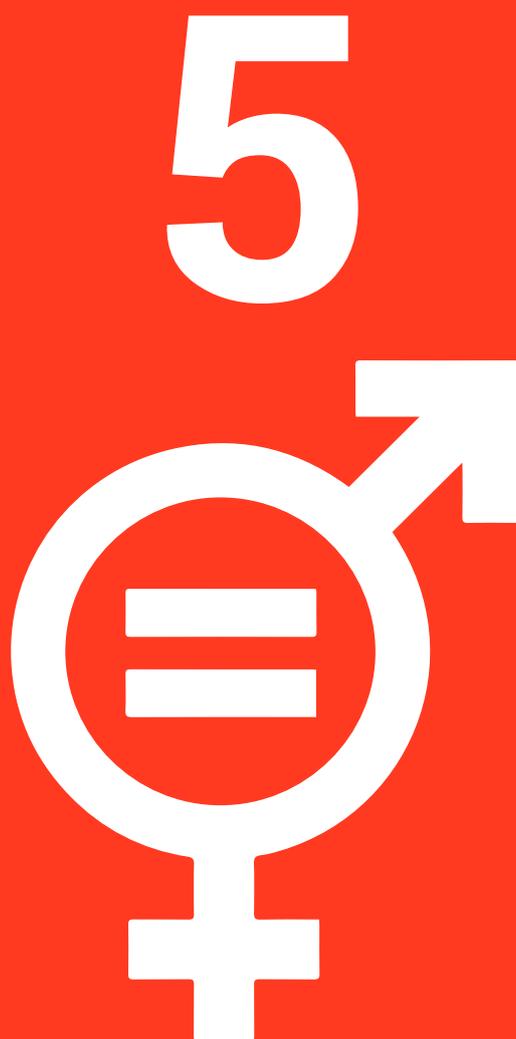
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ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.

Unfortunately, women and girls continue to suffer discrimination and violence in every part of the world and, at the current time, 49 countries currently have no laws protecting women from domestic violence.

Progress is occurring regarding harmful practices such as child marriage female genital mutilation, but there is still much work to be done to completely eliminate such practices.

Providing women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes will fuel sustainable economies and benefit societies and humanity at large. Implementing new legal frameworks regarding female equality in the workplace and the eradication of harmful practices targeted at women is crucial to ending the gender-based discrimination prevalent in many countries around the world.

UNIT 5

SCHOOL FEEDING PROGRAMS IN THE CARIBBEAN

OBJECTIVES:

Upon completion of this unit, you will be able to:

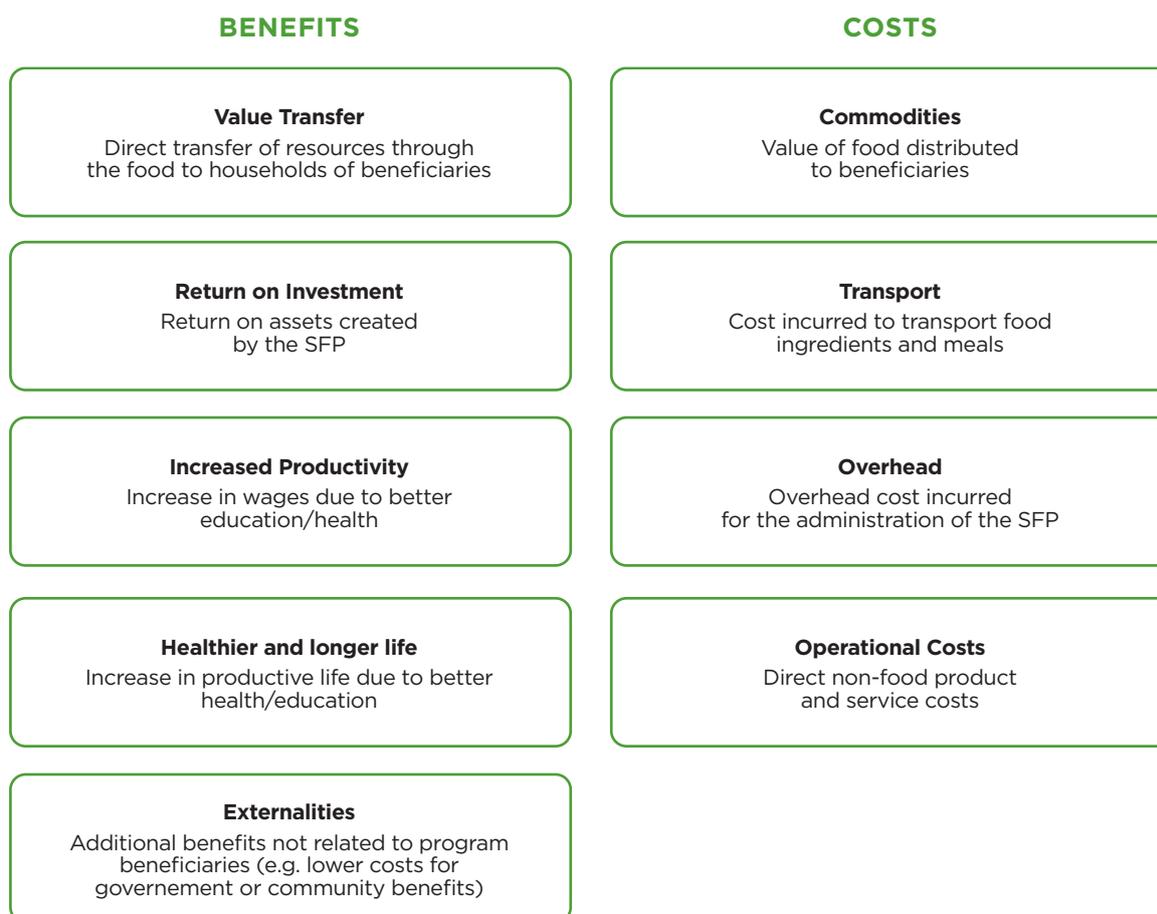
- define the expected benefits and costs of school feeding programs (SFP) in the Caribbean Community (CARICOM) member states;
- explain the characteristic features of SFP models found in CARICOM member states;
- identify recommendations for the expansion and improvement of SFP in CARICOM states and their effects and benefits; and
- describe the main components of a system for the monitoring and evaluation (M&E) of SFP in CARICOM member states.

1. INTRODUCTION

As noted in unit 2, food insecurity is a major problem in the CARICOM region. Several factors related to food supply affect the access of children in the region to adequate nutrition. These factors include the price of food, its accessibility and nutritional quality and the level of sustainable agricultural production. It is with this in mind that Unit 2 will address SFP as a strategy to mitigate problems regarding access to food and adequate nutrition for children in the region.

2. BENEFITS AND COSTS OF A SCHOOL FEEDING PROGRAM

The figure below presents the basic framework for the components of the expected benefits and costs of a SFP as specified by the World Food Programme (WFP, 2016).



Source: Adapted from World Food Programme (2016)

The benefits fall into two categories:

- individual benefits, which are received directly by the primary beneficiaries; and
- externalities, which are those benefits which accrue to the society at large through the SFP.

These individual benefits, also called “drivers”, are considered over the lifetime of the beneficiaries and consist of:

1. Value transfer, which comprises two elements.

- The first is the value of the food transferred to the students on the program. The funds not spent or saved by the beneficiary households to provide this food can thus be used for other purposes and thus become a useful financial resource for these households.
- The second element is the value of health care cost reduction attributed to the better nutrition under the SFP. The health care reduction can be measured in terms of the reduction of the Disability Adjusted Life Years (DALYs) for the students on an annual basis.

2. Return on investment. This is the rate of return on:

- The wages obtained by the workers of the SFP (caterers, cooks, drivers, etc.), since it is assumed that in the absence of the SFP, these workers would not be employed; plus
- The “savings” to beneficiary households of the SFP, in terms of their reduction in health care costs.

3. Increased productivity. This consists of the benefits that accrue, as a result of two elements associated with better nutrition, because of the SFP:

- The higher educational levels attained in terms of increased enrolment and attendance at school and a reduction of the drop-out rate; and
- Increased wages because of higher test scores.

4. Healthier and longer life. These benefits are derived from three sources:

- Increased wages of the student beneficiaries due to increased life expectancy, because of better income and longer schooling, due to the improvements in nutrition due to the SFP.
- Increased income due to a reduction in DALYS due to better nutrition from the SFP.
- Increased income due to a reduction in DALYS due to health interventions derived from the SFP.

The costs consist of:

1. Commodities, which includes the following:

- The expenditure for the meals (or food) distributed to the student beneficiaries, which may consist of the payments made to the caterers by the state and the cost of food ingredients supplied to central kitchens or to kitchens in the schools;
- The wages of cooks and other workers in central kitchens or in school kitchens.

2. Transport, comprised of:

- The cost of transportation of food ingredients for meal preparation and the cost of transportation of meals.

3. Operational costs:

- Other operational costs of the SFP including the cost of cooking fuel in the case of school kitchens, the cost of food boxes or plates, cutlery and utensils etc. and repairs to kitchens.

4. Overhead costs:

- The administrative (or overhead) costs of operating the SFP, usually made up of the expenditure (or budget) for the staff of the unit in the Ministry of Education which administers the SFP.

3. IMPROVEMENT IN NUTRITION FROM SFP IN CARICOM

In the Caribbean region, among developing countries, the focus of SFP has shifted recently, from “targeting malnutrition” or undernutrition to “targeting over-nutrition”, in terms of overweight and obesity. However, to the extent that undernutrition exists, especially because of poverty of the target households, SFP will still represent a very relevant social protection strategy.

In general, SFP should provide adequate nutritious food that will allow the beneficiaries to attain the highest standards of health and reach their full physical potential. Thus, SFP should be an essential part of “healthy eating” framework, which should include concrete strategies, policies and regulations at national, regional, local and school levels.

The prevention of overweight is critical, because there is only limited evidence of successful long-term treatment for this condition. Dietary practices should encourage moderation and healthy choices, rather than over-consumption and restrictive eating patterns, and any advocacy program should promote *inter alia*, physical activity and food policy for children and the early recognition and management of overweight and obesity.

Therefore, CARICOM SFP should focus on:

- Promotion of healthy eating patterns for children and adolescents, by offering them nutritious meals and snacks.
- Meals and snacks should be nutrient-dense, based on vegetables and fruits, whole grains and root crops, and these meals and snacks should provide a significant percentage of the dietary needs of students, in a manner that is both comprehensive and consistent with food safety standards.
- Ensuring that national SFP, as well as the sale of foods and beverages in schools (or “competitive foods”), comply with norms and/or regulations that promote the consumption of healthy foods and water and regulate the availability of energy-dense nutrient-poor products and sugar-sweetened beverages.

As addressed in unit 4, a School Feeding or School Nutrition Policy should cover the widest possible range of school nutrition issues, targeting not only students but also teachers, school personnel, families and other community members, all of whom are directly or indirectly part of the school community.

A clear legal framework for the operation of the SFP for the State should also be included in such a National School Feeding or School Nutrition Policy. This legal framework should define the role of the Ministry of Education or the other Ministry that is directly responsible for the SFP in the country, and other cross-sectoral stakeholders, in improving nutrition for students in all schools.

4. MODELS OF SCHOOL FEEDING PROGRAMS IN CARICOM

A forthcoming publication by the University of the West Indies (UWI), in collaboration with FAO, has identified three models of SFP in CARICOM member states. Table 1 provides an overview of the key characteristics of each of these three models.

SUMMARY OF THE KEY DETAILS AND CHARACTERISTICS OF EACH CARICOM SFP MODEL

SFP MODEL	DECENTRALISED SCHOOL KITCHEN (DSK) MODEL	CATERER BASED (CB) MODEL	CENTRALIZED SCHOOL FEEDING (CSF) MODEL
Countries	Dominica, Grenada, Guyana (hinterland), Haiti, Jamaica, Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname (proposed pilot program), Belize (Toledo district)	Bahamas, Belize, Trinidad and Tobago, Suriname (now ended)	Antigua and Barbuda, Barbados, Guyana (coastal), St. Kitts, Jamaica (Nutrition Products Limited)
Managed by	Ministry of Education, NGO and International Agencies (especially Haiti)	Ministry of Education	Ministry of Education
Food Preparation	Carried out in kitchens on the school premises	By caterers on their own premises. Prepared meals (or snacks) are transported to schools	Carried out in large centralised industrial factories or meal production centres (MPC). Prepared meals (or snacks) are transported to schools
Inputs	Inputs from parents and local communities of: <ul style="list-style-type: none"> • A limited range of food items (especially vegetables, seasoning herbs and root crops); and • Voluntary or paid labour for meal preparation and the procurement of food items • This may lower the costs of the SFP using the DSK model 	Low level of incorporation into the meals of inputs of food and labour from the local communities	Low level of incorporation into the meals of inputs of food and labour from the local communities

SFP MODEL	DECENTRALISED SCHOOL KITCHEN (DSK) MODEL	CATERER BASED (CB) MODEL	CENTRALIZED SCHOOL FEEDING (CSF) MODEL
Portion sizes	Not fixed Food is served by the cooks or their assistants. This allows for greater control of meal portions, as students can be served the quantities that they would normally like to eat. This reduces the problems of food rejection and food waste	Fixed	Fixed
Utensils	The plates and cutlery used in the DSK model are usually washable and reusable, which avoids the use of Styrofoam, plastic and other one-use types of material which may be highly detrimental to the physical environment	Meal containers (usually boxes) and cutlery not usually re-usable	Meal containers and cutlery not re-usable
Monitoring of operations and food quality standards	Less monitoring	Variably intensive monitoring	Rigorous monitoring

The main feature of the DSK Model is that the actual meal preparation is carried out in kitchens on the school premises. Then the meals are consumed in the same school or in neighbouring schools. The in-school preparation of the meals allows the incorporation into the meals of substantial inputs from parents and the local communities in which the schools are located. These inputs generally include labour (as cooks and their assistants) and a limited range of food items (especially vegetables, seasoning herbs and root crops) from small scale farmers located in the communities.

The main feature of the CB model is that the actual meal preparation takes place on the premises of caterers, who then package and transport the meals to the schools, where the meals are consumed by the students. In the CB model, there is fairly tight administration of the SFP by the Ministries of Education or their agents. Thus, the caterers operate within parameters defined and established by the Ministry of Education or its agent.

The larger scale operations of caterers usually require a greater level of pre-prepared or processed food items (for example, frozen peas and beans and pre-cut vegetables, etc.), which are often imported into the CARICOM states. Hence, in the CB model, the meals prepared generally have a low level of incorporation of inputs of food and labour from the local communities in which the schools are located.

The main feature of the CSF model is that the actual meal preparation is carried out in large centralised industrial factories or meal production centres (MPC) and the prepared meals (or snacks) are then transported to schools for consumption by students. In the cases of Antigua and Barbados, the food preparation centres are operated by divisions of the Ministry of Education. In the case of Jamaica, the MPC is a state-owned company, the Nutrition Products Limited (NPL), while in coastal Guyana, the MPC are private firms contracted to produce the meals.

The larger scale operations of the MPC in the CSF model require an even greater level of pre-prepared or processed food items, than is the case with the CB model. These food items, as noted earlier, are largely imported into the CARICOM states. The centralized operations of the MPC also means that there is almost no opportunity to incorporate into the meal preparation, the inputs of food or labour from the local communities, within which the schools they supply meals are located. The CSF model allows for the tightest administration of the SFP by the Ministries of Education. Thus, the MPC can be subjected to the most rigorous and continuous monitoring.

In all three school feeding models, parents and vendors also provide meals and snacks to the students in the schools. Some of these vendors may be located on the school premises, but they are mainly outside the school gates. Most schools also have tuck-shops or cafeterias which also provide meals and snacks to the students and serve as a source of revenue to the schools.

5. EXPANSION OF SCHOOL FEEDING PROGRAMS IN CARICOM

In the CARICOM member states, expansion of the SFP can serve to benefit, not only students, but local food producers and the greater regional economy. SFP can create their greatest benefits if they cover all of the school population. Such coverage will also help to reduce any snobbery or embarrassment of low-income beneficiaries of the SFP. However, SFP are expensive for states to finance, therefore, higher income parents may be called upon to pay for the meals in the SFP.

Expansion of SFP should be accompanied by improvements in their operations. In particular, focus should be placed on the improvement of the nutritional quality of the meal offerings, enhanced efficiency of operations and a reduction of risks by enhanced food safety and quality.

Table 2 outlines some general recommendations that provide a broad framework for the expansion and improvement in SFP in CARICOM member states and the effects and benefits of these recommendations.

TABLE 2. GENERAL RECOMMENDATIONS FOR THE EXPANSION AND IMPROVEMENT OF SFP IN CARICOM MEMBER STATES

RECOMMENDATIONS	EFFECTS AND BENEFITS OF RECOMMENDATIONS
Assessment of the health status and food intake of the student population	<p>Assessment should identify vulnerable students and communities, who are at-risk in terms of health and nutrition. These students and communities should be targeted for immediate expansion of the SFP</p> <p>A data base should be created to track the nutritional status of children through their school lives</p> <p>The data base should facilitate research into the health and nutritional benefits of SFP for the entire school population</p>
Menu management	<p>SFP menus should emphasize the utilization of wholesome, fresh or unprocessed produce to make healthy meals using standardized recipes</p>
Establishment of national teams of dietitians/nutritionists to provide expertise on the nutritional needs of children and healthy meals (menus)	<p>Training workshops should be held to upgrade menu planning and recipe development</p> <p>Research should inform approaches to healthy eating in the CARICOM context</p> <p>Analyses should be conducted of the nutritive content of meals for quality assurance</p>
Development of a healthy nutrition education program	<p>Teachers and other staff should be trained to provide programs in healthy eating lifestyles for students</p> <p>Promotion of healthy eating should extend to parents, Parents and Teacher Associations (PTAs) and the wider community</p>

RECOMMENDATIONS	EFFECTS AND BENEFITS OF RECOMMENDATIONS
Greater incorporation of local foods in meals of the SFP	Local agricultural production should increase Meals should be more acceptable to students, reducing meal rejection and food waste
Promotion of school gardens	School gardens should demonstrate local food production and promote the use of local foods in the SFP, as well as in the meals in the homes of the students
Establishment of National School Feeding Committees	These committees should be multi sectoral (Ministries of Health, Education, Agriculture, Social Welfare, etc.) and tasked with policy development and M&E of national school feeding, especially the SFP
Establishment of strengthened National School Feeding Units	These Units should be fully staffed with nutritionists, quality assurance officers and administrative staff The Units should administer the SFP and be the focal point for the implementation of procedures for M&E of the SFP
Improved certification in the school feeding system	School kitchens should be certified, which can allow them to serve as “demonstration kitchens” for caterers, vendors and students. All persons involved in food preparation - kitchen staff, caterers, vendors and their assistants- should be certified, which should include certification by the Public Health authorities

6. MONITORING AND EVALUATION OF SCHOOL FEEDING PROGRAMS

There should be adequate monitoring and evaluation (M&E) of both the implementation of school feeding policies and the performance of the SFP. Such M&E should facilitate sustainable and beneficial impacts of SFP in the CARICOM member states. M&E of SFP take place at the various levels of the operation and functioning of the SFP.

The key components of an overall M&E plan include:

- M&E logical framework, which provides indicators, baselines and targets.
- Data sources, including routine program monitoring and surveys.
- Quality assurance mechanisms, including data quality and quality of services;
- M&E coordination plan.
- Evaluations, reviews and special studies providing feedback on implementation and performance.
- M&E capacity building and system strengthening methods and procedures.

These M&E components should be incorporated into an M&E work-plan. The work plan delineates a budget with costs, time for completion (strictly for M&E activities), and clarifies agreed roles and responsibilities for everyone involved in the M&E. The work-plan is typically revisited on an annual basis and may be valid for several years.

The proposed National School Feeding Committees (NSFC) and the National School Feeding Units (NSFU) should be charged with the responsibility for the M&E of the SFP in the CARICOM member states. The NSFC could serve as the coordinating and reporting agency and the NSFUs should function as the executing agency, directly responsible for the execution of the M&E work-plan.

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MODULE 3

Planning school food and nutrition education within the framework of school feeding

6



ENSURE ACCESS TO WATER AND SANITATION FOR ALL

Clean, accessible water for all is an essential part of the world we want to live in and there is sufficient fresh water on the planet to achieve this.

However, due to bad economics or poor infrastructure, millions of people including children die every year from diseases associated with inadequate water supply, sanitation and hygiene.

Water scarcity, poor water quality and inadequate sanitation negatively impact food security, livelihood choices and educational opportunities for poor families across the world.

Even though there has been great progress in the past decade regarding drinking sources and sanitation worldwide, more efficient use and management of water are critical to addressing the growing demand for water, threats to water security and the increasing frequency and severity of droughts and floods resulting from climate change.

UNIT 6

BASIC CONCEPTS AND PRINCIPLES FOR THE PRACTICE OF FOOD AND NUTRITION EDUCATION

OBJECTIVES:

Upon completion of this unit, you will be able to:

- explain how the factors that determine the development of dietary habits and the process of food selection of the individuals influence the design of food and nutrition education (FNE) activities;
- identify the factors that contribute to a more effective FNE; and
- present some examples of food, nutrition, culture and environment subjects that can be linked to the regular academic subjects.

1. INTRODUCTION

We already know that in order for people to develop healthy eating habits, there should exist **policies that favor an environment that promotes healthy eating practices** and people should have **personal knowledge and skills to make adequate, healthy and conscious food choices**.

So far, we have talked about policies and strategies for promoting food and nutrition security (FNS) and adequate and healthy food and also about strategies to promote healthy school environments.

In this unit, we will focus on how to develop effective FNE actions to support individuals, especially children and young people, to develop the necessary skills for healthy and environmentally sustainable lifestyle practices, including eating habits.

2. EDUCATION FOR HEALTH PROMOTION

According to the World Health Organization (WHO), “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO, 1948).

The Ottawa Charter for Health Promotion considers health from a more global vision, product of a broad spectrum of fundamental factors and conditions related to quality of life, which includes: **peace, education, shelter, food, income, a stable ecosystem, sustainable resources, social justice and equity**. The Charter has had a great impact on the health promotion of individuals, groups and populations because it recognizes that health is the result of a continuous interaction between the individual and the environment (WHO, 1986).

Health promotion, in turn, is the process of enabling people to increase control over, and to improve, their health. According to the document, this process requires actions in five main fields of action (WHO, 1986):

- the development and implementation of healthy public policies;
- the creation of supportive environments;
- strengthening community action;
- the development of personal skills; and
- the reorientation of the health services.

In the process of health promotion, the **development of personal skills** and the **active participation** of individuals are crucial. The acquisition of personal skills for healthy living practices occurs (or not) throughout life, but mainly during childhood and adolescence, through formal and non-formal education, family and social experiences (positive and negative), the models that each one has as references, the environmental influences, the pressures of the food environment, among other factors. Once life habits settle, it becomes more difficult to change them later, in adult life.

It is important that people develop, early on, the necessary skills to make the best use of the resources available for making healthy decisions regarding food and nutrition, whatever their life and food style (Boog, 2013; FAO, 2019).

As we saw in the unit 4, education plays a very important role in achieving health and vice versa.

“Quality education fosters the development of skills, values and attitudes that allow citizens to lead healthy and full lives, make informed decisions and respond to local and global challenges through education for sustainable development and education for world citizenship” (UNESCO, 2016).

FNE is a field of action of FNS and of health promotion. With this in mind, we will emphasize, throughout the course, that it is essential to think of FNE actions that go beyond the mere transmission of information or technical content about food. Changing habits requires not only cognitive but attitudinal changes. Often, the motivation for change must be created

Therefore, FNE strategies should promote quality education on food and nutrition, critical reflection, autonomy and empowerment of individuals, as well as spaces for the construction of new meanings about food and the act of eating (Boog, 2013).

The current vision of a more effective FNE involves discussing a wide diversity of issues that are related to food, nutrition, the environment and food systems, such as food production and processing, purchase, handling, consumption and disposal, food waste, advertising, and the relationships between people's health and the health of the environment.

The goal of FNE should be to contribute to the development of informed, conscious and responsible decision-making skills in terms of healthy and sustainable dietary and lifestyle practices, that are in accordance with the real environment in which people shape their eating behaviors. Also, the meanings, social values and the socio-economic and cultural conditions of individuals and groups should be considered (FAO, 2019).

It is important to mention that the promotion of health in general, which includes the promotion and implementation of FNE strategies and initiatives, has an **intersectoral character** and, therefore, must be on the agenda of the different sectors of society:

- **governmental sphere**, in all levels of management (national, state, municipal, local) and in **different areas** (health, social assistance, FNS, education, agriculture, environment, sport, culture);
- **entities and organizations of civil society** (community, professional, religious, social assistance, associations and cooperatives of local producers, consumer associations), **educational institutions** (preschools, schools and universities);
- **private sector** (media, advertising sector, industries, companies producing collective meals and their associations, restaurant associations, bars, hotels, etc.), and certainly; and
- **families and communities.**

3. DEVELOPMENT OF FOOD PREFERENCES AND HABITS

3.1 What factors influence our dietary habits and food choices?

There are many factors that influence the development of the individuals' food habits, which will have an impact throughout their whole lives, contributing positively or negatively to the development of healthy dietary practices and behaviors. In that sense, when promoting healthy eating and nutrition habits, it is important to understand and consider them, especially when working with children and adolescents, a period in which their habits are still in formation.

Eating habits are formed from the first years of life and result from multiple factors, individual and collective, that interact with the individual during his/her development and growth. In addition, individuals are born with certain genetic predispositions that interact with the environment and, thus, food acceptance and rejection patterns are formed. The multiple experiences and situations throughout the person's life, both the individual ones and those inherent to the environment, will contribute positively or negatively, to the formation of his/her life habits, including the dietary ones (Contento, 2007).

For example, children are born with a preference for sweet flavors and a rejection for sour and bitter tastes. The preference for salt comes a few months later. However, repeated exposure to new or disliked foods that occur in a positive supportive environment may promote acceptance and, eventually, preference for those foods. On the other hand, children who are pressured to eat certain foods may show a lower preference or even a rejection of those foods later. In addition, due to some genetic differences in taste sensitivity, some people may have different tastes for some foods, such as some bitter vegetables, alcohol, citrus fruits, fats and sugary foods. You may have heard of someone who does not like sweets or a small child who loves olives and pickles, haven't you?

Among the individual determinants of food selections are biological predispositions, preferences (taste, color, smell, texture), experiences, beliefs, knowledge, skills, perceptions, values, social and family models and meanings about food; for example, a meatless or a vegan diet are choices that are connected to the beliefs, ideals, culture and/or religion of a person (MDS, 2012).

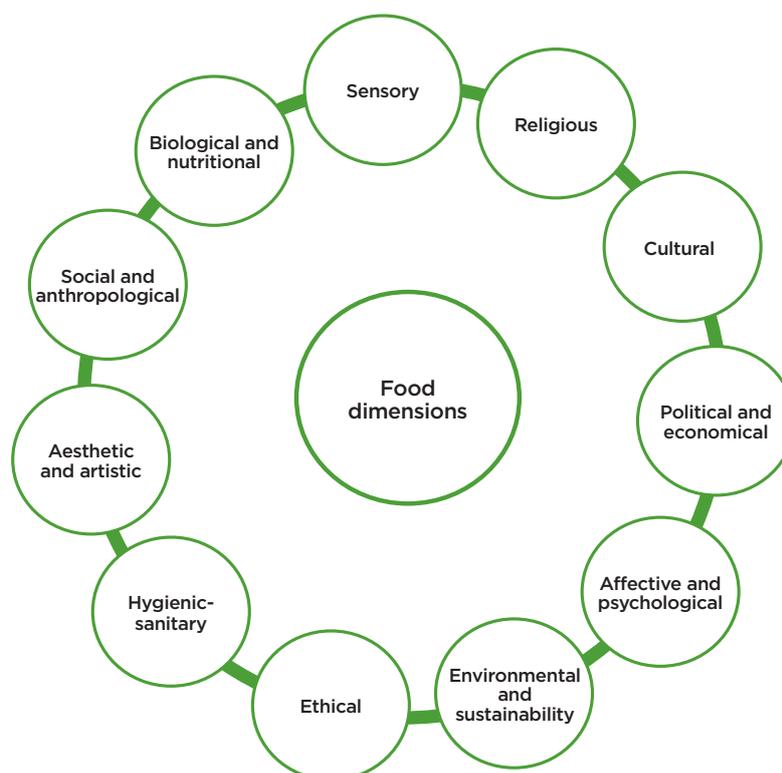
Have you ever stopped to think how many times a day you have to make decisions related to your diet? What, where, with whom, when will you eat?

Do you decide to eat a certain food because you have been told that it is good for your health? Or because of its nutritional content? It seems that there are other factors that also interfere with your decision, right? What would they be?

The appearance, taste, price, your culinary skills, your religion, the time you have to prepare and/or eat, the affective value that certain foods or preparations have to you, would they be some of them?

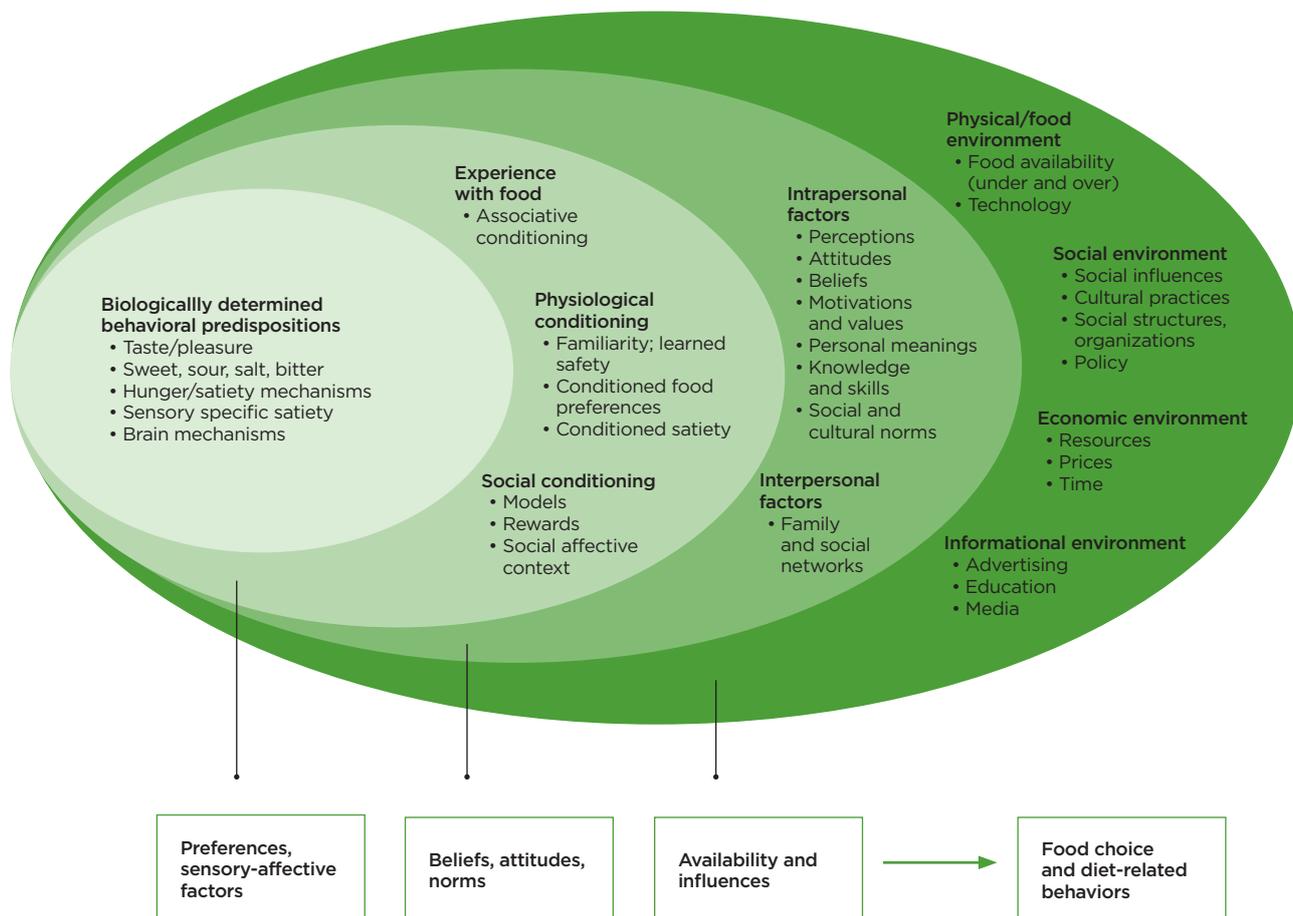
Maybe you like to eat that apple pie that your grandmother used to make, or maybe you don't like to eat spinach because your mother forced you when you were little ... Or you have decided to buy something because you saw it advertised on television ...

It is important to understand that, for humans, the food and the act of eating are not exclusively limited to the intake of calories and nutrients to meet their biological needs. Individuals not only feed on nutrients, but also on palpable foods, with smell, color, taste and, in addition, that represent multiple meanings, affections and memories. We also eat as a source of pleasure, as a practice of socialization, of expression of feelings and culture. Therefore, eating is a complex process that involves multifactorial dimensions. With that in mind, in addition to transmitting information and concepts about nutrition, FNE must consider foods and the act of eating in its multiple dimensions:



And, among the collective/external determinants that affect our food preferences and choices, there are inter-personal and environmental factors, as presented in the figure below (Contento, 2007):

FACTORS INFLUENCING OUR FOOD CHOICES AND DIETARY BEHAVIORS



Source: Adapted of Contento (2007).

The importance of understanding that this wide range of factors influences the food preferences and habits lies in helping us understand why, in order to support people to develop healthy and lasting food and nutrition practices, it won't work just telling them what is good for their health assuming that, as a result, they will do it; it's not only about convincing them to consume certain foods; nor forbidding them to eat some foods and/or preparations.

The strategies and actions of FNE should consider the phenomenon of food in its complexity, incorporating a more holistic and comprehensive vision, where the various dimensions of food and the act of eating should be considered in coordination with the technical aspects of nutrition (Boog, 2013).

It is also necessary to understand how behaviors are modified through education. Learning is an important topic of educational psychology and, therefore, for FNE.

The idea is to transform the approach of a FNE that is purely cognitive into an approach that promotes the **development of skills, and which allows the conversion of knowledge and attitudes towards healthy behaviors and practices**. An approach based on behavioral changes, that is, that considers the cognitive, attitudinal and behavioral dimensions, and that is based on the understanding of the social, environmental and structural determinants that facilitate healthy behaviors and lifestyles, in a sustainable way.

We have worked with the following concept of food and nutrition education:

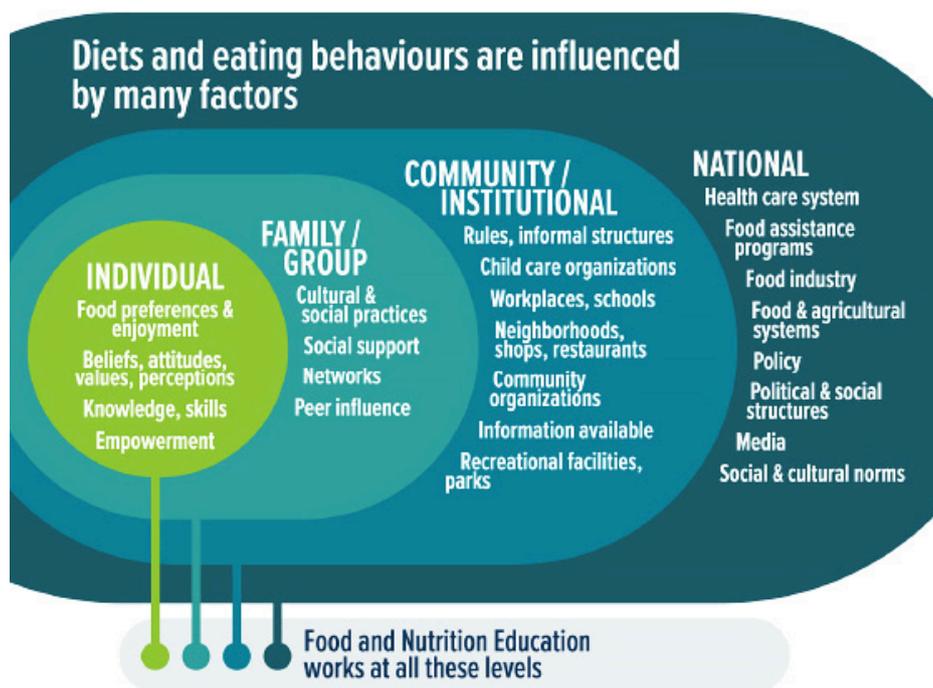
Food and nutrition education, in the context of the realization of the human right to adequate food and the guarantee of the FNS, is a field of knowledge and of continuous, permanent, trans-disciplinary, intersectoral and multi-professional practice that seeks to favor the autonomous and voluntary practice of healthy eating habits in a sustainable way.

The practice of FNE should make use of problem-solving and active educational approaches and resources that favor dialogue with individuals and population groups, considering all stages of life, stages of the food system and the interactions and meanings that make up the dietary behavior (MDS, 2012).

FNE IN PRACTICE

- >> If a school program wants to promote increased consumption of fruits and vegetables, do you believe that only by telling students that these foods are good for your health, they will eat them?
- >> Is it possible to increase consumption without ensuring that school meals also offer these foods?
- >> Is it possible to achieve this goal without involving the closest social environment of children - the family - and, even without changing the habits of the family members, when needed?
- >> If the opinions, perceptions and challenges of families to buy and prepare more of these foods are not considered, will FNE's actions be equally effective?
- >> If, in the community, there are not many options of stores/markets to buy fruits and vegetables or the existing options are few and expensive, what other levels of intervention will require attention so that people in the community have access to these healthier foods at an affordable price?

What we can conclude is that, for FNE programs/projects to achieve concrete results in improving people's diet, it is essential that they address the different levels of behavioral influences: individual, family/group, community/institutional and national.



Source: FAO. Food and nutrition education for healthy diets. <http://www.fao.org/3/a-c0064e.pdf>

It is also important to bear in mind that, although FNE programs/projects do not have the capacity to contribute directly to change some social and structural conditions of the individuals such as poverty, income, employment and educational level, or the impacts of race, gender, age, disability or ethnicity on individuals, all these elements must be considered in the design, development and implementation of such programs/projects (FAO, 1997).

4. EXPECTED RESULTS OF FOOD AND NUTRITION EDUCATION

The goal is to strengthen and expand the degrees of autonomy of the individual, so that he/she has a greater capacity for interpretation and analysis of his/her eating practices, as well as the consequences of his/her choices for him/herself and for the world; that he/she develops a critical sense in different situations; that he/she is able to identify the challenges and potentialities around food choices. FNE aims at supporting the individual so that he/she has the motivation and skills to establish appropriate strategies to seek healthy practices and change habits, when necessary.

A term used is that the individual must be “food and nutrition literate”. This does not mean that the he/she is ignorant or that the educator is in a superior position and that everything he says has to be done. It means facilitating the construction of knowledge and the development of skills and behaviors so that the person can experience the various daily situations related to food and nutrition – such as planning, purchasing, preparation, cooking, consumption, reuse and discard of food - in a conscious and responsible manner. People must be empowered to, among other things:

- apply the principles of nutrition to their own situation and make informed and critical decisions about food and dietary habits (for example, choosing healthy foods, resisting social pressures, adapting to changes in the supply and prices of food, evaluate advertising critically);
- influence others (family and colleagues, for example) and set the example;
- understand the implications of their choices and dietary habits for the environment, in order to strengthen and/or change them; and
- relate positively to food.

In practice, that means having the autonomy to act in the following day-to-day activities, for example:

- **In the supermarket**, be able to understand the information on food labels; plan daily meals for a certain period of time and buy accordingly; know how to choose seasonal products (fresher and cheaper); have the necessary knowledge to decide if he/she is going to buy organic food, instead of the traditional ones.
- **When cooking**, know how to prepare foods in a healthier way (bake instead of frying, for example), use all parts of fruits and vegetables (leaves, stems) and contribute less food waste; prepare new recipes; involve the family in cooking activities.
- **When watching commercials on television or other media**, have the critical ability to understand the messages that are transmitted.
- **When away all day**, be able to plan what and where to eat, whether going to a restaurant or bringing food from home.
- **When eating out with friends**, consciously choose from the menu.
- **Be aware of the food choices made**, even when he/she decides to eat something that is not very healthy, and plan the other daily meals accordingly.

5. EFECTIVE FOOD AND NUTRITION EDUCATION

The elements that contribute to a more effective FNE more effective are (Contento, 2007; Murimi et. al, 2018):

- An approach based on promoting specific behaviors or practices rather than simply disseminating general information (such as food groups, nutrients and their functions in the body).
- Be focused on identifying and addressing the influences, on these behaviors, that have personal relevance for a particular individual or group. These influencing factors are those that motivate, reinforce and allow the desired behavior.
- Include appropriate educational strategies to address these potential behavioral change factors, based on theory and research in nutrition education, behavioral nutrition and related areas.
- Considers the multiple levels of influence on food choices and eating behaviors and uses multiple channels to transmit messages, for a sufficient period of time.
- The actions planned must be related to the reality (social, environmental, economic, cultural conditions) and respond to the needs and interests of the individual/group. This is why it is so important to make an initial evaluation (diagnosis) of the individual, group or population with whom you are going to work, before planning the activities.
- Consider the transmission of information that is relevant to behavior change and that promotes analysis and critical thinking and not only for the purpose of improving people's knowledge.
- Instead of considering only the individual change behavior, it is also important to consider the environmental conditions and support, the development and implementation of policies, and work collaboratively with the various sectors involved, and with social networks.
- Design long interventions (at least, 6-month duration) with age-appropriate activities.
- Assured fidelity of intervention by training teachers or recruiting trained experts to deliver the intervention.
- Includes strong parental engagement, preferably by means of face-to-face encounters.

5.1 The behavior-based approach

For any health promotion activity to be effective, including FNE, it must be based on a behavior-oriented approach. Knowledge is very important, but most of the time, is not enough to lead to changes in behavior, especially in children and young people.

What does the behavior-based approach mean?

Behavior-based FNE means that the central focus of actions is to address the specific behaviors of food selection, the nutrition-related actions and community food practices that influence health and well-being, rather than simply disseminate information about food or nutrition in a general way. It means that the expected results are changes in behaviors or practices (Contento, 2007). This approach implies in:

• Behavior change as a goal

• The active participation of individuals in problem solving

• A practical approach

• Participation, empowerment and an active learning process

• Dialogue, reality, critical thinking

• Content and activities socialized and integrated in a situation and context

• Considering not only what people know and understand, but also how their practices are determined by their attitudes and perceptions

FNE IN PRACTICE

What are some of the nutrition and health related behaviors that FNE actions can have as objectives?

- >> **Healthy food choices or behaviors:** eat sufficient fruits and vegetables per day; eat smaller portions; eat breakfast.
- >> **Behavior and practices related to:** food hygiene, preparation and cooking, consumption of family (small-scale) farmers products, etc.
- >> **Behaviors related to other nutritional issues:** breastfeeding.
- >> **Specific physical activities:** running, cycling, playing soccer.

If a project aims to reduce the risk of obesity among children and young people, FNE actions at the individual level can promote the behaviors of eating more fruits and vegetables, reducing the consumption of foods high in fat and sugar, and practicing physical activity.

5.2 Behavioral theories

We mentioned that, for FNE actions to be effective, they must use educational strategies **based on theories**. What does this mean?

Theories are like mind maps that relate various concepts to explain why people make certain choices and why they adopt certain practices and behaviors (related to health and food, for example). Theories used in health and in FNE are based on research in the areas of behavioral sciences, food choice research, health education.

Some theories emerged to try to explain why some people do not take measures to prevent some problems, such as getting vaccinated, quitting smoking or getting tested for HIV. Would it be their beliefs, cultural and social norms? Other theories investigated food selections and tried to understand what factors influence people's food choices. Was it the taste, the cost, the appearance, the texture? Could it be that the health factor was not considered? By understanding how these processes are carried out, it is easier to understand what would be the factors that would make them take such measures.

Many of the health theories can be applied to FNE, to explain the following behaviors:

- Why we eat what we eat?
- What helps people to eat better
- How and why people change their behavior?

The idea is that when these behaviors are (more) understood, it would be easier to predict outcomes and design effective FNE strategies.

Next, we will briefly present some theories used in FNE.

- **Stages of change or transtheoretical model**, by Prochaska: Emphasizes the construction of different messages for people who are in different stages of preparation to change a certain behavior. The stages are: Pre-contemplation, Contemplation, Preparation, Action and Maintenance. It is essential to identify at what stage an adolescent who is overweight and has high cholesterol is, for example, to know what the focus of FNE actions should be.
- **Health belief model**, by Rosenstock: the people most likely to change are those who believe they are susceptible to a declared risk that has potentially serious consequences, when the solution offered may decrease the susceptibility or severity of the outcome, and the anticipated costs or barriers to the changes are overcome by this benefit. So, in practice, in order to engage in a specific food behavior, the individual should:
 - Believe he/she is seriously at risk (perceived susceptibility and perceived severity)
 - Think he/she will be much better off if he/she take this action (perceived benefits)
 - See that the action is easy to do (perceived barriers)
 - Be reminded to do the action in various ways (cues to action)
 - Be sure they can manage to do it (confidence in ability to act).
- **Theory of Planned Behavior**, by Ajzen 1991. This theory is also about what makes people act to protect their health. It assumes that a person's behavior is determined by his/her intention to perform the behavior and that this intention is, in turn, a function of his/her attitude toward the behavior and his/her subjective norm. The TPB, then, proposes that three main factors contribute to the intention to change:
 - Beliefs and attitudes about an action (e.g. Drinking less soda is important for my health, and I want to do it.)
 - Ideas of what is acceptable and normal (e.g. Many of my friends know that drinking and eating too much sugar is not good for our health)
 - Ideas of one's own capacity and the possibility of effective action (control beliefs) (e.g. I know other drink healthier options to have and I will choose them as recommended). Availability, access, feasibility, available time, all contribute to "control".

This theory provides useful information for the development of communication strategies and is also used in evaluation studies. This model expands on the Health Belief Model. It gives more attention to social influences (you are more likely to do something if you believe everyone thinks it is normal). It also sees that there may be a lot of obstacles to carrying out the action. According

to this model, then, we must look not only at how people see the particular action to be taken and their own capacity, but also at the outlook of the social groups which influence their actions, and at all the possible obstacles to action (FAO, ENACT Course).

- **Social cognitive theory**, by Albert Bandura. This theory explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies. Evaluating behavioral change depends on the factors: **environment, people and behavior**. These three factors are constantly influencing each other. SCT provides a framework for designing, implementing and evaluating programs.

One assumption is that people learn from each other through observation, imitation and modeling. Some applications of this theory are TV ads showing celebrities eating a specific type/brand of food and the use of demonstrations, drama and role-models in nutrition education. This theory also can be used to explain why people usually maintain the same eating habits of their parents (FAO, ENACT Course; University of Twenty).

- **Theory of cognitive development**, by Piaget explains how a child builds a mental model of the world. He does not agree with the idea that intelligence is a fixed feature, and considers cognitive development as a process that occurs due to biological maturation and interaction with the environment. The idea is that the child goes through four stages of cognitive development and, therefore, they should be considered for the development of age-appropriate activities.

Other theories that are used in FNE are behavior change models, skills development theory, learner-centered education and the Social-Ecological Model. For those who wish to deepen the subject and learn more about health and FNE theories, you can read Unit 5A of the Education for Effective Nutrition in Action (ENACT) Course by FAO: <http://www.fao.org/3/i4952e/I4952E.pdf>

What is important to have in mind is that **there is not a single model of theory that can work with all situations!** Many times, eclectic models are used. For children and young people, there are studies that show the use of different models, such as social cognitive theory, cognitive development theory and even others. In any case, what is already quite recognized is that for child and adolescents, educational strategies that consider environmental, cognitive and social factors must necessarily be used.

And why is it important to know about behavioral theories?

Theories help us design and plan interventions to reach people more effectively, considering the influence of positive influences, barriers, and other factors. For example, theories indicate that both our beliefs about the benefits of a given action and group pressure influence our health-relat-

ed decisions. They also show that, for behaviors such as eating more fruits and vegetables, beliefs about benefits are more important than social pressure.

So, if we want adolescents to increase their fruit and vegetable consumption, for example, it might be more effective to tell them about their benefits for the skin, hair, bones, and appearance. Another methodology to promote healthy eating habits among children and adolescents are food preparations, tasting sessions, simulations of choosing dishes in fast-food restaurants.

On the other hand, in relation to breastfeeding, social pressure exerts more influence. So, in practice, if we are planning an FNE activity with pregnant and lactating women, it will be more effective to also discuss social pressure than just talk about the benefits of breastfeeding.

FNE IN PRACTICE

The nutritionist of the SFP was invited to speak with the students' families. This meeting was one of the activities of a program to promote healthy eating among the school community. On the day of the meeting, the nutritionist talked for 1 hour about the Food-Based Dietary Guidelines, explaining each of the food groups and, in the end, delivered a copy of the Guidelines for each family.

When families had time to ask questions, they asked almost nothing about the subject presented, but they wanted to receive healthy recipes using leaves, stems and peels of vegetables and fruits to be able to save with food and not waste it, because their children were learning about food waste and sustainable practices in classroom.

In your opinion, was the activity carried by the nutritionist useful? Did the activity respond to the needs of the target audience? What do you think the nutritionist could have done differently?

We set this example for you to reflect on some points:

1. Many times, when doing FNE, professionals already take a "ready package", without considering the specific conditions of each individual/group, such as what they already know (knowledge, beliefs, taboos), what they feel (attitudes, values, meanings), what they want (preferences, tastes, values), and what they do (habits, practices, traditions).
2. General information (using only the Food Guidelines, for example) are very diffuse and may not contribute to promoting changes, if they are not accompanied by other behavior-oriented actions.
3. The transmission of information may be sufficient when: a) People are already sensitized and motivated to put into practice certain action (as in the case of these families); b) The information has meaning and responds to the interests of the public (it was not what happened with this activity); c) The information is linked to the behavioral changes that are to be generated (in this case, families preparing healthy meals, saving with food and reducing food waste).

6. SCHOOL FOOD AND NUTRITION EDUCATION

True learning, to be effective and lasting, occurs when it is put into action. This is true for everyone, but especially for children, who learn by doing, as you know. Experiential learning is more enjoyable and stimulates exploration, creativity, concept building and discoveries, which allows a better understanding of the concepts and provides meaningful and tangible practical experiences. In addition, practical experiences are the best way for students to develop an understanding of their complex world and their place in it.

FNE in the schools, which we will refer as to school food and nutrition education (SFNE), consists of coherent educational strategies and learning activities, accompanied by environmental supports, which help schoolchildren and their communities to achieve sustainable improvements in their diets and behaviors, perceptions, skills and knowledge related to food and lifestyle, and also to develop the ability to change, adapt to external change and act as change agents (FAO, 2019).

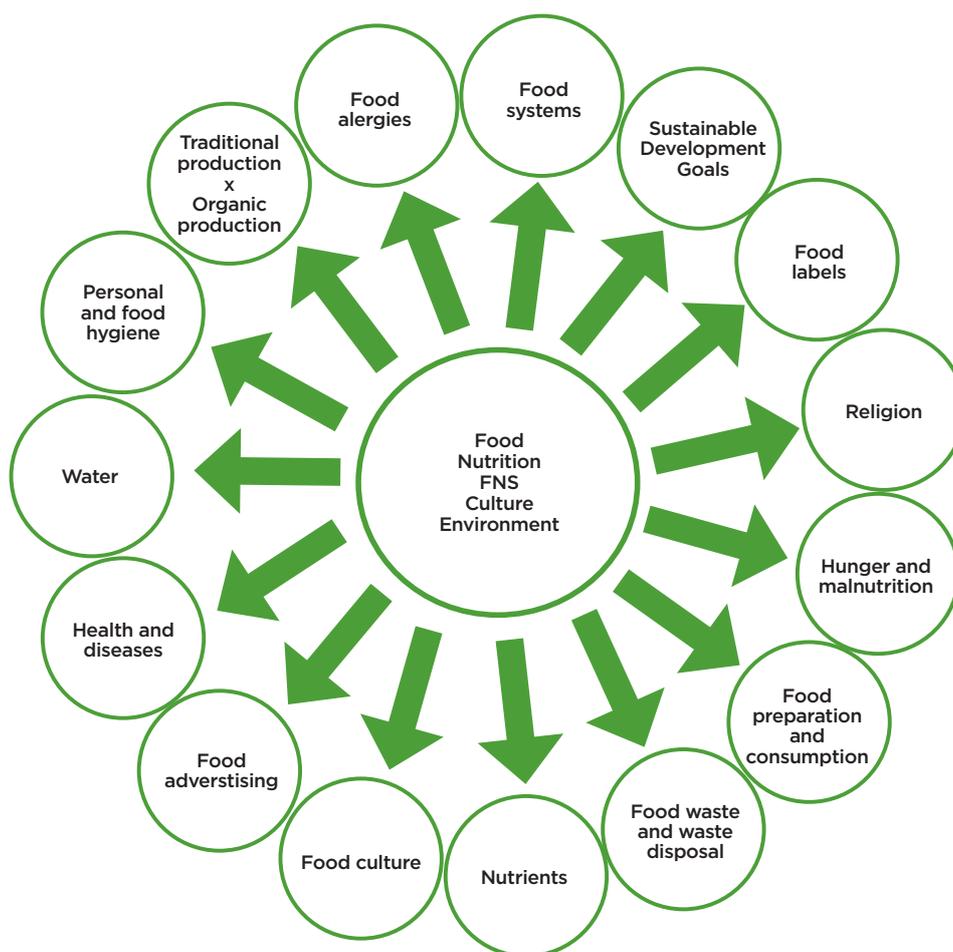
In this context, it is essential to ensure that **school feeding is an element that facilitates learning**. By offering quality food on an ongoing basis, SFP promote the discussion about an effective SFNE, favor learning conditions, and have the potential to demonstrate healthy and adequate food in a practical way. SFP have the potential to promote food changes in school and for life.

Therefore, it is up to the education systems to promote this important connection, and also to make sure the other components – adequate structure for school feeding, implementation of other health and nutrition services, parental involvement, implementation of educational school gardens, are in place as well.

6.1 Linking school feeding, nutrition, FNS and the environment

The first important point is that, as we have spoken throughout the unit, developing SFNE actions does not imply simply talking with students about the nutritional content of foods and their physiological functions, which ones are good for health, which should be avoided.

The school presents many possibilities, linked to the real world, to promote exploration, critical and creative thinking on the different topics related to school feeding, nutrition, FNS and the environment, to develop problem-solving skills and promote responsible citizenship. It is essential to understand that a specific SFNE core academic subject should not be created, but the idea is to explore the different topics in a cross-cutting way. Obviously, the topics discussed should be age appropriate, but they can be as diverse and broad as:



The methodologies and approaches implemented must guarantee the effectiveness of the actions and the fulfillment of the proposed objectives. For that, it is necessary to ensure that the SFNE respects the following principles:

- be continuous, permanent and integrated into the school curriculum;
- be trans-disciplinary;
- be appropriate for age, for the cognitive and social development of the individuals and local culture;
- be fun for both students and educators;
- should consider different methodologies;
- be implemented inside and outside the classroom;
- promote processes of learning and behavior change, skills development and experiential learning;
- be low cost, easy to execute and easy to replicate;
- students actively participate (cooking, school gardens, games, discussion of films and news in newspapers); and
- involve school community, families and other local actors.

There are many options of activities to do with the students, as presented below. The only important thing to have in mind is that they should be designed to fit a purpose, following a systematic methodology process, as we will discuss in the following units.

- **Visit to the local farmers market:** students learn about where food comes from and how it reaches the consumer. Local products can be purchased and used in culinary activities.
- **Visit to a local farm:** students learn how seeds germinate and become seedlings, which are planted in the soil, cared for and harvested.
- **Creating murals:** students can create texts, images, drawings about food, culture and environment, and place them around the school.
- **School events for the community:** every event at school can be linked to school feeding. For example, taking families to participate in the garden, encouraging students to prepare healthy and tasty preparations and present their projects to families; organizing a culinary class for students and their families together.
- **School gardens:** as will be discussed in module 4, they offer countless educational and learning possibilities.
- **Research:** students can research traditional recipes from their families; local foods available in the community; variation of prices between some foods; foods available in each season.
- **Drama class:** students can tell a story about how the food available in the community is grown, about their family's food culture or any other topic.
- **Projects:** using academic subjects as a channel, the whole school can work together around projects to discuss issues such as water use; waste management; malnutrition worldwide (undernutrition, overweight, obesity, nutritional deficiencies); food advertising and fast-food consumption, among many others.

6.2 Inclusion of SFNE in the school curriculum

The second point is that topics related to food, school feeding, culture and the environment are cross-cutting and can be included in the school curriculum to be addressed using the core academic subjects, such as mathematics, geography, history, arts, science, among others (Center for Ecoliteracy).

However, when integrating these topics into the curriculum, care must be taken not to do so in a fragmented and uncoordinated way. To avoid this, the curriculum must ensure that these topics are systematically addressed, where new knowledge is added to previous knowledge in a planned sequence of learning stages and objectives, which implies coordinated efforts between core subjects, involving teachers, pedagogical coordinators and school principal (FAO, 1997).

The figure below presents some ideas on how to link different topics with the academic subjects.



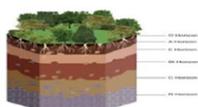
- Multiply and divide recipes
- Measures in the kitchen (volumes, weight, temperature, time)
- Measures and geometries in the garden
- Compare amounts of nutrients
- Graph (preferences for food, sizes)



- Vocabulary
- Oral communication
- Activities diary
- Drawing, murals
- Recipe book



- Culinary chemistry
- Transformation of organic matter by microorganisms
- Seasons of the year and climates
- Nutrition science
- Growth and development of plants



- Different soils
- Erosion
- Water contamination



- Foods from different cultures
- Different agricultural practices across time
- Food systems and consumerism

It is important to ensure that: a) Educators are trained to properly implement SFNE; b) The information in the curriculum is correct and evidence-based; c) The activities have a clear educational objective and respond to the expected food-related competence (these will be addressed on units 7 and 8); d) The activities have a behavior-based approach and are effectively implemented as planned; and e) Monitoring and evaluation is carried out on an ongoing basis.

Remember that a sustainable SFP offers many opportunities to implement FNE actions!

The mealtime experience

The mealtime can be a great educational opportunity, not only for the students, but for everyone at school. That is why it is important to ensure that this moment and the ambience are comfortable and pleasant, conducive to positive interactions and healthy eating. If that is not the case, it may even have a detrimental effect on students.

There is no need for activities that are too structured during this period. The moment itself offers many opportunities for good examples and skills development. It is important that students enjoy this moment and feel valued when they are there. That means an adequate and comfortable environment in terms of foods offered and the way they are presented, their smell and taste, the noise in the cafeteria and the time allowed to eat, the infrastructure and the attitudes of the school feeding staff and teachers.

During lunchtime, students have the opportunity to learn and practice respect, patience and good manners, and to interact socially with others, having to wait their turn, sit properly at the table and manipulate utensils, start a conversation and clear the table.

Students can help decorate the dining room, paint the walls, create murals and bring flowers from the garden. They can also participate by providing their comments and making suggestions to improve the SFP. The more they are heard and contribute to the school, the more likely they are to participate in school activities, including the SFP.

The kitchen and the dining room

The staff working in the kitchen and dining room is key, not only because they are responsible for cooking, but also because they are everyday with the students, during meal time. They should be

sensitized and empowered about their importance and key role in encouraging students to try new foods and not to take too much and waste food.

In addition, the kitchen and the cafeteria can be a great example of sustainability and good environmental practices, if recycling practices are implemented and proper waste management is carried out. If the school has a garden, it is even better, as students can have the opportunity to learn about and practice the cycle of matter, composting food waste from the cafeteria in a nutrient-rich soil for the garden.

FNE IN PRACTICE

Let's think about other activities that promote reflection, awareness raising, and actions by the children and adolescents, instead of only expect that they listen and memorize the information transmitted? We will share some ideas, but we are sure you can think of others that are appropriate to the different age-groups:

- >> **Food recycling.** Students can discuss what other ways to reduce food waste at school and in the community exist. How can students and the community participate more in food waste prevention practices? How about starting a recycling program at your school?
- >> **Food selection and purchase.** Instead of simply telling students what foods they should avoid, why not ask them to bring some packaging and teach them to read food labels? They can also compare the labels of similar products and select which is the healthiest option.
- >> **Critical analysis of advertising.** You can show videos of food advertising and promote a discussion about their opinions, if they understand what the purpose of advertising is, why they believe there is no publicity for healthy foods.
- >> **Food waste.** This is a superrich topic that can involve several activities. Students can be shown how much food was discarded in one day in the cafeteria after lunch time and you can engage them in conversations about food waste in school, in their community and at global level. Students can discuss ways to reduce food waste at school and at home. It is possible to teach them some recipes using all parts of the vegetables and fruits (leaves, stems) and send them to the family, or even promote a culinary day with the families to teach them too.
- >> **The origin of foods.** Students can describe or draw a picture of the food they brought from home or the foods they receive at school and talk about their origin, whether they came from the land or an animal, how they got there, that is, the path from production to consumption. The teacher can also show food/preparation figures from different parts of the world and ask students to identify where they are from, if they have already tried them, what is the food and preparation like in each one's home.

6.3 Educational actions that should be strengthened within the framework of a SFP

The following elements contribute to greater effectiveness of educational activities within the framework of SFP (FAO, 1997; Contento, 2007; Murimi et al., 2018; FAO, 2019):

- SFNE strategies/plans/projects must be embedded in the school health policy and the school feeding policy.
- Strong coordination among local, regional and national policies of health, education, agriculture and social development in the areas related to school feeding.
- Educational activities should be implemented in healthy school environments (provision of healthy school meals accompanied by food kiosk regulations, training of kiosk owners, regulation of food advertising).
- The intervention activities of SFNE must be aligned with the objectives established and the desired results, topics that will be discussed in the next unit.
- Fidelity of the intervention as planned through the use of a standardized protocol that can be replicated, and continuous training of teachers and nutrition experts in SFNE.
- Approach oriented towards the active participation of students, ensuring that they develop specific skills by acting, reacting and interacting in real-life environments.
- Involvement of all those who directly influence the dietary practices of students, particularly the family, the school in general, teachers and the community. The involvement of parents should preferably be through face-to-face interactions.
- Promotion of reflection on the parameters of a healthy and adequate diet and other associated topics.
- Continuous training of managers and school community in the process of food offering and SFNE in all its dimensions and complexities.
- Promote and strengthen regional dietary and cultural habits.
- Promote community participation in school activities.
- Encourage the purchase of healthy, organic and/or agroecological foods from family farming.
- Carry out continuous monitoring and evaluation of the SFP and SFNE activities.

Before wrapping up, we would like to suggest some very good materials that have lots of ideas on how to boost the school curriculum with SFNE activities. Additional materials will be recommended in the other units:

- Rethinking School Lunch. A Visual Guide Linking Food, Culture, Health, and the Environment Center for Ecoliteracy. <https://www.ecoliteracy.org/sites/default/files/CEL-VisualGuide.pdf>
- Food and Culture Project. The migration of food. <https://www.ecoliteracy.org/sites/default/files/CEL-Migration-of-Food.pdf>

7. CONCLUSION

It is important to remember that people's eating habits and preferences are influenced by a wide variety of factors and, therefore, professionals working with FNE should consider them at all stages of the process (diagnosis, planning, implementation, monitoring and evaluation).

Over the years, FNE has gone through a change of paradigm from a knowledge-based approach to a behavior-based approach. In this sense, the goal of FNE is to help people develop autonomy to make healthy, conscious and responsible food choices.

Schools offer several opportunities to develop SFNE projects/actions with students and the entire school community, promoting critical reflection, awareness raising and active experiences on various issues related to food, school feeding, culture and ecosystems.

In the next unit, we will focus on how to plan effective SFNE projects/actions that respond to the realities and needs of the individual/groups.

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PROMOTE INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, EMPLOYMENT AND DECENT WORK FOR ALL

Inclusive and sustainable economic growth can drive progress and generate the means to implement the Sustainable Development Goals. Globally, labour productivity has increased and unemployment is back to pre-financial crisis levels.

However, the global economy is growing at a slower and uneven rate, which requires us to rethink and retool our economic and social policies aimed at eradicating poverty.

Sustainable economic growth will require societies to create the conditions that allow people to have quality jobs that stimulate the economy while not harming the environment. More progress is needed to increase employment opportunities, particularly for young people, reduce informal employment and the gender pay gap and promote safe and secure working environments to create decent work for all. Increased commitments to trade, banking and agriculture infrastructure will also help increase productivity and reduce unemployment levels in the world's most impoverished regions.

UNIT 7

PLANNING EFFECTIVE SCHOOL FOOD AND NUTRITION EDUCATION

OBJECTIVES:

Upon completion of this unit, you will be able to:

- understand and describe the stages for planning behavior-based interventions of school food and nutrition education (SFNE); and
- develop a SFNE lesson plan considering all the recommended stages for designing an effective strategy.

1. INTRODUCTION

The main focus of this training is the SFNE practices within the framework of school feeding programs (SFP); however, all the information and guidance provided may be applied to any practice of FNE, regardless of the situation, the environment and the target audience.

In this unit, you will see what the basic elements for designing and planning effective FNE activities are. We would like to emphasize that we are addressing the planning of FNE interventions at the school and community, and not at the individual level.

We do not intend to exhaust all aspects concerning the planning of FNE, and more research may be required depending on the context, purpose and scope of actions. In any case, it is expected that, at the end of the course, you will have a good knowledge about FNE, and that you will be able to plan and implement an intervention that will contribute to positive changes on the school community and the school environment.

It is important to have in mind that the primary purpose of this training is to improve the quality of SFNE offered in schools, in order to improve the learning practices and students' capacities for achieving long-lasting healthy eating behaviors, considering the indicators of malnutrition and of educational attainment and achievement among students.

To achieve this goal, the active involvement of multiple actors at local level, such as programs' managers, technicians, school teachers and principals, families, nutritionists, farmers and their associations and cooperatives, among other important players, is fundamental.

But we also recognize that it may be needed to count on the support of other actors/institutions of government management, such as nutritionists at central level, as well as health, education and agriculture offices; but you can also work with other actors/institutions, such as the food vendors outside the schools, SFP provider non-governmental organizations (NGO) or other environments and sectors that are linked to the SFP that you find more strategic.

Regardless of the place and group you choose to work with, the main point is to make sure that the activities planned respond to their realities and needs, and are useful and meaningful for them.

In that sense, the planning of a SFNE intervention should always start with an **initial diagnosis**, also called needs assessment, through which the reality of the environment and the individuals are better known. In order to carry out a good diagnosis, you should visit and observe the environment, talk with the main actors and identify other key players that you might need to contact, with the ultimate goal of designing a needs-based intervention through a participatory approach.

We will begin by highlighting some important elements about the diagnosis, and then we will address the next stages. The idea is that the information provided and the reflections generated help you start thinking about a proposed intervention of SFNE in the school or in another place related to the SFP of your choice. So, just to make it clear, the environments - referred to as Study Units (SU) where you can implement your FNE activities could be:

- schools or school environments directly or indirectly linked to SFP, meaning that you can implement an FNE activity with students, the principal and teachers, kitchen staff, food vendors within the school, families, parents' associations;
- other actors/institutions, such as food vendors outside schools, SFP providers, family farmers and/or their organizations who provide for the SFP;
- educational management departments at national, departmental (regional) and local, and the SFP administrative unit itself; and
- other institutions that contribute to the SFP and non-governmental organizations (NGO) that you consider more strategic.

It is important to involve all the key actors in the diagnosis, not only because they should be part of the whole planning process, but also because they are the ones who know their reality and needs better than anyone else.

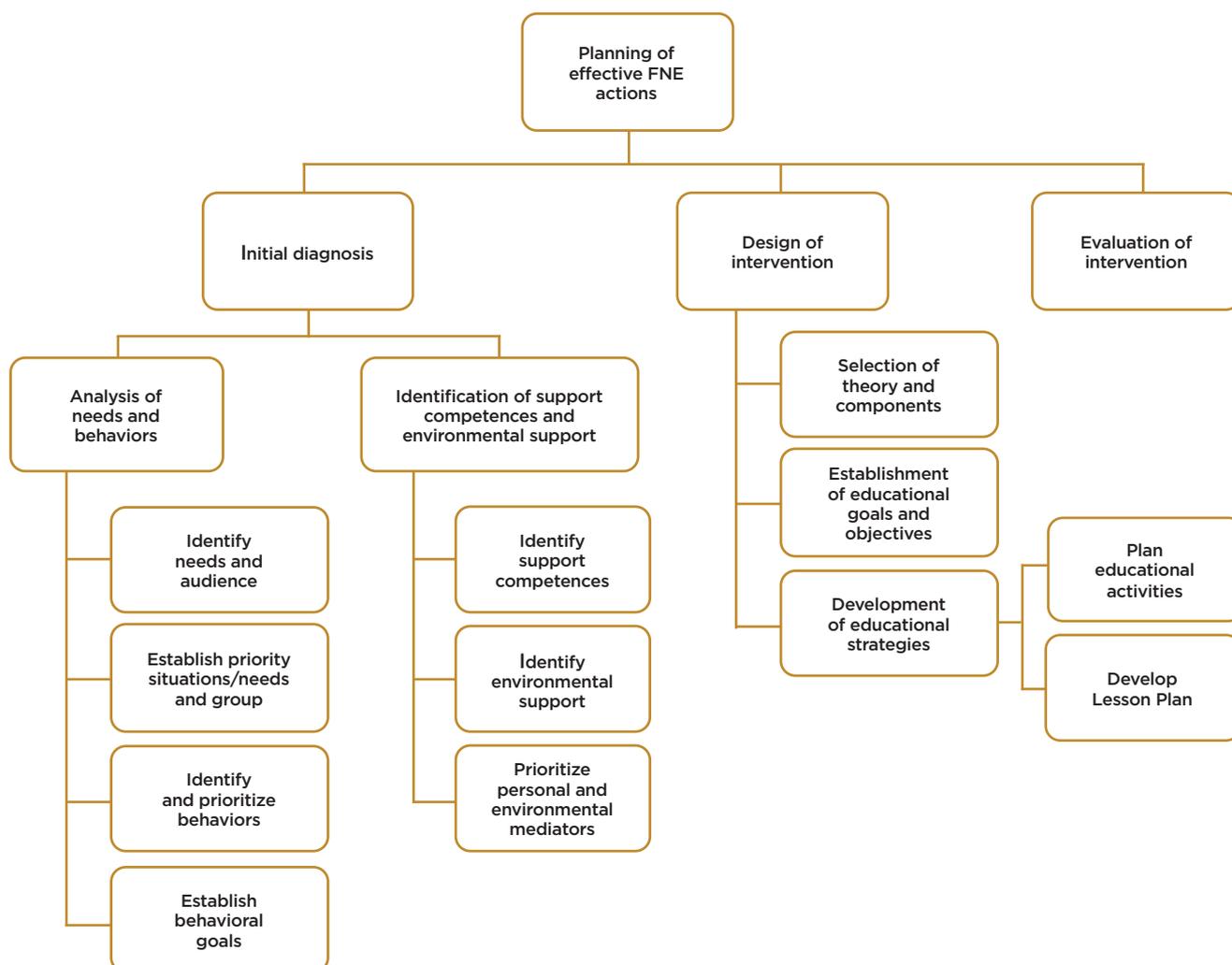
Also, you should bear in mind that the activity implemented may not be a solution for the whole situation or problem identified, but it will certainly be an initial support action that may be followed up later by the actors/institutions with whom you will work.

2. PLANNING FOOD AND NUTRITION EDUCATION ACTIONS

For didactic purposes, we will consider the school environment to exemplify the planning of SFNE activities. However, regardless of the scope and objectives of the SFNE intervention, the steps presented may also be adapted and applied for interventions at other places of your choice.

Depending on the references used, the names of the processes and stages may change, but the central idea is basically the same among authors and references that aim to develop effective SFNE actions.

The planning model that will be presented has been adapted from a model developed by Isobel Contento (2007). We will present a model of a detailed planning process, in all its stages. Although it may not always be possible or necessary to implement the whole model in our work activities, we believe it is important that you fully understand the process and be able to adapt it according to the circumstances and realities of your work context. Each of the following stages of the model will be presented throughout the unit.



2.1 Carrying out the initial diagnosis

The diagnosis, in a simplified way, is a process of getting to know your subject of study better. It is a moment for information gathering, which may occur through formal or informal forms of observation, interviews, focal groups and/or other methods, that will allow a better knowledge and understanding of a specific reality.

In our case, what we want is to become more familiar with the school environment, the school community or other institutions/sectors/actors that are related to the SFP and the FNE practices.

We will emphasize, once more, that it is essential to involve the key players (school, community actors, ministries and/or local departments of health, education, agriculture) where the intervention will be carried out, in the entire process of SFNE planning, starting with the initial diagnosis, up to the design, implementation, follow up and evaluation.

2.1.1 Analysis of needs and behaviors: identifying learning needs and determining target competences

In unit 6, we presented the example of a SFNE activity that was not effective because the nutritionist, when talking with families, as part of a Healthy Eating Program among the school community, gave a one-time talk about the Food-Based Dietary Guidelines. In addition to providing information that was too general to generate changes and not using a behavioral approach, the topic was not of interest to families at the time, since what they wanted were examples of healthy recipes using leaves, stems and peels of fruits and vegetables to avoid food waste. **Why do you think this misunderstanding happened?**

Most likely because the nutritionist did not carry out a situational analysis, she did not adequately identify what the food and nutrition needs/problems/topics of interest of the group were, what was already being done in terms of SFNE, among other important information that would have helped her to carry out an activity that, in fact, corresponded to the needs of the group. In her opinion, the important thing was that the parents should know and understand the Food Guide if they want to make healthy choices for their children.

In the case of a school, where it has been observed that the majority of the educators are failing to use the existing school garden as an ongoing and cross-sectional educational tool to address the subject core contents, it is necessary to identify why this is happening in order to be able to establish what the priorities of action should be and think about appropriate objectives and strategies that respond to these priorities.

For example, if it is identified that the main reasons are: 1) the teachers do not have the knowledge neither experience to use the garden as an educational tool and 2) they lack materials to use as guidelines, then the SFNE intervention should include: 1) Capacity development trainings and practical guidance and 2) Distribution of teacher-friendly guiding materials on how to use the school gardens as education strategies.

If, on the other hand, teachers already have the knowledge and experience, but find difficulties due to lack of interest and weak participation of the students as a result of pressure from families who do not want their children to go into the garden and get dirty, and also because they think it is not the school role to “teach gardening”, then the SFNE actions address these other aspects, focusing on awareness raising about the importance and all the potential benefits of the school garden for the school community, the community as a whole, and for the environment.

It is clear, therefore, that the identification of the interests and needs, as well as of the public/group with whom one is going to work, **before** the design of any FNE intervention - be it only a session or a program of several months - is essential to plan the subsequent stages.

The various information collected in the diagnosis will serve to support the identification of the priorities for action and to ensure that the interventions developed are aimed at the issues, problems and needs that were identified as priorities, or that are perceived as a concern/interest of the community or the target audience.

This diagnosis, also called needs assessment, diagnostic assessment, needs analysis or formative research, is a crucial stage of the planning process.

Identify needs and audiences

In the diagnosis carried out in the schools or other SU of your choice, you will be able to observe and analyze several situations and elements related to the SFP and SFNE practices.



The question we should ask is:

What are the main food, nutrition and education needs/situation/problems?

It may be that, in the same school, there are several needs/situations/problems that would merit some SFNE intervention. And each intervention would be directed to a specific group, be they teachers, families, kiosk owners, the students of the whole school or only students of specific grades, etc.

FNE IN PRACTICE

During the visit to the school, you can identify one or some of the following situations:

- >> Large amount of food waste at mealtime.
- >> Increased rates of overweight and obesity in students over recent years.
- >> SFNE is not yet implemented in a cross-cutting and ongoing way in the school curriculum.
- >> Weak participation of families in activities related to the SFP and/or SFNE
- >> The approach to SFNE in school is more focused on transmission of information, and not on encouraging critical reflections and autonomy.
- >> Students bring unhealthy foods/snacks from home.
- >> The kiosk/cafeteria sells unhealthy food.
- >> The school garden is rarely used as an educational activity, and only by some grades and few teachers.
- >> Families don't participate in the activities in the school garden.
- >> The cooks do not know how to prepare the foods from local family producers that the school receives.

When many needs are identified, it is necessary to establish priorities, since resources and time are limited, and because it is more difficult to achieve the expected results when the intervention is too broad. Remember that for any FNE to be effective, it must be focused on **specific** behavioral objectives.

Establish priority situations/needs/problems and group

Most likely, when you visit the school, the principal/person in charge already has identified some issue(s) that deserve special attention, or some situation(s) of concern to the school/the school community/the actors involved. However, just in case the priority(s) has(have) not yet been established, some questions can help establishing them:

• Which of these situations are considered most important?

• Which of these situations, if effectively addressed, would have the greatest impact in achieving the expected results of the intervention?

• Which one(s) of these situations is(are) more susceptible to an educational intervention?

• Given the time, the financial and human resources available, which one(s) of this(these) situation(s) would be more realistic to address?

• Has there been already any SFNE action implemented, aimed at any of this(these) situation(s), that could be considered?

• Which group(s) in these situations is(are) aware of the problem/situation?

• Which group(s) in these situations is(are) most motivated for changes?

Let's say that, after talking with the principal and other important actors of the educational community and analyzing the information collected during the visit, it has been decided, collectively, that the situation and the group that will be prioritized are: **High rates of overweight and obesity in the students.**

Identify and prioritize behaviors that contribute to the situation/need/problem

The next step will be to identify the eating behaviors and practices that led to this situation/problem in the group, that is, the factors that may have contributed to overweight and obesity.



The question we should ask is:

What existing food practices and outlooks contribute most to the problem?

The identification of these behaviors is essential as the intervention of SFNE should be directed to them. The extent of the information collected will depend on the scope and duration of the intervention. This information can be obtained through observations, interviews, focus groups, secondary surveys.

FNE in practice

Considering that the factors identified were:

- >> High consumption of high-fat foods, such as fried preparations, fried snacks.
- >> High consumption of sugary foods and drinks, such as candies, candies, soft drinks.
- >> Low consumption of fruits and vegetables.
- >> Low frequency and/or duration of physical activity.
- >> High offer of foods rich in total fat, saturated fat and sugar in the school kiosk/canteen/cafeteria.
- >> Low availability of healthy foods in the school kiosk/canteen/cafeteria, such as fruits, natural juices, salads.
- >> School meals with preparations rich in fat and sugar.
- >> Low availability of fruits and vegetables in school meals.
- >> Students do not like the preparations with vegetables offered at school.

Several factors may be contributing to the increase in overweight and obesity in the students.

The next step will be to select one or some of these behaviors that will be the focus of the intervention because, unless the program developed is long-lasting and a lot of resources is available, it will not be possible to address them all, effectively. It is possible to work with more than one behavior, though, when they are related.

Similar questions to the ones applied to establish the priorities of the problems, as discussed above, can be applied to help in the selection of the behaviors that will be worked on. Let's assume that the behaviors selected to be addressed in the FNE intervention will be:

- High consumption of high-fat foods, such as fried preparations, fried packages, fast-foods.
- High consumption of sugar-rich foods and beverages, such as candies, candies, sodas and other sugary drinks.
- Low consumption of fruits and vegetables at home.

Identify and set the behavioral goals/target competences of the intervention

Questions we should have in mind are:



- What healthy existing practices should be promoted?
- What unhealthy practices should be discouraged?
- What food practices and outlooks should be prioritized as SFNE target competences?

It is now possible to think about the behaviors/target competences that will be the focus of the SFNE actions, for each of the situations prioritized above:

- Decrease consumption of high-fat foods, such as fried preparations, fried packages, fast-foods by students, etc.
- Decrease consumption of foods and drinks rich in sugar, such as candies, sodas and other sugary drinks.
- Increase consumption of fruits and vegetables.

Some references indicate that it would be more appropriate to present the goals/target competences in a more specific way, detailing exactly the extent of the expected change, such as:

- Reduce consumption of fried packages to a maximum of 3 in the week.
- Decrease soda consumption by students in grades 4–6 to a maximum of one can every two days.
- Increase the consumption of fruits and vegetables by elementary and middle school students for two or more cups a day.

2.1.2 Identification of the support competences and environmental supports

Now, that it has been established that one of the behavioral goals/target competences of the intervention will be to reduce the consumption of foods and drinks rich in sugar, such as candies, sweets, ready-to-eat cereals, soda, do you think that only a one-time talk with the students telling them what is considered a healthy diet, the damage of excess sugar, and the consequences of being overweight and obese for their health will be enough to make them adopt the expected behaviors?

Of course not! As we saw in the past unit, there are a number of factors that influence people's food choices, which range from individual factors (experiences and preferences), intra-personal factors (beliefs, values, knowledge), inter-personal factors (family and social networks) and environmental, social, economic factors, among others.

Obviously, it is not possible to address all these factors with a single intervention; however, it is essential to seek to understand the main factors that lead people to make or stop making certain choices, if they understand that their habits can lead to health problems, if they understand that it is important that they change practices, if they are motivated or not to change, etc. It is important to remember that, when it comes to children and young people, it is also necessary to work with families, since it is the parents who usually buy and prepare the meals.

The idea, at this stage, is to explore the influences on food practices and identify the determinants of change, which means determining the supports that will contribute to building the target competences identified.

When working with students, for example, the questions we should make are:



- What influences students' and families existing food practices, outlooks and decisions?
- What would promote change?
- What are the barriers to change?

Only then, it will be possible to plan an intervention that is really useful and meaningful for the group.

Identify potential support competences (at personal level)

It is important to try to identify the potential **determinants of the current behavior** and what are the **motivations (knowledge, experience, perceptions, know-how, skills), barriers and skills to adopt the desired behavior(s)**.

In practice, this means identifying what are the influences that lead students to drink soda, for example. Is it because of the taste, because his/her colleagues drink it, and/or because it has always been his/her family's habit, instead of drinking water? Could it be because they consider a demonstration of status, being able to buy these products, or because they feel empowered as advertised in the ads?

Likewise, it is also important to identify the **motivations, barriers and skills to adopt the desired behavior**, such as increasing the consumption of fruits and vegetables, for example.

Trying to convince children and adolescents to consume more of these foods just by addressing the health factor, telling them that they may develop illnesses, or that they will avoid certain types of cancer later on is not the appropriate approach because in general, this type of information has no value, no meaning to them.



Therefore, we need to ask:

- What do children/adolescents need to perceive, understand, feel, experience – and especially, do – in order to achieve the desired target competence, which in this case is eating more fruits and vegetables?

Informing girls that fruits and vegetables have vitamins, minerals and other elements that are important for the beauty of the skin and the hair, may have more value to them. Or that by consuming more fruits and vegetables (and less fatty foods) male adolescents may have fewer pimples on their faces, it may work better with them. Therefore, we must look for what makes sense and value for the public with whom we are working.

Obviously, the methodology presented here to determine the type of intervention must be adapted to the age ranges and the specific characteristics of each group. Anyhow, the idea is to emphasize the fact that it is essential to know the group well before designing something or having pre-conceived ideas.

Also, as we already mentioned, in the case of children and adolescents, it will also be essential to evaluate these mediators in relation to the families, especially parents. That's because, even though the child may want to reduce the consumption of soft drinks and increase the consumption of fruits and vegetables, if the family does not buy and/or does not know how to prepare healthier foods and preparations and/or if they continue to buy and offer unhealthy foods, it will be difficult for the child to change his/her behavior.

Some examples of potential mediators related to decision-making/motivation and behavioral and self-regulation skills that should be identified in the planning process are:

Beliefs related to culture and food:

- What are the cultural beliefs that will influence whether individuals will adopt the desired behaviors?

Stages of motivational preparation to act:

- At what stage are people in regard to motivational readiness to act – before the action or ready to act?
- Do they still need to be sensitized about the problem or motivated to act?
- Are they already motivated and need support to improve their skills to adopt the behavior, such as learning to cook, or how to prepare healthy snacks and sandwiches?

Attitudes:

- What are the attitudes of the group towards:
- The problem (eg, complications due to overweight and obesity).
- The behaviors that contribute to the nutritional problem, such as excessive consumption of foods and drinks with high sugar content (do they consider this behavior as a risk?).
- The behaviors recommended by the program as a solution to the problem (do they have a positive attitude towards reducing the consumption of soft drinks and other drinks and foods rich in sugar and increasing consumption of fruits and vegetables)?

Beliefs or conceptions of risks:

- What are their beliefs regarding the severity of the nutritional problem and their perception of their personal vulnerability (how likely do they think they will develop a complication due to high consumption of sugar and fat or due to overweight and obesity)?

Expectation of results:

- Do they believe that eating more fruits and vegetables will improve their health and reduce the risk of cancer?
- To what extent do they value the results of the desired behavior (general health, decreased cancer risk)?
- How important is it for them to eat more fruits and vegetables?

Barriers:

- What barriers do they see to adopt the desired behavior?
- At what cost (exchanges or sacrifices)?
- Food preferences and pleasure (affective sensory factors):
- What are their food preferences, tastes and aversions?
- How do they judge the recommended behavior in terms of foods they will eat (like eating fruits and vegetables)?

Social norms or group pressure:

- Do the participants believe that their culture or specific individuals or groups are important to them?
- Do they think it is “cool” to eat fruits and vegetables, do they friends eat them?
- What about physical activities?

Cultural and ethnic identities:

- What are the ethnic and cultural identities of the participants?

Perceived self-efficacy:

- What are the perceptions of the individual about the ability to carry out the desirable health actions?
- Do they feel confident that they will increase their physical activity practice?

Skills:

- Do they have the skills to prepare or cook fruits and vegetables in a way that is healthier and tasty at the same time?
- What skills do they think they will need to make the changes?
- What self-regulation skills do they have to take control of their behaviors?
- Do they have the right skills to reject offers of food they consider inappropriate or unhealthy?
- What potential skills do they think they will need to overcome barriers and enact specific behaviors?
- What are the barriers to preparing and eating more fruits and vegetables?
- What would motivate them?

Messages in the media:

- What are the medias they look at?
- What media messages are important to them?
- How would they like to receive the messages (through brochures, posters, classes, radio, television, social media, apps)?

FNE IN PRACTICE

One study verified that sharing nutritional information in an investigative journalism format showing teenagers how food industries manipulate their product information in advertising campaigns can be more useful and effective in reducing junk food consumption than the traditional method of nutrition education (such as comparing calories of bad options versus healthier options).

In an experiment that involved more than 350 8th grade students at a Texas school, half of the children were offered lessons that highlight how the food industry creates foods that are bad and incredibly addictive, and how it designs its ads by manipulating the information. The other half of the class was offered lessons on nutritional options similar to those available in traditional school textbooks. Students who learned about the food industry played a tablet-based game called Make It True that gave them the opportunity to design directly in conventional ads, adding or correcting them with their own inputs.



The original McDonald's ad, for example, featured an imposing Big Mac with the message "WHAT YOU WANT WHEN YOU ASK FOR SALAD" overlaid. Next, a student scribbled "WHAT YOU WANT WHEN YOU ASK FOR SALAD MUST BE SALAD."



And they did the same with other types of unhealthy products.



When the researchers returned within two weeks, and again at three months, both boys and girls exposed to the Make it True format consistently rated the unhealthiest food advertisements more negatively, and the images of the healthiest ones, such as fruits and vegetables, more positively than those of the other group. In addition, an anonymous analysis of the school cafeteria records showed that they reduced their purchases of unhealthy snacks and drinks by 31% during that time.

The novelty of this approach, presented in the study *"A Values-Alignment Intervention Protects Adolescents from the Effects of Food Marketing"*, is that it is based on values that are well known and meaningful to teenagers: the desire to rebel against authority and a strong desire for justice and equity. This type of approach, therefore, resonated in this group and promoted critical reflection about what they eat according to their values and beliefs.

More information on the study at: <https://www.fastcompany.com/90338482/how-to-get-teens-to-give-up-junk-food-tell-theyre-victims-of-corporate-manipulation?platform=hootsuite>

Identify potential environmental supports and social interactions that will encourage actions for change

Understanding the environmental and social interaction conditions that favor or prevent the adoption of healthy eating practices by the individual or group is essential to be able to design interventions that consider people's reality.



The question we should ask is:

What environmental and social interactions will encourage action for change?

In order to help answer this question, we may also want to have information about:

The social environment:

- How is the structure of the home?
- Who is responsible for buying and preparing food?
- Does the person have the necessary cultural and social support to maintain the behavior change after it is implemented?

Physical environment related to food:

- Are the foods that the group needs to implement the desired behaviors available to them?
- Are these foods available and accessible in their workplace or in their school cafeteria or at the local supermarket?
- Can fruits and vegetables and local or minimally processed foods be easily accessible?
- How is the environment in terms of food stores, fresh markets, farmer's fairs, restaurants?
- What foods are available at the place where people eat (school, university, workplace)?

Resources:

- Do the members of the group or their family have enough money to pay for the foods selected in the intervention?
- Do they have kitchens or refrigerators?
- Do they have access to food assistance programs?
- Do food prices in the neighborhood support the desired behavior changes?
- What are their time limitations?
- Do they have transportation to and from stores?

This information can be collected through secondary data, interviews, focus groups, field visits, observation.

Other information and elements that should be considered in the planning are related to the “practical” aspects of the intervention, such as:

- human and financial resources available;
- possibility of collaboration with other partners (key players, institutions);
- duration of the intervention (how many sessions);
- duration of each session;
- equipment and space available;
- target audience: if it will be only students, from what grade; if also the teachers, which ones? Will families also be involved, other actors?; and
- information on the target audience: age, gender, educational level, academic skills, cognitive skills (children), individuals with special needs, etc.

Prioritize potential support competences and environmental support

Next, the mediators you are going to work with should be prioritized. Contento (2007) suggests prioritizing:

1. Mediators that can be realistically addressed, considering the resources and time available.
2. Those that have greater association with the desired behavioral change, according to evidence.
3. Those who are more sensitive to educational intervention.

2.2 Designing the intervention

2.2.1 Selection of the theory/learning model and program components

Once the influences and supports for behavior change have been determined, in the previous stage, the theory will subsidize the development of educational strategies aimed at these possible mediators. Remember that the theory/learning model works as a mind map to explain why people make certain choices and how they adopt certain practices and behaviors (of health, food). Some questions to consider for the theory selection:

- **The group with whom you are going to work:** Some theories are more suitable for adults and others for children/young people.
- **Search for evidence:** It is important to look for evidence that used the same mediators that were selected in your school, such as decreasing fat-rich foods or increasing the consumption of fruits and vegetables in students.

- **Support competencies:**

- Will the intervention address only personal or also environmental support competences?

- **Educational goals:**

- What will be the educational goals of the intervention, based on the behavioral goal, the stage of motivation and the potential support competencies identified in the initial diagnosis?
- Will they be aimed at raising awareness and motivation or building skills?

Depending on the stage of motivation, some theories/learning models are more appropriate than others. For example, if the families of the students already know what they need, and are motivated to change the eating habits of their children and even their own, but do not know how to make healthier preparations, the emphasis of the intervention should be on transforming the intention into action. In this case, this implies increasing knowledge about foods, improving skills to select and prepare healthy preparations, among other things. Theories that prioritize action and self-regulation skills, such as cognitive social theory, theories of self-efficacy and self-regulation should be chosen.

2.2 Establishment of educational goals and objectives

Now is the time to set the educational goals and objectives for the influences and supports identified. Setting the objectives is essential to ensure that the activities are aimed at responding to the behavioral goals of the program/intervention. In the same way that the teacher establishes the objectives for each educational activity that he/she develops with his/her students, the objectives of each of the SFNE actions should also be established.

What are educational goals and objectives?

They are what participants are expected to be able to do in general terms (goals) and in specific terms (objectives), at the end of the activity/intervention.

Once again, in order to determine the educational goals and objectives, it is important to be clear about what is intended with the intervention: to draw attention to an issue, promoting awareness and motivation of the group, or will it be to promote the development of skills for some specific action? Or both?

It will also be important to consider whether only personal or also environmental supports will be addressed. For didactic purposes, we will exemplify only the actions aimed at personal mediators.

For each of the **support competences** prioritized, **educational objectives** must be established. These objectives must be expressed with reference to the participant/group and, therefore, can be called learning objectives.

Contento (2007) suggests that, at first, you should come up with **general educational or learning objectives**, which will guide the development of educational strategies to achieve the **behavioral goals**; and, subsequently, **specific learning objectives** should be established, which will guide the development of specific educational activities to achieve general **educational objectives**.

It is essential to understand that the educational objectives **do not define what the educator will do**, such as a salad preparation or a group discussion, or **even what the group will do**, such as a field visit. Nor do they describe the program summary.

The educational objectives define what the participant/group needs to know, feel or do in terms of behavioral competences, to achieve the behavioral goals.

Educational objectives must be **clear, specific, measurable** and **related to the fulfillment of a specific competence**, such as self-regulation, self-efficacy, ability to do something, such as understanding food labels, knowing how to select fresh seasonal foods, preparing healthy preparations using fruits and vegetables, etc. (WHO, 1993).

When thinking about the educational objective of the intervention, express it as follows: “at the end of the session, the participant/group will be able to (Place a verb, such as identify, recognize, explain, prepare).

The objectives should be expressed according to three levels of domains of learning usually used by specialists in education and psychology. When activities are expressed according to the three domains, the greater the likelihood of effectiveness.

<p>Cognitive/ Intellectual</p>	<ul style="list-style-type: none"> • Activities focused on providing information, such as “why doing” (motivation) or “how to” (instrumental) information • Verbs: define, list, describe, explain, apply, demonstrate, analyze, solve, plan, build, organize, prepare, evaluate, compare, measure, select
<p>Affective</p>	<ul style="list-style-type: none"> • Activities focused on promoting internalization, valueeiiing, motivation, predisposition, commitment • Verbs: Identify, select, use, respond, help, discuss, practice, write, complete, initiate, justify, propose, generalize, modify, relate, influence, practice, qualify, review, solve
<p>Psychomotor/ practical skills</p>	<ul style="list-style-type: none"> • Activities aimed at the adoption of practical skills, through observation, imitation, practice, exercise and training • Verbs: Manipulate, prepare, create, prepare, measure, wash, cut, demonstrate

In practice, people do not acquire each of these domains/skills separately and, in most cases, these domains overlap. For example, if we want to learn a specific motor skill, a level of prior knowledge and even emotion may be present. However, thinking about each of the domains separately helps to think of more complete strategies from a learning point of view. And, for each domain, there are specific verbs that can be used, depending on what is expected as a result of the activity/intervention.

The same step-by-step must be carried out for environmental competences when considering, for example, the students’ social environments, such as their home and the school environment, as we have already seen that, for FNE to be really effective, personal changes must be accompanied by facilitating environmental conditions.

FNE IN PRACTICE

Going back to the **behavioral goals** established in the initial diagnosis:

- >> Decrease consumption of high-fat foods, such as fried preparations, fried packages, fast-foods by students, etc.
- >> Decrease consumption of foods and drinks rich in sugar, such as candies, sodas, soda and other sugary drinks.
- >> Increase consumption of fruits and vegetables.
- >> Increase frequency and duration of physical activity practices by students.

Some **educational goals** of the intervention are suggested:

- >> Increase knowledge and awareness of students about the damages of high consumption of high-fat foods, mainly saturated and trans fats, and increase motivation to reduce their consumption.
- >> Strengthen the skills for this action through opportunities that increase their knowledge about food issues and that improve their skills related to food (selection, preparation, consumption) and self-regulation.

2.2.3 Development of educational strategies

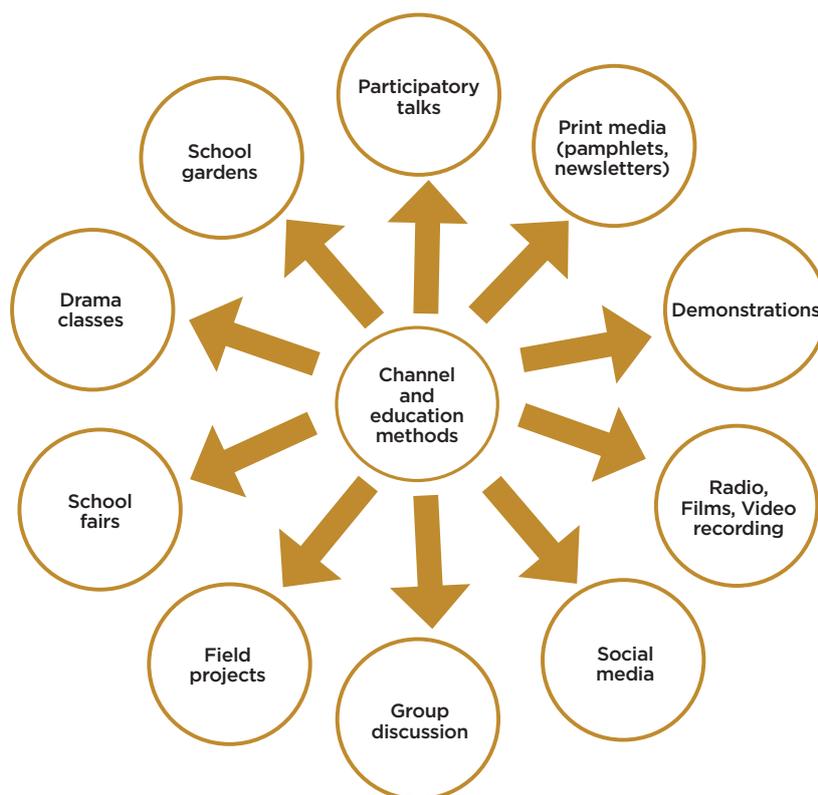
Plan educational activities

The next step is the planning and design of the educational activities. They should target the competences already identified – the support competences of motivation for action, of action-taking skills, or even the environmental supports.

It is important to consider, for this stage, several points that have already been identified in the initial diagnosis, such as:

- Available resources
- Duration of the sessions
- Equipment and spaces available
- Information about the target audience - educational level, academic skills, cognitive skills (children), individuals with special needs.

It is also important to consider which intervention channel(s) and educational methods will be used:



And whatever the media and methods selected, the important thing is that the activities:

- Are appropriate to age, cognitive and social development and local culture
- Are fun for both students and educators
- Happen inside and outside the classroom
- Generate active participation of everyone involved
- Promote learning processes and behavior changes, skills development, experiential learning and life skills.
- Are inexpensive, easy to implement and to replicate
- Fit the purpose of the whole SFNE intervention

Develop Lesson Plan

In the end, as in a “regular” educational activity of the teacher, all information must be reflected in a Study Plan or Lesson Plan, which must contain:

- the title of the session/activity
- the target competence/behavioral goal
- the educational goal
- the general educational objectives

- possible behavioral change support competences
- the specific educational objectives
- the activities
- learning domains
- educational strategies, messages and specific contents
- duration of the activity
- materials.

Here is an example of a Lesson Plan used by Contento (2007).

- **Title of the session/activity:** Let's eat colorful
- **Behavioral goal:** Adolescents increase their consumption of a variety of fruits and vegetables (F&V).
- **Educational goal:** Facilitate the ability to act.
- **Educational or general learning objectives:** Adolescents will know to:
 - Demonstrate greater self-efficacy to eat a variety of F&V every day.
 - Demonstrate greater knowledge and skills to incorporate F&V into their daily eating patterns.
 - Prepare action plans using skills to set goals and make decisions to increase their F&V consumption.

PHASE OF NUTRITION EDUCATION AND EDUCATIONAL GOAL	TARGET COMPETENCES FOR BEHAVIORAL CHANGE (THEORY-BASED STRATEGIES)	SPECIFIC EDUCATIONAL OBJECTIVES FOR MEDIATOR (AT THE END OF THE SESSION, THE INDIVIDUAL WILL KNOW)	REVIEW LEARNING DOMAIN: LEVEL	EDUCATIONAL STRATEGIES, LEARNING EXPERIENCES, SPECIFIC MESSAGES OR CONTENTS
<p>Phase: Action</p> <p>Educational goal:</p> <p>Facilitate the ability to act (focus on how- to/ practical information)</p>	<p>Behavioral capabilities</p> <p>How-to knowledge:</p> <p>Food and nutrition related knowledge and cognitive skills</p>	<p>Indicate the key reasons to eat a variety of fruits and vegetables</p> <p>Compare the nutrient content of fruit and vegetable snacks with processed and packed high energy snacks</p>	<p>Cognitive domain: comprehension level</p> <p>Cognitive domain: evaluation level</p>	<p>Review the reasons for eating a variety of fruits and vegetables; key nutrients, health benefits and need to consume variety</p> <p>Show high-energy packaged snacks commonly consumed; worksheet for students to calculate and compare fat and vitamin C content with F&V</p>
	<p>How-to knowledge: Food skills</p>	<p>Describe how these F&V can be used in meals and as snacks.</p> <p>Prepare simple recipes using F&V</p> <p>Express satisfaction when trying new F&V</p>	<p>Cognitive domain: application level</p> <p>Psychomotor domain: imitation level</p> <p>Affective domain: valuing level</p>	<p>Present tips on how to use F&V in meals and snacks</p> <p>Provide cooking experiences</p> <p>Students eat snacks and meals they prepared</p>
	<p>Goal setting Personal action goals</p>	<p>State clear personal action goals to eat more F&V</p> <p>Develop an action plan to eat all the colors of F&V during a given week</p>	<p>Cognitive domain: application level</p> <p>Affective domain: valuing level</p> <p>Cognitive domain: application level</p> <p>Affective domain: valuing level</p>	<p>Teach skills for setting goals and for developing action plans to achieve personal action goals</p> <p>Worksheet for action plan to eat all colors during the following week</p>

2.3 Evaluation of the intervention

The evaluation of activities, projects and interventions is complex, which requires specific and deep knowledge and skills on the topic “evaluation”. There are courses dedicated exclusively to this subject. Here we will give you a general idea so you can begin planning how to evaluate the activities.

In your opinion, what does evaluate mean and why do it?

There are several types and definitions of evaluation. In general, the evaluation involves the collection of qualitative and quantitative data and their analysis and interpretation in order to make judgments and decisions.

At the beginning of the unit, we already addressed the diagnostic evaluation. To simplify this section, we will provide a brief summary of the formative, process and summative evaluations. Depending on the reference, some definitions may be a little different.

FORMATIVE EVALUATION	PROCESS EVALUTATION	SUMMATIVE EVALUATION (results and impact)
<p>WHAT FOR?</p> <ul style="list-style-type: none"> Evaluate a program or activity during its development to make improvements Helps refine or improve a program/ activity according to progress <p>WHEN?</p> <ul style="list-style-type: none"> When starting a new program To help in the early stages of program development <p>EXAMPLES</p> <ul style="list-style-type: none"> How well is the activity being delivered? What strategies can we use to improve? Did the public understand the messages? Pilot and review the components and contents Review methodology and educational materials 	<p>WHAT FOR?</p> <ul style="list-style-type: none"> Monitors the implementation of the program Determine if specific program strategies were implemented as planned <p>WHEN?</p> <ul style="list-style-type: none"> To determine what worked and what didn't work, why didn't it work? To address inefficiencies in program delivery To accurately represent the operations of the program to third parties (for example, for replication elsewhere) <p>EXAMPLES</p> <ul style="list-style-type: none"> How many people participated? The participants liked the environment, the methodology, the activities, the educator? 	<p>DEFINITION</p> <ul style="list-style-type: none"> Establishes and measures the benefits (effects) of the program/ intervention It focuses on changes in understanding, attitudes, behaviors and practices that result from program activities Evaluation of results: measures if the changes occurred <p>WHEN?</p> <ul style="list-style-type: none"> At the end of the intervention / program <p>EXAMPLES</p> <ul style="list-style-type: none"> Did the intervention achieve the expected goals and objectives?

Sources: WHO (1993); FAO (1997); Contento (2007).

All types of evaluations are equally important and should be designed from the beginning of the intervention planning. Many times, due to lack of knowledge or resources, only the summative evaluation is performed, which is not enough to understand why the expected results were not achieved.

FNE IN PRACTICE

In a school, a sequence of educational sessions was designed and implemented with families.

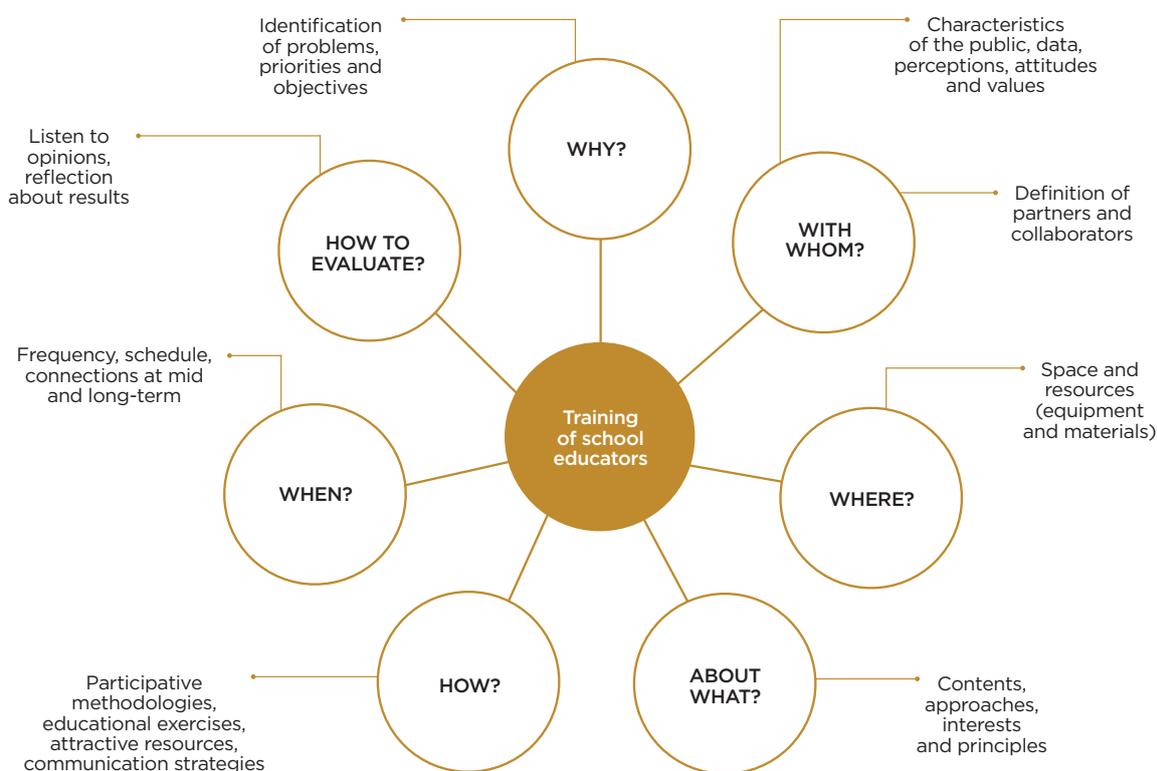
In principle, the activities were implemented as planned. However, the summative evaluation showed that the expected results were not achieved as planned.

If the process evaluation had been carried out properly, it would have been possible to identify that a large number of participants did not attend all the sessions because they did not have the financial resources for transportation. This fact was probably not identified in the diagnostic evaluation and, in the end, the reason why the results of the intervention were not accomplished was not because of its technical quality, but because of logistical issues that could have been remedied from the beginning, with the provision of financial support to the participants of the group, for example.

3. CONCLUSION

For the implementation of effective interventions and programs of FNE, it is necessary to comply with methodological and technical criteria that ensure the quality, usefulness and replicability of the actions.

In unit 6, we discussed how the planning of FNE projects/ programs/ actions sensitive to the needs and realities of the public and the community with which we are going to work should be. The figure below summarizes the planning process:



Source: Adapted from MDS (2018). Princípios e Práticas para Educação Alimentar e Nutricional.

The planning process of the SFNE intervention should be as participatory as possible and include the stages of diagnosis, design, implementation and evaluation, all equally important. A well-conducted initial diagnosis and monitoring and evaluation carried out during all stages of the process will contribute to the identification of the reality, the demands and particularities of the group and the community, while allowing feedback and timely adjustments throughout the process.

The actions developed must be related to the established educational and learning objectives.

The final evaluation identifies if what was expected was actually achieved and, in addition, subsidizes the changes necessary for the refinement of the intervention, showing that the planning, implementation and evaluation processes are cyclical.

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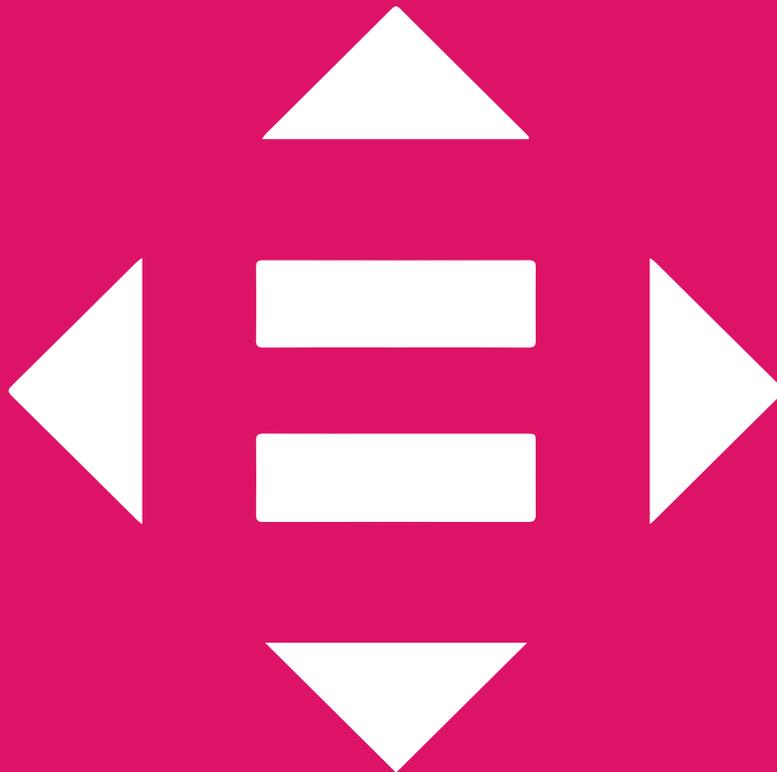
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MODULE 4

Educational strategies of school food and nutrition education

10



REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

The international community has made significant strides towards lifting people out of poverty. However, inequality persists and large disparities remain regarding access to health and education services and other assets.

Economic growth is not sufficient to reduce poverty if it is not inclusive and if it does not involve the three dimensions of sustainable development – economic, social and environmental.

To reduce inequality, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations. Greater emphasis will need to be placed on reducing inequalities in income as well as those based on other factors. Additional efforts are needed to increase zero-tariff access for exports from least developed countries and developing countries, and assistance to least developed countries and small island developing States.

UNIT 8

IMPLEMENTING SCHOOL FOOD AND NUTRITION EDUCATION IN THE SCHOOL CURRICULUM

OBJECTIVES:

Upon completion of this unit, you will be able to:

- develop age-appropriate school food and nutrition education (SFNE) activities, considering the development skills and abilities of the students; and
- give examples of educational strategies and teaching resources for SFNE.

1. INTRODUCTION

Throughout this course, we have seen the enormous potential of the school environment, of school feeding programs (SFP) and of food and nutrition education (FNE) initiatives to promote food and nutrition security (FNS) and the human right to adequate food of the students, as well as the fulfillment of several of the Sustainable Development Goals (SDG) of the communities.

It is important to mention that there are many possibilities for effective and integrated SFNE initiatives that will ultimately affect the SFP, and that they do not necessarily have to target students and the school. They can be carried out in other locations - referred to as Study Units (SU) in this course - and with other actors, such as the student's family, program managers and representatives, family (smallholder) farmers and with any other group of actors/institution deemed important, depending on the reality and needs of each locality.

Equally important, is that these FNE actions should always be accompanied by other strategies of promotion of healthy environments and healthy living for all, such as regulation of foods sold, of food labelling and advertising, fiscal policies, etc.

In unit 7, we discussed how the planning of FNE projects/programs/actions should be in order that they are sensitive to the needs and realities of the public and the community with which one is going to work. You can also use the following additional questions to help you with the planning of your activities.

PLANNING COMPONENTS	DESCRIPTION	IMPORTANT
What?	<ul style="list-style-type: none"> Based on the diagnosis information, collectively define the object of study 	<ul style="list-style-type: none"> Define a clear, viable, precise object of study that allows you to develop activities that will contribute to the solution or improvement of the situation/problem identified
Why?	<ul style="list-style-type: none"> Justify the selection of this object of study. What are the antecedents that led me to define this object? Why this object, and not another? 	<ul style="list-style-type: none"> Consider that you are planning an activity that should be implemented within the timeframe of this training Consider the sustainability of the activity and benefits to the SU
What is expected at the end?	<ul style="list-style-type: none"> Define the immediate results expected with this activity 	<ul style="list-style-type: none"> Define viable results, that are possible to be achieved with this intervention
What for?	<ul style="list-style-type: none"> Define the purpose. What is expected to be achieved with this activity? 	<ul style="list-style-type: none"> Think about future follow-up possibilities
With whom? For whom?	<ul style="list-style-type: none"> Identify the individuals directly benefited by the activity Identify other key players of the SL, and partners 	<ul style="list-style-type: none"> Use appropriate language for each group of individuals Seek to identify elements such as gender, age range, academic level, role of participants, other aspects that seem pertinent
Where?	<ul style="list-style-type: none"> Identify the place where the activity can take place 	<ul style="list-style-type: none"> Observe if the space is adequate, comfortable, if it counts with the necessary resources and what will the necessary logistics be
How?	<ul style="list-style-type: none"> Define one or more participatory, fun and behaviorally-based methodologies 	<ul style="list-style-type: none"> Use children and youth-friendly educational strategies Use attractive and quality educational resources Use appropriate communication strategies
When?	<ul style="list-style-type: none"> Define the frequency of the planned actions 	<ul style="list-style-type: none"> Think about the number of sessions you will plan Suggest continuity of actions
How to evaluate?	<ul style="list-style-type: none"> Prepare a simple evaluation form for this activity 	<ul style="list-style-type: none"> It is essential to take a moment to listen to the individuals/groups about the FNE activity and to promote reflection about the results, the achievement of objectives, its continuity, and about other elements that should be considered for the future

When you visit the school or other SU for the initial diagnosis, you will have the opportunity to observe, learn more and collect various information to start identifying the situation/ needs/ problems of interest that will be the object of your FNE intervention.

In the initial stages of the planning process, it is important to identify both the situation and the public that will be prioritized, the behaviors and eating practices that led to this need(s) or situation(s) in the group, as well as the behavioral goals and the educational and learning objectives. Having all this information, you may also move on with the process and start defining the other elements of the planning presented in the table above.

The next step will be to define the **How?**

There are already very good materials developed and, often times, we don't have to reinvent the wheel, as it is possible to adapt what already exists, both in relation to the methodology, as well as to the materials themselves; especially when time and resources are limited.

Thus, the idea of this unit is to share with you a few great references - manuals, guides, websites – that addresses two main points:

1. How to introduce SFNE and the topics related to food and nutrition in the school curriculum.
2. Educational methodologies and teaching resources that consider food and nutrition in its different dimensions, making the connection between school feeding, food and nutrition, education, health, culture, FNS and the environment.

2. RESOURCES ON FOOD AND NUTRITION EDUCATION

In unit 7 we presented an example of a Class Plan used by Contento (2007), which reflected the educational objectives, that is, what the individual is expected to be able to do at the end of the activity, and some specific contents and educational strategies.

We thought it would be quite useful to share with you a few other references, more precisely, curricula, that are specific to competencies or learning objectives related to nutrition and SFNE, according to the different school grade levels; and also, curricula that show how to link the topics related to food, nutrition, health and environment to traditional curriculum core subjects.

2.1 School food and nutrition education in the curriculum

The materials presented here provide practical examples that will help you plan and include, in the curriculum, activities that are appropriate for different age ranges and cognitive skills of children and youth, which can be easily adapted to any reality, country and language.

It is important to emphasize that, in order to achieve behavioral changes, it is not enough that the subject is present in the curriculum or presented to students as an additional content that will be assessed later on. It needs to be understood, apprehended, incorporated and become part of the personal and collective culture. In this case, the reflection on and incorporation of the issues of food and nutrition by school educators and the school community is essential.

2.1.1 Materials presenting competences or learning objectives related to nutrition

As a traditional school curriculum, for each topic/sub topic, the skills that students of a certain grade will have the ability to understand, acquire and practice are defined. These definitions are important because they serve as an orientation guide.

CLASSROOM CURRICULUM CHART. LEARNING OBJECTIVES FOR NUTRITION EDUCATION IN PRIMARY SCHOOLS IN DEVELOPING COUNTRIES (FAO, 2005).

The table (part of it shown below) has been constructed in accordance with Piaget's principles of child development, adapting learning to the child's emerging cognitive abilities. For each topic and sub-topic, questions that students are able to respond and learning objectives according the skills they are able to develop are established, for different grade levels: a) Food and emotional development; b) Eating habits and cultural and social influences; c) Food, nutrition and personal health; d) Food supply, production, processing and distribution; e) Consumer aspects of food; f) Food preservation and storage; g) Food preparation; h) Hygiene and sanitation,

GRADES AGE GROUP		A	B
	TOPICS and SUBTOPICS	FOOD AND EMOTIONAL DEVELOPMENT 1. Sensory perception of foods ▪ development of sensory awareness ▪ children's feelings about eating, drinking and well-being 2. Food preferences ▪ trying new foods 3. Body image, self-esteem 4. Responsibility ▪ children's own responsibility ▪ social responsibility	EATING HABITS AND CULTURAL AND SOCIAL INFLUENCES 1. Eating habits and values ▪ children's own food and eating habits and values ▪ those of others/different cultural groups 2. Social significance of food and eating 3. Meals and meal patterns ▪ variation in food habits (regional, cultural, religious) ▪ history of food and eating ▪ traditional foods 4. Factors influencing own food choice (individual, psychological, environmental, socio-cultural factors) ▪ food availability and supply ▪ norms for eating behaviour, etiquette ▪ peer pressure ▪ media, advertising 5. Settings for food consumption ▪ eating times ▪ special occasions
	KEY QUESTIONS	LEARNING OBJECTIVES	LEARNING OBJECTIVES
(6-7) Grade 1 and 2	<ol style="list-style-type: none"> 1. What do I eat and drink? 2. How and when do I eat? 3. What do other people eat and drink? 4. How do I feel about eating and drinking? 5. Can I feed myself? 6. Why do I need food? 7. Where does my food and water come from? 8. How do we grow plants for food? Can I do it? 9. How can I keep food and water clean and fresh? 10. Can I help with shopping and preparing food? 11. Can I keep myself clean? 12. When must I wash my hands? 	<ol style="list-style-type: none"> 1. Sensory perception of foods ▪ to identify the taste, look, touch, sound and smell of a variety of foods and recognize them on this basis 2. Food preferences ▪ to know their own food preferences and to be aware of those of others ▪ to be aware that food is eaten for enjoyment ▪ to be prepared to try different foods 3. Body image, self-esteem ▪ to know that you are unique and special ▪ to appreciate that different persons have different body-shapes and sizes 4. Responsibility ▪ to be able to make decisions when offered simple choices ▪ to be able to feed yourself ▪ to take care of your own body 	<ol style="list-style-type: none"> 1. Eating habits and values ▪ to know their own eating habits and to be aware of those of others ▪ to describe which foods and drinks they consume ▪ to explain the importance of traditional foods ▪ to identify what other family-members at home, or friends, are eating and drinking 2. Social significance of food and eating ▪ to recognize how food relates to our culture and relates to social habits ▪ to enjoy a meal with others ▪ to participate in the work involved in preparing food 3. Meals and meal patterns ▪ to recognize the difference between meals and snacks ▪ to compare and know the difference between everyday foods and special foods (foods for festive occasions/celebrations/cultural ceremonies) 5. Settings for food consumption ▪ to identify when food is eaten during the day
(8-10) Grade 3, 4, 5	<ol style="list-style-type: none"> 1. How do foods taste? 2. What do I choose to eat and why? What do others choose? 3. What does it mean to be healthy? 4. What is a healthy lifestyle? Do I have one? 5. What does our community normally eat, when and how? 6. What do different foods give us? 7. What is a good diet? Do I have one? 8. How can we have a good diet all the year round? 9. Where do our foods come from? How are they grown/caught/processed? 10. Why are foods labelled, packaged and advertised? 11. How do I help with buying, producing, gathering and preparing food at home? 12. How do we preserve food and keep it fresh? 13. How and why should water be collected, stored, purified? How can I help? 14. When and why must we wash our hands? 	<ol style="list-style-type: none"> 1. Sensory perception of foods ▪ to correctly identify the four basic tastes (salty, sweet, sour, bitter) ▪ to be able to discuss their own feelings when eating and drinking 2. Food preferences ▪ to be prepared to broaden the range of acceptable foods 3. Body image, self-esteem ▪ to recognize different rates of physical development ▪ to respect different body shapes and sizes ▪ to identify signs of good health and ill health 4. Responsibility ▪ to be aware of how they and other children spend money on food ▪ to recognize their own role in the food and water process and in the family (food production, preparation, helping with feeding younger children, fetching water, etc.) 	<ol style="list-style-type: none"> 1. Eating habits and values ▪ to be aware of differences in the eating habits of others compared to their own ▪ to identify what food is eaten by different members of the family 3. Meals and meal patterns ▪ to be aware that different regions have different eating habits ▪ to be aware of different traditional foods, and the values attached to them ▪ to be able to describe the local diet (in terms of staple food, additions and variations) ▪ to be aware of the eating habits of grandparents, compared with their own 4. Factors influencing food choice ▪ to become aware of some of the personal factors of their own food choices 5. Settings for food consumption ▪ to identify the different social settings for food consumption in their own surroundings ▪ to recognize how many times a day they eat, and whether these are meals or snacks

This tool is part of the material Nutrition Education in Primary Schools: A Planning Guide for Curriculum Development (FAO, 2005), developed with the objective of helping to plan or redesign nutritional education programs and produce curricula for nutritional education in primary schools. Although it has been developed for developing countries, its content can be applied for schools of any country.

The table can be used separately, as a reference, or it can be used in conjunction with the other materials that contain contents and activities.

The complete table and the other materials are available at: <http://www.fao.org/3/a0333e/a0333e00.htm>

NUTRITION COMPETENCIES, from the California Department of Education (CDE, 2017). The Nutritional competencies are part of the Nutrition Education Resource Guide for California Public Schools, Kindergarten Through Grade Twelve, and they constitute a comprehensive and grade-specific structure for providing guidance in nutrition education in the classroom. They define what students should know and be able to do at each grade level to develop “nutritional literacy” and make healthy food choices. Its objective is to help educators in the design, selection, implementation and evaluation of nutrition curricula according to local priorities and needs. The competencies are aligned with health education standards, as seen in the table below.

	OVERARCHING CALIFORNIA HEALTH EDUCATION CONTENT STANDARD	OVERARCHING NUTRITION COMPETENCY STUDENTS WILL...
1	Essential health concepts: Comprehend essential concepts related to enhancing health	Essential nutrition concepts , including knowing the relationships among nutrition, physiology, and health
2	Analyzing health influences: Demonstrate the ability to analyze internal and external influences that affect health	Analyzing nutrition influences: Analyze internal and external factors influencing food choices and health outcomes
3	Accessing valid health information: Demonstrate the ability to access and analyze health information, products, and services	Accessing valid nutrition information: Demonstrate the ability to access and analyze nutrition information, products, and services and analyze the accuracy and validity of nutrition claims
4	Interpersonal communication: Demonstrate the ability to use interpersonal communication skills to enhance health	Interpersonal communication about nutrition: Demonstrate the ability to use interpersonal communication skills to optimize food choices and health outcomes
5	Decision making: Demonstrate the ability to use decision-making skills to enhance health	Decision making for nutrition choices: Demonstrate the ability to use decision-making skills to optimize food choices and health outcomes
6	Goal Setting: Demonstrate the ability to use goal-setting skills to enhance health	Goal setting for nutrition: Demonstrate the ability to use goal-setting skills to enhance nutrition and health
7	Practicing health-enhancing behaviors: Demonstrate the ability to practice behaviors that reduce risk and promote health	Practicing nutrition-enhancing behaviors: Demonstrate the ability to practice nutrition-related behaviors that reduce risk and promote health
8	Health promotion: Demonstrate the ability to promote and support personal, family, and community health	Nutrition promotion: Demonstrate the ability to promote and support a sustainable, nutritious food supply and healthy lifestyles for families and communities

According to each of these general nutritional competences, abilities and skills for different grades are established, such as:

General nutrition competence 7: Practicing health-enhancing behaviors (Demonstrate the ability to practice nutrition-related behaviors that reduce risk and promote health).

To access the *Nutrition Education Resource Guide for California Public School*, click here <https://www.cde.ca.gov/ls/nu/he/documents/nergcomplete.pdf>

KINDERGARTEN	GRADES 1-2	GRADES 3-4	GRADES 5-6	GRADES 7-8	GRADES 9-12
Select nutritious snacks	Examine the importance of eating a nutritious breakfast every day	Practice how to take personal responsibility for eating healthy foods	Identify ways to choose healthy snacks based on current research-based guidelines	Make healthy food choices in a variety of settings	Select healthy foods and beverages in a variety of settings
Demonstrate hand washing before handling or eating foods	Plan a nutritious meal Select healthy beverages Demonstrate safe practices for handling and preparing foods at school	Practice how to take personal responsibility for eating healthy foods Practice how to take personal responsibility for limiting sugar (and salt) consumption in foods, snacks, and beverages Demonstrate the preparation of a nutritious snack	Demonstrate how to prepare a healthy meal or snack using sanitary food preparation and storage practices Demonstrate the ability to balance food intake and physical activity Practice using the Nutrition Facts label and ingredient list on food products and explain how the information may help in making food choices	Demonstrate food-preparation skills to enhance the appeal, taste, and nutritional value of foods Use unit pricing to select the healthiest foods at the best prices	Demonstrate ways to purchase healthy foods within budget constraints Identify strategies for eating more fruits and vegetables. (7.3.N) Participate in school and community activities that promote fitness and health

Knowing what students are able to learn, understand, internalize and practice, it is now possible to plan to work these contents, skills and practices in activities both inside and outside the classroom.

Our vision is that a specific SFNE curricular subject should not be created; instead, all these different topics can (and should) be explored in the various regular existing core subjects, in a cross-cutting manner.

Food and nutrition are interdisciplinary topics that are best presented through an interdisciplinary approach. With food and nutrition as lenses, core subjects such as Science, Health, Social Studies and Math can be linked in an integrated way, offering a more practical and fun opportunity for the teaching- learning process, both for the students and teachers.

An integrated curriculum helps teach contents in a more realistic and relevant way for the daily life of students than a subject-based approach” (Center for Ecoliteracy, no date).

In that sense, it is important, especially when working in a cross-cutting manner, to include the different topics and contents in the curriculum, ensuring that it promotes a common thread between the core subjects to ensure a comprehensive and sequential approach to the concepts and skills, and that it makes sense to everyone (CDE, 2009).

2.2 Materials on how to integrate SFNE into the core subjects

We have already seen, in other units, that topics related to food, nutrition, FNS, culture, the environment, among others can be integrated into a variety of curricular subjects, such as Languages, Mathematics, Sciences, Chemistry, Social Sciences, Physical Education, Arts, Geography, History.

BIG IDEAS. LINKING FOOD, CULTURE, HEALTH, AND THE ENVIRONMENT: A NEW ALIGNMENT WITH ACADEMIC STANDARDS. (CENTER FOR ECOLITERACY, 2014).

To facilitate students’ understanding of the relationship between food and health, and the interconnections between food systems and the environment, this publication identifies key “big ideas” that link food, culture, health and the environment and demonstrates how they align with the new American academic standards, as shown below. This material can be easily adapted to other countries and languages.

FNE IN PRACTICE

Component: CULTURE

Big Ideas: Cultures have distinctive food patterns and behaviors that can change due to a variety of influences. Grades: 6-8

STANDARDS CONNECTIONS CROSSCUTTING CONCEPT STRAND/ COMPETENCY	ACTIVITY
Next Generation Science Standards	
Cause and effect	Choose a technology like plowing or irrigation that changed the way people produced food in ancient civilizations. Research the effects of the technology on these civilizations. What are the possible impacts of new technologies in food production today, such as genetic modification or artificial flavors and colors?
Patterns	Design and conduct a survey about favorite foods in order to explore the influence of culture on food choices. Determine the number of responses you think are necessary to be able to draw conclusions. Include members of at least two different cultural groups in your survey. Analyze the results, looking for patterns
Common Core State Standards—English Language Arts	
Speaking and Listening	Interview an elder about the ways in which foods have changed over his or her lifetime. Prior to the interview, work with a partner to craft questions to ask about social, personal, and technological factors that have influenced these changes
Writing	Write a short story about how foods might be different 20 years from now. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured sequences
National Health Education Standards	
Analyzing Health Influences	Prepare a dish or meal typical of a culture or time period your class is studying and analyze its nutrient content and health benefits. Describe the influence of culture on health beliefs, practices, and behaviors
Analyzing Nutrition Influences	Examine media messages about food and body image that are directed to preteens and young teenagers. What characteristics of youth culture are evident in the messages? (All students will demonstrate the ability to analyze internal and external factors influencing food choices and health outcomes. For Grades 5-6: Describe internal and external influences that affect food choices and physical activity. For Grades 7-8: Describe the influence of culture and media on body image)

To access to full document:

https://www.ecoliteracy.org/sites/default/files/uploads/shared_files/CEL_Big_Ideas_Alignment_K-12.pdf

Other good references that show how to include SFNE in the curriculum are:

FOOD AND CULTURE PROJECT. THE MIGRATION OF FOOD. (Center for Ecoliteracy, 2015). Grade level: 6–8. Students learn about the broad flavor profiles typical of five different regions of the world. They then investigate the origin and migration of a key ingredient of one of the flavor profiles and create posters that describe its history, cultivation and use.

<https://www.ecoliteracy.org/download/food-and-culture-project-migration-food>

2.2 Educational strategies and teaching resources

Once it has been established what will be done, why, with whom, when, with what resources, for what period of time, it is now time to plan the how. There is a wide possibility of educational strategies and resources to address the contents and promote the learning and skills planned in the curriculum. Among the educational strategies, we can mention (MDS, 2018):

• **Extended or small group conversation conference**

• **Demonstration of procedures (food hygiene, hand washing, planting of seedlings, etc.)**

• **Culinary workshops**

• **Assembly of affective maps related to the local food circuit**

• **Dramatization of everyday situations with analysis of the role of each “character” and possible changes**

• **Visits to fairs and markets**

• **Discussions with dialogues with small holder producers**

• **Exchange of traditional recipes from the family or region**

• **Creation of backyard, community and/or school gardens**

Among the educational resources, the possibilities are:

• **Foods: real, photos, drawings, plastic models**

• **Brochures, leaflets, newspaper and magazine articles, recipes**

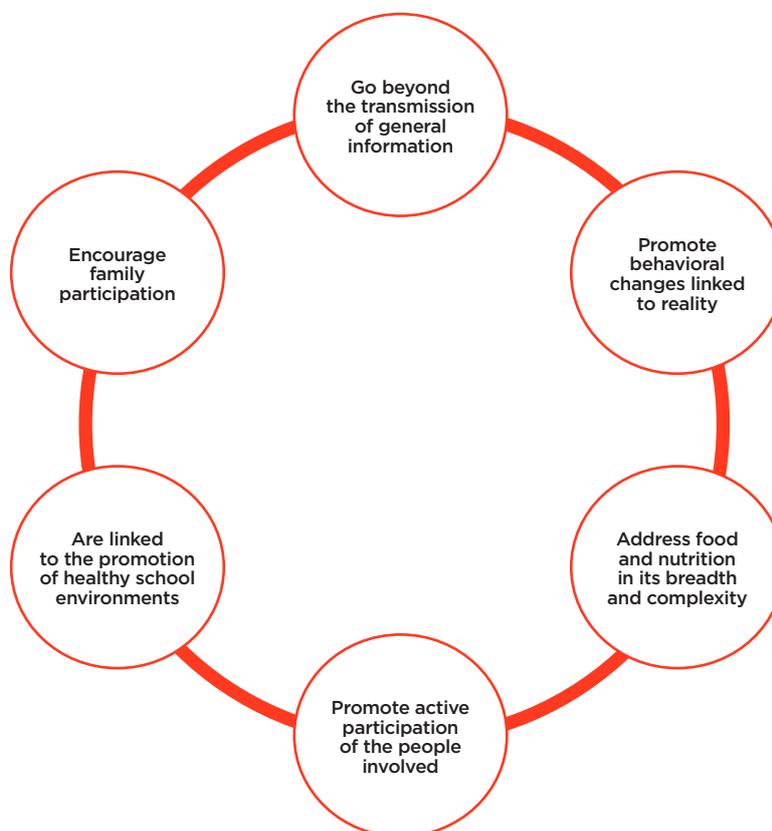
• **Websites, blogs, social networks, photos or mobile messages.**

• **Movies, music, poetry, stories, fine arts**

• **Puppets and games (puzzles, dominoes, memory) with leftovers and reusable materials**

• **Posters, murals**

Next, we will share some ideas on how to address the various topics related to food with students. Remember that it is important that strategies and teaching resources:



2.1.3 Reading

Reading stories and comics can be a very interesting way to talk to children and young people about food, nutrition and other related topics. But it is important to actively engage students, offering them the opportunity to express their opinions and promoting reflection on the reality in which they live. Also, reading can be a starting point for several other activities.

This methodology can be used to talk about any topic, in a relaxed and playful way, such as the Human Right to Food, for example, which is an important and serious issue. We have already seen that this topic gives room to talk about issues such as hunger and malnutrition, access to water, availability and access to land, regional and local food cultures, among others. Another possibility is for students to build and draw their own comics and cartoons.

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The examples below were drawn from the material *The Right to Food: A window on the World* (FAO, 2005), which tells, through eight comics, stories set in different countries and cultural situations, illustrating how the inhabitants in each country can work together to overcome similar problems related to the human right to food.

The materials (the cartoon book and activity guide) are available at: <http://www.fao.org/right-to-food/resources/resources-detail/en/c/49586/>

Trees, Fish and Orang-utans

IN A VILLAGE IN KALIMANTAN BISMATI AND MURAT ARE MEETING THEIR COUSIN JUSAF.

Hi, Jusaf! We haven't seen you for ages!

Let's go look for orang-utans in the forest! Like we used to do!

Sorry, Jusaf, there is no forest any more.

Come, we will show you what happened to it!

Seven years! It is so good to be back again!

THE CHILDREN MEET TWO FOREST RANGERS.

Why was the forest destroyed?

A logging company from Jakarta cut the trees to sell other countries and earn money. Tropical wood from our land is very valuable.

But this forest was very valuable for our community. It provided our village with so many necessary things: fruits, spices, oils, nuts.

hunting grounds.

No, it is wrong. The forest was logged illegally. See that house over there? Our community leaders had a deal with the logging company: they got a public building and the company got a permit to cut the trees.

But they cheated us. Our trees and food are gone and the community got a very small part of the money that was made from the trees.

orang-utan: a large, long-armed monkey native to Indonesia
logging: removing trees from a forest for timber

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Activities

Villagers and Loggers

Aim

To discuss what can be done to make sure that nobody is deprived of access to food

Time

30 minutes

Materials

Coloured sticky paper or cards, pens, a tree, a log or any solid object (a large rock, a chair, a bench)

How to do it

1. Divide the players into two equal teams - "villagers" and "loggers". Give each player a piece of sticky paper or a card in the colour of their team.
2. Each "logger" should write down one reason why they must continue cutting trees. Each "villager" writes one reason why they need to save the forest.
3. Ask each team to choose one person to represent them. Blindfold these two players and ask them to stand in the centre of the game area. A big solid object should be placed in front of them.
4. Set a time limit for the game.
5. At your signal, the players move up silently one by one and place their stickers on the solid object. If the blindfolded "representatives" hear somebody approaching, they point in the direction of the sound and call "Orang-utan!" The caught player starts all over again.
6. When you stop the game, count the stickers or cards and give a point for each one.
7. The "representatives" take turns reading out loud each of the reasons for and against logging and try to come to an agreement on what should be done. They should seek to be fair to both the "loggers" and the "villagers".

Reflection

What can the loggers and the community leaders do to ensure that the source of food for the villagers is respected?

How can the villagers have a say in decisions that affect their environment, income and access to food?

Resources

UNEP Tuna Initiative for Children and Youth www.unep.org/Tuna

Orangutan Foundation International www.orangutan.org

WWF Heart of Borneo Initiative www.wwf.org.uk/heartofborneo

FAO Fisheries www.fao.org/fi

Fisheries and Food Security www.fao.org/focus/e/fisheries/intro.htm

FAO Forestry www.fao.org/forestry

World Wildlife Fund www.panda.org

PÁTRIA AMADA BRASIL
BRAZILIAN GOVERNMENT

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Another example of reading resources can be the Activity Books that FAO publishes annually. They address topics such as migration, ending hunger, climate change and eating healthy, in a child-friendly format. At the end of the materials, you will find some activities.

Access the materials at:

- >> Activity Book 2016. Climate is changing. Food and agriculture must too.
<http://www.fao.org/3/a-i5685e.pdf>
- >> World Food Day Activity Book 2017. Change the future of migration.:
<http://www.fao.org/3/a-i7323e.pdf>
- >> Activity Book 2018. Working for Zero Hunger:
<http://www.fao.org/3/i9420en/i9420EN.pdf>
- >> Activity Book 2019. Eating Healthy Matters:
<http://www.fao.org/3/ca4694en/ca4694en.pdf>



2.1.4 Movie and/or advertising sessions and debate

Films and documentaries are excellent to use as a starting point to present topics and promote debate, both among children, youth and even adults.

Hold a meeting with a group of teenagers at your school and present important ideas and concepts about healthy eating, the human right to adequate food, obesity, climate change, food waste, or other related topics that you know will interest them.

Propose to some students the organization of debate sessions about movies, documentaries or even advertising campaigns that may contribute to the discussions of these issues.

FNE IN PRACTICE

Food ads

You can watch with the students some food advertising that promote sales of ultra-processed foods and drinks, such as sodas, fast food options and other high-sugary and high-fat options. After that, you can propose some questions for debate, for example:

- >> What is the role of food advertising in the food of children and adolescents?
- >> Do you think there should be any law/regulation for the advertising of unhealthy foods for children? What should this law propose?
- >> How to adopt a critical view over the food industry and ads?

2.1.5 School gardens with an educational approach

School gardens are another FNE strategy that can be implemented at schools. These spaces constitute flexible environments, real live labs, through which students are exposed to the possibilities of exploring the world, the nature, living systems and, at the same time, learning the basic academic contents through experimental and cooperative learning. We will talk a lot about these “magical” spaces in the next unit.

2.3 Websites

- **FAO Food and nutrition education:** has information and materials on the topic of FNE. <http://www.fao.org/nutrition/education/en/>
- **Center for Ecoliteracy:** A non-governmental organization from California, United States, that works with schools and community organizations to provide a wide range of ecological education services. It focuses on school gardens, school feeding, school curriculum development around ecological education, and it publishes great quality publications such as books, manuals and teaching guides. <https://www.ecoliteracy.org/>
- **World’s Largest Lesson.** In partnership with United Nations Children’s Fund (UNICEF), this website for educators present fun and interactive ways to teach students about the Sustainable Development Goals. It has a lot of free materials for educators and students. <http://worldslargestlesson.globalgoals.org/>

3. CONCLUSION

School feeding presents countless possibilities to link food, nutrition, education, health, culture, FNS and the environment, whether through the foods offered, the activities in the kitchen and lunch room, the school garden, activities with families and, especially, the SFNE initiatives. These can (and should) be carried out in various spaces and with different groups, be it at schools, the community, with program managers and representatives, among others.

In order for FNE initiatives and activities to be clearly understood, assimilated and effective, they should be tailored to the reality, needs and cognitive capacities of the individuals and group you are going to work with.

Therefore, like any other educational activity geared towards children and adolescents, one must know the skills and competences related to food and nutrition that they have the ability to acquire and develop, according to their age and/or grade level. Based on this information, it is possible to address the most varied topics related to SFNE in the different school subjects, inside and outside the classroom.

It is advisable to work on these topics in a comprehensive, integrated and cross-cutting way, through the construction of a curriculum that guarantees the sequence and coherence of the contents and skills learned, among the various core subjects.

There are innumerable possibilities of strategies, methodologies and educational resources, and the important thing is to ensure that a) they promote behavioral change, b) foster critical reflections; c) are connected to the reality of the individuals; d) are participatory e) include the whole school community and the families; f) are accompanied by positive changes in the school environment.

In the next unit, we will explore the strategy of school gardens with an education approach.

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ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

Consumption and sustainable production consist of promoting the efficient use of resources and energy, the construction of infrastructures that do not harm the environment, the improvement of access to basic services and the creation of environmentally friendly, justly paid and good labor conditions jobs. All this translates into better quality of life for all and, in addition, helps to achieve general development plans, which reduce economic, environmental and social costs that increase competitiveness and reduce poverty.

The goal of sustainable consumption and production is to use fewer resources whilst producing more and with more quality. It is about creating net gains from economic activities by reducing the use of resources, degradation and pollution, while achieving a better quality of life. Various agents participate in this process, including companies, retailers, consumers, politicians, researchers, scientists, the media and development cooperation agencies.

It is also necessary to adopt a systemic approach and achieve cooperation among the participants in the supply chain, from the producer to the final consumer. It consists of sensitizing consumers through education about sustainable livelihoods, providing them with adequate information through labeling and rules of use.

UNIT 9

SCHOOL GARDEN AS EDUCATIONAL TOOL

OBJECTIVES:

Upon completion of this unit, you will be able to:

- explain the importance of school gardens as an educational tool of food and nutrition education (FNE);
- identify the planning stages that have shown to contribute to the proper implementation and sustainability of school gardens; and
- develop an educational activity linking the school garden with the core academic subjects.

INTRODUCTION

It would be great if every school were built as a nice, pleasant, cozy space ...! The good news is that it can be possible! Imagine, in each school, a beautiful courtyard, a well-kept garden ... they are magical, transforming and collaborative spaces that can transform the reality of the people around and the local community.

These spaces constitute living laboratories that allow everyone – children, adolescents and adults - to observe, explore and experience the natural world, and understand the connections among nature, plants and foods grown, other living organisms, ecosystems and themselves.

They can reinforce teaching by offering opportunities for experiential learning. Through the garden, it is possible to incorporate an interdisciplinary and project-based approach that offers real-world contexts to explore the contents and issues addressed.

The garden also embellishes the school, especially when they have trees and flowers. Very importantly, it has been shown that school garden programs increase the consumption of fruits and vegetables by students.

Building a garden at school can be easy. The challenge is to implement, maintain and care for it properly and, above all, to have this space “incorporated and assimilated” by the school and the community and used as powerful teaching tool for the education of all.

Experience has shown that, for these spaces to be truly transformative and for people to assimilate them, it is essential that the various local actors (managers, school principal and educators, other school personnel, students and their families and other actors of the local community) are motivated and involved in the various stages of their planning, construction, implementation and maintenance, making the process collective and meaningful for everyone.

In this unit, we will discuss how school gardens can be used as educational strategies for teaching and learning and for promoting a holistic and ecological vision of the food and the world.

2. WHY USE SCHOOL GARDENS AS EDUCATIONAL TOOL?

Before continuing with the reading, we recommend that you watch the video Educating with the School Garden:

<https://www.youtube.com/watch?v=pywI3jDP5u4&t=1061s>

(This video has 51 min, because it presents three versions, one in Portuguese, and two with subtitles in English and Spanish. To access the part with subtitles in English, watch from the beginning).

The video invites us to reflect on the school garden as a rich space for learning, for social development and involvement of the whole community. We will talk more about the Educating with the School Garden Project at the end of the unit.



Is there a garden in your school?

Is it used as a supporting learning tool with the students?

Some schools may have a garden, but it is used mostly for production purposes, that is, to provide foods for the students. Often times, there is one person responsible for doing most of the work, planning what to grow, planting and harvesting, with very little or no participation of the students, teachers and the rest of the school staff.

Also, in some schools, the activities in the garden are optional and carried out outside the school period, with the aim of preparing future gardeners or farmers.

Even when teachers use the gardens as a teaching tool, their use is often sporadic, and basically as part of the Science or Biology subject. And often times, some teachers say they lack or are not familiar with educational resources to help with teaching in the garden and how to incorporate it into the regular curriculum/class plan (Skelly & Bradley, 2000).

In addition, many times the garden exists in the school, but it is not used to explore the linkages among the food, culture, environment, and neither as a school food and nutrition education (SFNE) strategy.

Certainly, the foods produced in the garden can and should be used in the meals offered, but the main purpose should be to take advantage of the potential and unlimited educational possibilities that a school garden offers and use it as a teaching and learning tool. That is why the term **school garden with an educational approach** or **educational school garden** is used.

With our Project - *Consolidation of School Feeding Programs for Latin America and the Caribbean* - we have promoted the following concept of school gardens with an educational approach:

A dynamic and interactive methodological tool for FNE that enables the construction of knowledge about the multiple dimensions of food, promotes learning in a collective way, the dissemination of sound dietary practices and the involvement and participation of families, school personnel and the community.

Educational school gardens are outdoor classrooms where:



2.1 Data on educational school gardens

Research on the effects and impacts of school garden programs is complex and often suggests additional studies with more robust experimental designs and outcome measures. However, many have shown several benefits, including:

- teachers exposed to school gardens think that gardens help students learn better (Skelly and Bradley 2000);
- adolescents who participated in a garden-based nutrition intervention increased their portions of fruits and vegetables more than students who did not participate in it (McAleese and Rankin, 2007);
- school gardens have had a positive impact on the willingness of primary school students to taste vegetables and on the taste rating of vegetables (Morgan et. Al., 2010);
- according to one review, some studies found that school gardens had a positive impact on academic outcomes, with the greatest impact on science, followed by mathematics and language arts (Williams and Dixon, 2013); and
- an evaluation that compared students in an Australian garden and culinary program with a control group showed: a) Greater willingness of children participating in the program to try new foods; b) Increases in knowledge, confidence, self-esteem and skills in the kitchen and the garden; c) That the program helped create links between schools and the community. It should be noted that the increase in food literacy occurred both in the schools of the program and in those of comparison (Block and Johnson, 2009).

3. PLANNING THE SCHOOL GARDEN

It is very important to develop a plan for the garden activities, both for the implementation of a garden in a school that does not yet have one, or for the improvement and strengthening of an existing garden. It is also essential that there is a plan to link the garden activities (planting, harvesting and maintenance) with the educational activities, as we will see throughout this unit.

One suggestion for planning a garden is to dream big and start small.

Implementing a garden requires human and financial resources, as well as an adequate physical structure, time and commitment of the school community, the school managers and of the other sectors/stakeholders involved.

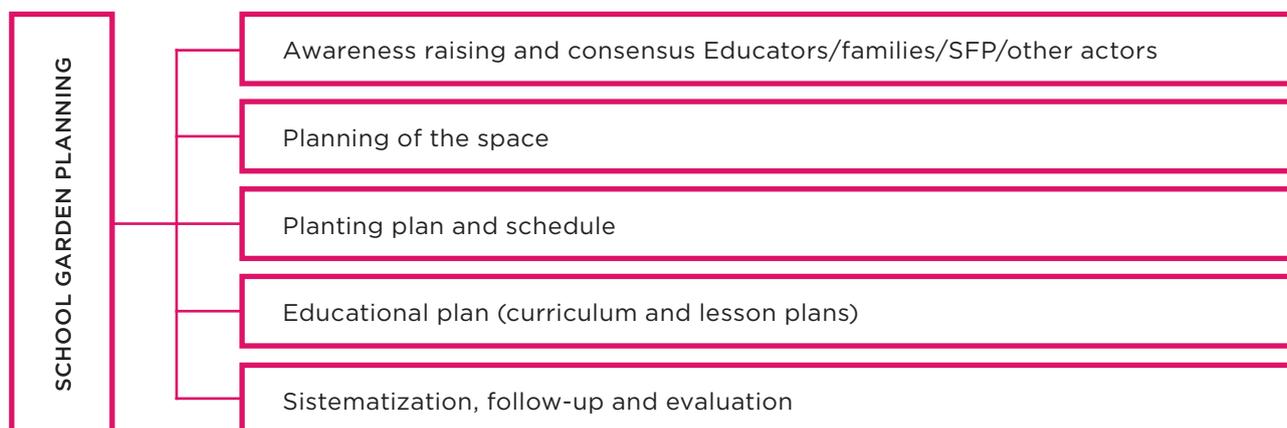
And the ultimate goal should not be only the implementation of the garden. The objective is that this space is valued, assimilated by the community and also institutionalized as an educational strategy. This usually takes time and is not very easy, but it is a process that can be beautiful and promote union around the school activities.

Sometimes, at first, you may not have all the financial resources to do everything you would like; or it may be that only the principal and one teacher are enthusiastic about it; or that only a few families adopt the garden project at the beginning. No problem, the process is like that. The important thing is to make a short, medium- and long-term planning and, as the project progresses, the garden will grow and flourish and more people will participate.

There is no single model for the design of a school garden. They can have different shapes, sizes and even different goals, depending on each school. What is fundamental is that the school community and families recognize their educational importance and understand that the garden is not a space for the students only, but that it may benefit the entire community.



Based on our experience with the implementation of educational school gardens, the planning stages we propose are:



This unit is not intended to be a detailed guide on the planning of each of these stages, but to provide general and basic information. Throughout the unit, we will share materials that can be consulted with the step-by-step and good practices of the process of implementation and use of the gardens. Next, we highlight some important elements to consider.

3.1 Involving everybody

The active participation of all actors - principal and teachers, students, other school staff, school feeding program (SFP) personnel at the local and state level, families and other members of the local community, managers of health, education, agriculture sectors - is crucial for the effectiveness and sustainability of the garden.

Some parents may not like the idea that their children “get dirty” in the garden; some may think that it is not the role of the school to encourage activities in the garden; while others may think that, since they already have a backyard garden, their children already know how to grow and harvest.

All these aspects must be considered at the time of planning as issues that can be addressed and overcome with the community.

At the same time, sometimes there isn't a strong coordination among the Ministries of Education, Health and Agriculture at national and local level to support the implementation, management and maintenance of school gardens, as well as to allow a better understanding of the integrated approach required for SFNE through school gardens.

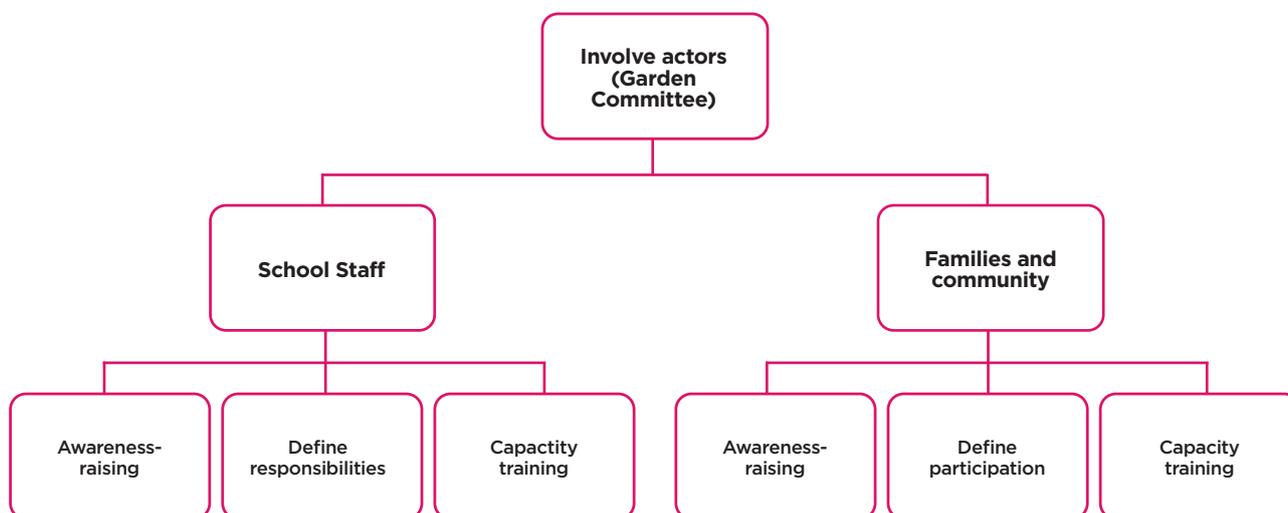
For this reason, at first, raising awareness of the potential and importance of the school garden and how this space can enrich student's learning and wellbeing, as well as promote life skills development, should motivate everybody to participate.

In this sense, a good idea is to invite all these people to school meetings so that they can be presented to the proposal of implementation or improvement of the school garden. Some schools have established a **Garden Committee**, with representatives of the main actors and institutions, and this has proven to be very effective for the implementation, maintenance and follow-up of

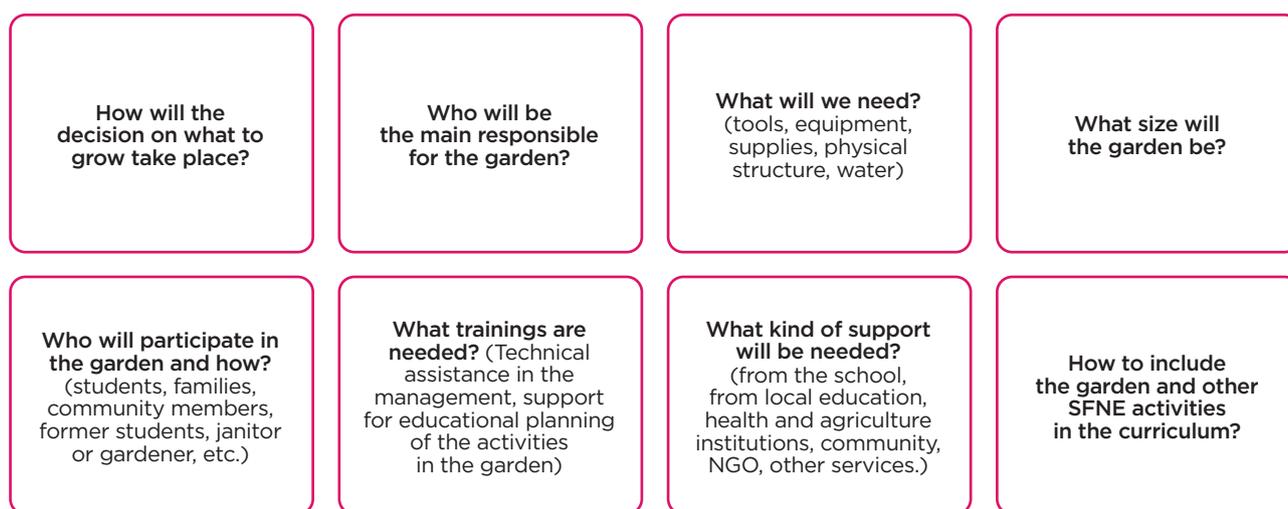


Children and mothers helping in the garden. Santa Elena School, Toledo District, Belize

the garden. Also, in order to ensure its sustainability, it is important to define responsibilities for everyone, as well as the capacity development trainings needed and the garden schedules.



The more participatory the decision processes, the more likely the garden has a true meaning, that it is valued and that people will feel connected. This will provide an opportunity for everyone to participate; will generate commitment and empowerment; and will guarantee joint responsibility and consensus on the activities and the schedules in the garden. Some issues that can be decided together:



Students are also key players in the construction, management and use of the garden. In order for them to be empowered and become active participants, it is also important to involve them in the whole planning process, such as helping decide the type and the design of the garden, what crops to plant, etc.

3.2 Defining the garden's objectives and mission statements

There is not a single model and objectives that are common to all gardens. Each school and each garden are unique. It can be very interesting to think and decide together what the objectives of the garden will be and to record them as Mission Statements. For example:

MISSION STATEMENTS

OBJECTIVES OF A SCHOOL GARDEN PROJECT FOR FIVE SCHOOLS IN RURAL ECUADOR:

- Develop children's understanding of vegetable production.
- Raise children's interest in a more varied diet.
- Help children to learn to produce vegetables.
- Produce foods appreciated by the community and adapted to the local climate.
- Give opportunities for children to consume the vegetables they grow (at school breakfast).
- Encourage children to acquire attitudes of cooperation, responsibility, self-esteem and self-confidence, motivation and the value of work. (Source: Chauliac *et al.*, 1996)



OBJECTIVES OF THE URBAN NUTRITION INITIATIVE in West Philadelphia (USA)

Our school gardens emphasize nutrition education, sustainable organic agriculture, youth entrepreneurship and neighbourhood beautification. We aim to:

- Create and sustain an interdisciplinary curriculum that focuses on improving community health.
- Improve nutritional and health status by increasing fruit and vegetable consumption in low-income communities.
- Improve the urban environment through school-based gardens.
- Facilitate school-based community health promotion projects.

Foster socio-economic development through an entrepreneurial curriculum that includes business development activities (UNI, 2001).

These and other useful information can be found in the manual **Setting up and running a school garden. A manual for teachers, parents and communities** (FAO, 2005).

<http://www.fao.org/3/a-a0218e.pdf>

3.3 Planning the space

The size and shape of the garden will depend on the space available and the type of garden desired. The beds can be directly on the floor, in different shapes, in containers, or suspended. Even if the school doesn't have much space, it can have a vertical garden or foods/herbs can be grown in vases/containers.

Gardens can also come in different types: it can be a vegetable garden; a garden of fruits and vegetables; a garden of butterflies and herbs; a garden of pollinators. The good thing about growing trees, flowers and fruit trees, in addition to vegetables, is that they embellish the garden (and the school), offer shaded areas



and allow the garden to be used all year round, regardless of the harvest season. You can also have a greenhouse, boxes of worms, composting spaces and even chicken coops.

Whatever the type of garden, the important thing is that the garden area should be a beautiful place, a space where the students feel attracted and welcomed to, a place they also helped to create, with wide paths that allows them to freely wander, observe and explore.

3.4 Using the garden in different ways

With a garden, a school can become a more charming and colorful place. Students can create murals about their experiences, make signs for the vegetable names, or they can spread the flowers they grow in their garden in different places around the school.

At a school in Santa Cruz, California, for example, students harvested flowers from the garden and placed some of them in the library and cafeteria. Others were put on a stand for sale for families, and the students decided among themselves what to do with the money collected, such as reinvest in the garden to buy tools. The whole process of discussing and making their own decisions in such a participatory manner was very enriching and contributed to teaching students how to coexist in a meaningful and productive way and to make them feel an important part of the school and the community.



**Student harvesting flowers in the garden and flowers for sale at school entrance.
Pacific Elementary School, Santa Cruz, CA, United States.**

3.5 Improving an existing garden

If your school already has a garden and wants to increase/improve the space, a simple diagnosis of what exists and what you want to do can be done. This helps to plan the space, even in the medium and long term, and to seek for resources and support in a more objective way. You can think of the following questions, based on the reality of your school:

GARDEN ELEMENTS	WHAT IS ALREADY PRESENT IN YOUR GARDEN?	WHAT DO YOU WANT IN YOUR GARDEN?
Gathering area		
Annual flowers and vegetables		
Perennial herbs, flowers, trees, or fruits		
Elements for pest control: insectary plants, row cover, netting or gopher wire		
Greenhouse or seed starting area		
Tool shed/storage		
Composting area/worm bins		
Food prep area		
Sink		
Special features: weather station, pond, art, other?		
Special features: weather station, pond, art, other?		

Source: LifeLab

4. THE GARDEN IN THE CURRICULUM

4.1 Promoting a scientific look

The gardens are real live labs, through which it is possible to boost the school curriculum, by implementing an integrated curriculum that links nutrition, health, food, culture and the SFP with the core curriculum, in a fun and practical way. In addition, because the garden offers many possibilities to reflect on, explore and experience so many topics and areas, linking it to the curriculum promotes the transdisciplinary nature of knowledge, helping to overcome the fragmented teaching and learning process that usually occurs.



When walking through the garden, students can observe, use their senses (sight, smell, touch, hearing, taste), compare, identify changes and ask about everything that is happening in that rich environment.

For example, they can plant vegetables in a sunny and shaded area and come up with hypothesis about what they think will happen. This type of activity encourages them to define problems, plan and carry out research, observe, analyze data, develop explanations and design solutions.

There is no need to bring the students to the garden with their questions and answers ready. And teachers and educators don't have to know everything either. Actually, it is important that students realize that nobody has all the answers, and that the whole process of thinking and looking for answers can be even more important and rewarding.

“The mere formulation of a problem is far more essential than its solution, which may be merely a matter of mathematical or experimental skills. To raise new questions, new possibilities, to regard old problems from a new angle requires creative imagination and marks real advances in science”. (Albert Einstein)

4.2 Establishing educational objectives

The garden should be recognized as a permanent educational tool, fully integrated into the curriculum, and not as a space that students visit from time to time or only when there is time. In addition, in the long term, the ideal is that all teachers use the garden with students of all grades.

As we saw in unit 7, it is important to be clear about the educational objectives of the activities. In the case of the garden, teachers should identify:

- What are children going to learn to do (specific, practical, behavioral skills)?
- What specific information, concepts and attitudes will they learn?
- What life skills and specific attitudes and behavior will they learn?

4.3 Linking the garden to the core subjects

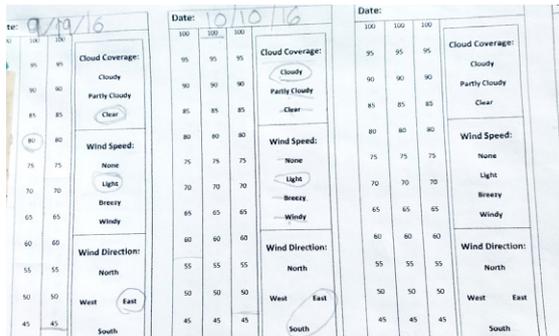
In the garden, students do not learn either Mathematics or Biology or Science, one at a time; they are learning all these different things at once and understand that they are all correlated. They also have the opportunity to learn the various subjects in a way that is connected to their real-world experiences, while exploring and reflecting on the world, nature and living systems, as well as on social and environmental issues, for example (Center for Ecoliteracy). Some of the various possibilities to link the garden with the different subjects are:

FNE IN PRACTICE

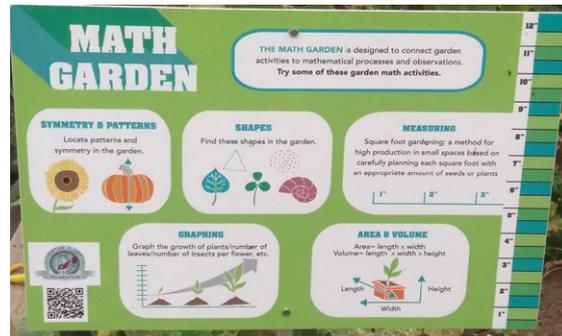
- >> **Linking the garden with language development.** Students learn new vocabulary, practice oral communication, write journals and texts. They can make a recipe book with their traditional family dishes; grow typical plants from different cultures and research and write about them, describing how it is used in other cultures. They can learn words, write texts and learn recipes in other languages.
- >> **Linking the garden with mathematics.** Students can estimate production, plan spaces, measure beds, size, weight and height of plants. Can make graphs that represent their preferences for fruits and vegetables, learn different forms, collect data and practice statistics. They can study more complex contents such as trigonometry, geometry, others.
- >> **Linking the garden with science and biology.** Students can understand and experience what an ecosystem is, the food web, the seasonality of food, different soils, growth and development of plants, cycle of energy and matter, pollination process, recycling, composting, season and weather. They can, for example, set up a weather station in the garden, with a thermometer to measure the temperature and a weather log to record the sky (clear, cloudy), the wind direction, the amount of rain.
- >> **Linking the garden with history and geography.** Students can discuss, understand and investigate the origin of foods and ingredients grown in the garden; they can learn to use maps, online resources; they can learn the concept of “local foods” and investigate local foods in their community; They can reflect and investigate all the elements involved in an industrial and local food system.

FNE IN PRACTICE (CONT.)

Garden activities at Pacific Elementary School, Santa Cruz, CA, US.



Weather log in the garden



Linking the garden with Math



Flowers and trees in the garden



Linking the garden with Biology



Student participating in the garden



Activities in the garden develop life skills and responsibility

4.4 Establishing schedule of teaching activities

The initial preparation of the garden space is labor intensive and, in our experience, whenever necessary, the schools had the support of the community, the agriculture and environment local departments and other local stakeholders.

In addition, teachers should plan to take students to the garden when it is time for gardening activities - planting, watering, pruning, harvesting - whenever possible, so they can understand and participate throughout the process of growing food and plants from the beginning to the end. If students participate only in planting and return to the garden weeks later, when the food has already been harvested, there will not be much to observe, explore, learn and practice.

In order for the teacher to plan and include the educational activities in the garden in his/her lesson plans, he/she must know, ahead of time, the crop planning and the weekly activities in the garden, that is, when it is time to prepare the beds, prune, weed, water, harvest.

That is why a close communication between the person responsible for the gardening activities and the teachers is fundamental.

The type of schedule will also depend on the type of garden. In some schools, the entire garden is used by all grades and classrooms. In that case, a common schedule among teachers may be better and more effective. When each grade or classroom has its own beds, a separate schedule can be developed. And activity schedule can also be developed to include families and other community members. Some example of schedules is given below:

SCHEDULE OF GARDEN ACTIVITIES FOR VARIOUS CLASSROOMS

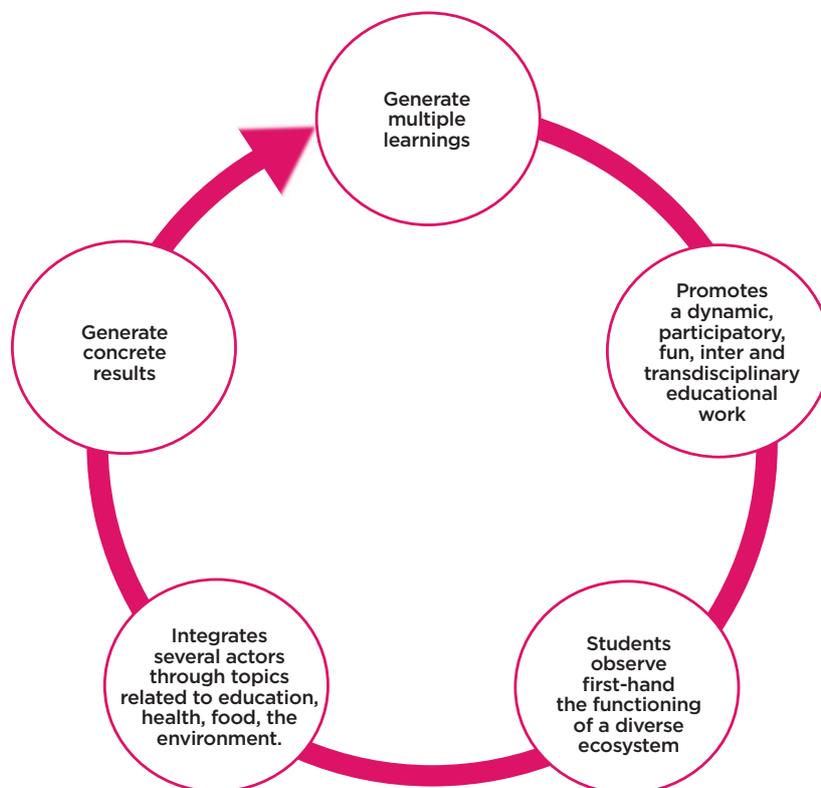
MONTH: _____

	MONDAY (DATE)	TUESDAY (DATE)	WEDNESDAY (DATE)	THURSDAY (DATE)	FRIDAY (DATE)
CLASS					
ACTIVITY					
CLASS					
ACTIVITY					
CLASS					
CLASS					
ACTIVITY					

SCHEDULE OF GARDEN ACTIVITIES FOR ONE CLASSROOM

ACTIVITIES	DATES				
PREPARE THE GROUND					
PREPARE THE SEEDING					
SOW IN THE BEDS					
WATER	everyday				
FERTILIZE					
DIG IN THE EARTH					
PULL WEEDS					
...					

It can be said about the educational school garden:



4.5 Monitoring and evaluation

As we discussed in previous units, it is essential to constantly monitor and evaluate the activities/projects, to verify how the process is going, the need for adjustments, and to verify if the expected results have been achieved.

It is recommended that a daily log of what happens in the garden is kept for follow-up purposes. This can be done by the person directly responsible for the garden, who will be in charge of daily activities or any another person chosen. This is also important to systematize the whole process, in case you want to share the experience with other schools and other stakeholders.

But it is also quite educational if students maintain a habit of keeping records in a garden journal, as a way of observing, collecting and systematizing information. This methodology will reinforce learning and contribute so that they understand the meaning and sequence of events. In addition, it also serves to showcase to parents, visitors, and the school in general. Records can be kept of how plants grow, or that a particular crop did not grow, etc. (FAO, 2007).

And there are several other elements of the garden that can be observed, evaluated, and improved:

- **Design and physical structure:** if the area is safe and easily accessible to students; if the paths allow students to walk and explore the garden properly; there is space to store equipment and supplies.
- **System:** The garden employs an effective irrigation system that is appropriate for the scale, type and purpose; the plants are healthy and there is no serious problem of pests or diseases; there is an organic management plan that effectively manages pests and diseases; how is the level of involvement of the school community, community members and managers of the different sectors.
- **Program organization:** if there is a sustainable and sufficient source of resources to ensure all components of the garden; if the garden is institutionalized in the school; if there is a garden or similar group committee active; how is the involvement of students and teachers; if the plan of responsibilities and tasks of the school community and families is adequate.
- **Education:** identify if the activities in the garden are linked to other FNE activities in the school; if the garden is linked to the various core subjects; if teachers use a wide range of instructional techniques in the garden; if all teachers have professional development in the management and education use of the garden; if the garden is used all year; if students like activities in the garden; if the garden has positive effects on the attitudes or behavior of students in a measurable way.
- **Other points:** if there has been any effect of the garden program on the consumption of specific foods by students.

These examples were drawn from the School Garden Assessment Template, from the Office of the State Superintendent of Education of Washington, DC. To have access to the full document, go to: <https://osse.dc.gov/sites/default/files/dc/sites/osse/publication/attachments/School%20Garden%20Assessment%20Template.pdf>

5. BRAZILIAN EXPERIENCE: EDUCATING WITH THE SCHOOL GARDEN PROJECT

This project (which was shown on the video shared at the beginning of the unit), was developed jointly between the National Fund for the Educational Development (FNDE) - the institution responsible for the Brazilian SFP - and FAO, based on the understanding that it is possible to promote, under the framework of the school feeding policy, the comprehensive education of chil-

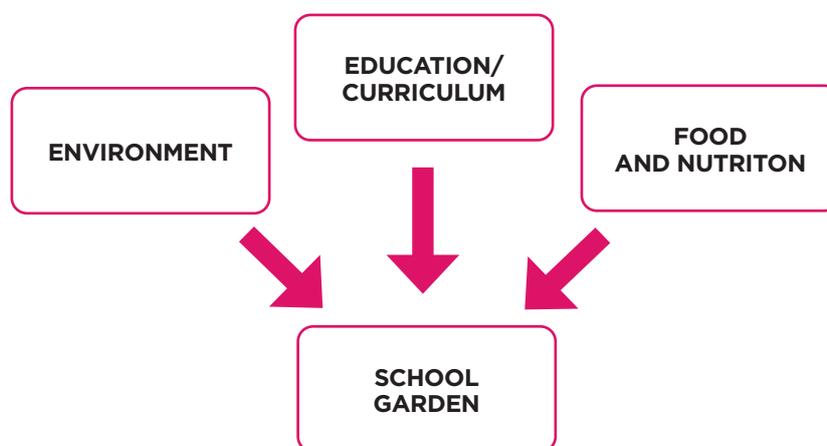
dren and young people in the schools and communities through school gardens, incorporating nutritious, healthy and environmentally sustainable foods as strategies of educational practices.

The Project started in 2005, as a pilot, and later it was extended to other municipalities in Brazil.

The Project’s objective was to train education and health professionals, as well as members of the school community, about healthy and environmentally sustainable eating, using the garden as a participatory educational tool and an activity for strengthening the school curriculum.

5.1 Project’s areas of action

The project is based on the coordination of the **education/curriculum**, **environment** and **food/nutrition** areas. These areas operate in an integrated manner in the diagnosis of each school and community, the planning and implementation of the training activities, implementation of the gardens and the monitoring, and evaluation process. It is essential that the project coordination team, at the municipal (local) and at the school level, defines its objectives and that its members work in synergy.



Education/Curriculum: The area of education is responsible for presenting the school garden as a learning tool for the development of food and nutrition, health and environmental education, incorporated in a cross-cutting manner into the school curriculum.

For that, it is necessary to adopt a conception of curriculum that encourages more dynamic practices, going beyond predefined contents, under the understanding that the school operates directly towards the formation of people. Thus, the use of the school garden for the development of activities does not constitute an additional task for the educators, but a concrete and playful possibility of converting the school and the various types of knowledge into something more pleasant and productive.

Food /Nutrition: The objective of the thematic area of nutrition is to serve as technical foundation for professionals from other areas, developing topics related to food, nutrition, FNS and all the other food dimensions that are possible to address.

Environment/School gardens: The thematic area of environment and school gardens aims at preparing the teachers in technical activities that enable the creation and implementation of school gardens, linking this subject with environmental issues.

This area offers a diversity of information, such as: a) Alternative farming techniques (vertical planting using recycled packaging such as plastic bottles, milk cartons); b) Selective garbage collection in schools for the production of compost and vermiculture; c) Production of seedlings, vegetables and medicinal plants in greenhouses; d) Recycling of various products; e) The importance of eating uncontaminated products; f) The high rate of food waste in the world; g) Rational use of water for irrigation of school gardens and rainwater harvesting from rooftops.

The “*Educating with the School Garden*” project showed that educators, when committed to challenge problems, are great allies in the discussion about issues related to FNS, healthy eating, environment, among others.

As of 2011, the project became part of the actions of the University of Brasilia and the topic of Gastronomy was incorporated into the other three.

6. RECOMMENDATIONS FOR THE SUCCESS AND SUSTAINABILITY OF THE SCHOOL GARDEN

Based on the Brazilian experience with the Educating with the School Garden Project and other references, we present some recommendations for the success of the school garden as an important educational and social development strategy for the school and the community (FAO, 2005; Hazzard et al., 2011).

Seek support from:

- local education authorities;
- the school principal;
- whole school; and
- parents, families and the community.

Promote the participation of and close contact with:

- local agriculture and health services;
- the community, for example: experts, advisors, collaborators and observers;
- a support group of committed and active people; and
- other schools that have gardens.

Promote sustainability

- link the garden to the SFP;
- be coordinated, preferably, by the Ministry of Education;
- ensure permanent financial resources for activities, supplies, equipment and training in the garden;
- promote the involvement of the school community, families and other local actors;
- start with a small garden and expand it later;
- establish and maintain a good supply of water and fences;
- use organic methods to improve and conserve soil;
- choose crops that adapt to local conditions and correspond to local traditions and eating habits, are easy to grow and conform to the calendar or school period;
- ensure the care and maintenance of the garden during holiday periods and weekends; and
- have trained and experienced teachers and assistants who are able to transmit their knowledge to others.

Motivation

- set clear objectives on which all stakeholders and actors involved have agreed on;
- continuously sensitize the school community and families about the importance of their participation in all phases of implementation, monitoring and evaluation;
- choose a person responsible for the garden who knows how to work with people and plants.
- praise, reward, and encourage children, teachers and collaborators for their work;
- disseminate the successes and show the activities carried out in the garden to the whole school, the community and programs managers; and
- promote the sense of pride, belonging, satisfaction for having achieved something, and the pleasure of cultivating the garden.

Educational value

- consider the garden as an experience and a learning tool;
- develop curriculum and Work Plan, in a participatory and collective way at the school and community level;
- integrate the garden into the curriculum;
- include students in planning, decision making, organization and dissemination of results;
- make the time dedicated to work in the garden equivalent to that of the classroom; and
- encourage observation, experimentation and data collection.

Improvement of the quality of school feeding

- link the foods produced in the garden with the menu, the development of new recipes and the inclusion of new healthier and local foods in the school feeding; and
- ensure the training of school cooks and/or volunteer mothers, and involve allied institutions such as the Ministry of Health and Health Surveillance, NGO.

Technical and pedagogical support

- have access to information, good support and technical advice;
- receive training in organic horticulture and garden management techniques;
- ongoing training of educators, kitchen and SFP staff; and
- adapt or develop appropriate materials for the trainings and classes.

7. RESOURCES

In addition to the references already shared throughout the text, there are other very good materials and websites that present ideas on how to start a garden and/or with educational activities on the garden. Next, we highlight some of them:

Documents and Manuals

Setting up and running a school garden. A manual for teachers, parents and communities (FAO, 2005). This is a very complete resource with hands-on and practical information about all the steps to plan, implement and maintain a school garden. It also provides lesson activities to be used with the students, food fact sheets of some crops with nutritional, production, care, harvesting and information and other useful tips. <http://www.fao.org/3/a-a0218e.pdf>

- **Setting up and running a school garden. Teaching tool kit (FAO, 2009).** This material aimed at educators contains many lessons which supplement and support gardening activities. The sets of lessons have been organized in roughly chronological order, with planning and decisions about what to grow followed by lessons on gardening activities and ending with evaluation and celebrations. <http://www.fao.org/tempref/docrep/fao/012/i1118e/i1118e.pdf>
- **A Vegetable Garden for All (FAO, 2013).** This manual provides a practical, methodological guide for setting up family gardens for the production of nutritious and safe food crops. It is aimed at small-scale farmers, school teachers, children, and urban and peri-urban families. This is the 5th edition, which has been developed within the framework of the Zero-Hunger Challenge (ZHC) in the Caribbean. It is adapted to Caribbean conditions, using experiences from the ZHC pilot in Antigua and Barbuda during 2013. <http://www.fao.org/3/i3556e/i3556e.pdf>

- **The GREEN Tool. Garden Resources, Education, and Environment Nexus for Well-Integrated School Gardens** (2016). This is a publication from the Laurie M. Tisch Center for Food, Education & Policy Program in Nutrition Teachers College, Columbia University, New York. The GREEN Tool comprises of a Map illustrating how and when to operationalize the 19 components needed to establish, integrate, and sustain a school garden. It was developed as part of a larger study to understand well-integrated gardens in New York City and to determine how those components work together to build toward a well-integrated garden. It also provides case-studies of school gardens. <http://healthyeatingatschool.ca/uploads/GREEN-Tool-Research-Brief.pdf>

Websites

- **The Edible Schoolyard Project:** Organization based in Berkeley, California, that promotes “edible education”, working with schools and linking school meals with school gardens, kitchens, the cafeteria and educational activities, through the development of school curricula and training of teachers, managers, cooks, nutritionists, community leaders and families. In their website, there’s also free teaching materials. <https://edibleschoolyard.org/>
- **Life Lab:** A non-governmental organization of Santa Cruz, California, which develops school garden programs, and works with professional development of educators, nutritionists, garden coordinators. They offer field trips to gardens and support with curriculum development. The website offers many free materials, class plans, videos. <https://www.lifelab.org/>

8. CONCLUSION

In this unit, we saw that school gardens are recognized as a potent educational tool and a great strategy to link the SFP, with food and nutrition, health, culture and the environment.

The garden brings great educational benefits, contributing a practical and meaningful learning that is connected to the real world of students and the community. In addition, school garden programs have been shown to contribute to greater consumption of fruits and vegetables, as well as improving some social skills, such as self-esteem and a sense of responsibility of the students.

We have also seen that it is possible to create an educational school garden in any space of the school, regardless of its size, shape or type of crop. The important thing is that this space is implemented in the school through participatory processes and that it is incorporated into the academic and social activities of the school.

It is essential to develop a general work plan for the garden that considers the planning of:

- a seasonal garden plan;
- maintenance activities in the garden (watering, sowing, weeding, harvesting);
- educational activities linked to the curriculum/subject areas;
- training of managers, educators, parents, cooks, volunteers and other actors;
- maintenance of the garden during holidays and vacation periods; and
- record of activities, monitoring and periodic evaluations.

Congratulations! You are almost done with the readings.

There is only unit 10 to go, which will provide you with a review of the contents addressed throughout all these units.

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STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

In order for the sustainable development agenda to be effective, alliances between governments, the private sector and civil society must be made. These alliances are built on the basis of principles and values, a shared vision and common goals that give priority to people and the planet, and are necessary at a global, regional, national and local level.

Urgent measures are needed to mobilize, redirect and take advantage of billions of dollars of private resources to generate changes in order to achieve the Sustainable Development Goals.

For example, long-term investments are needed, including direct foreign investment in key sectors and particularly in developing countries. These sectors include energy, infrastructure, transportation, information technology and communications. The public sector should establish clear guidance in this regard. The review and monitoring frameworks, regulations and incentive structures that facilitate such investments should be reformulated in order to attract investment and strengthen sustainable development. National monitoring mechanisms should also be strengthened, in particular, the higher audit/control institutions and the oversight function of the legislative branch.

UNIT 10

CONCLUSION

1. INTRODUCTION

The content of this training was built in a way to present to you a more general view, addressing concepts and the situation of the Latin American and Caribbean (LAC) region related to the advances and challenges of food and nutrition security (FNS), the fulfillment of the human right to adequate food (HRAF) in the Era of the Sustainable Development Goals (SDG).

Then, we identified how school feeding programs (SFP), the school environment and its surroundings are linked to these frameworks, highlighting these spaces as important channels for the promotion of adequate and healthy food, education, health and social and economic development of the individuals the communities. Next, we turn to a more specific look at food and nutrition education (FNE), detailing concepts, methodologies and recommendations for an effective practice of school food and nutrition education (SFNE).

The focus of this training is the SFNE linked to SFP. However, schools are not the only place where SFNE initiatives can be implemented and, apart from schools, other actors, institutions and sectors linked to school feeding also offer important opportunities to develop educational actions that, somehow, will impact students and the school community's food and life style practices. Other possibilities are program managers of the health, education and agricultural sectors at national and local level, Non-Governmental Organizations (NGO), farmers and their organizations providing to the SFP, institutions linked to the academy, among others.

It is also essential to recognize that FNE is not an activity exclusive of nutritionists. Professionals from various sectors can (and should) do it, and it is very important that they have the knowledge and experience to develop and implement actions based on appropriate methodologies. In this sense, it is worth mentioning that this course, already offered to another group of professionals of LAC, had participants from various backgrounds (nutritionists, educators, program assistants, professionals in the procurement area, audit technicians, administrative assistants, teachers, health specialists, among others), sectors (Health, Education, Agriculture, Social Development) and institutions, (NGO, Foundations, International Organizations,, Associations, Intermunicipal Councils).

It is also important to reinforce that, due to its broad dimension and complexity, the construction of healthy food environments and the implementation of FNE strategies and activities are responsibilities of the **whole society**. The schools and SFP play a fundamental role, however, they are not sufficient to combat, alone, the high levels of food and nutrition insecurity, malnu-

trition and educational problems among children and youth. Similarly, it must be recognized that there is a broad set of other factors (internal and external) that influence the school and the student's life, that should be considered in the planning and implementation of SFNE actions.

Therefore, simultaneously to an offer of healthy food in schools, it is essential to guarantee FNE for all, to discuss and regulate food advertising, labeling and fiscal policies. And equally important, families, food stores, restaurants, the food industry, community centers, governmental and non-governmental institutions, universities and the media must be actively involved in the whole process.

Next, we will provide a brief summary of the main points addressed in the modules, which will be further discussed during the face-to-face meeting.

2. SUMMARY OF THE TOPICS ADRESSED

At first, let's remember how the various elements - the fulfillment of the HRAF and the realization of FNS, adequate health, nutrition and education, quality school feeding, the development of sustainable food systems and FNE in general - are all interrelated and are fundamental for the sustainable development of the individuals and the communities:

- **The fulfillment of the HRAF implies having a multidimensional approach to food.** In order to guarantee the HRAF effectively, it is necessary to comprehend the food and the act of eating from a perspective that goes beyond their biological and nutritional aspects, recognizing their various other dimensions, such as availability, quality and adequacy, as well as sanitary quality. Other important elements should also be considered, such as: respect and appreciation of national and local food culture, food diversity, pesticide- and genetically modified organisms-free production, access to financial or natural resources such as land and water, access to adequate and reliable nutritional information, and, of course, the fulfillment of the other equally important human rights.
- **A comprehensive approach is required to reduce poverty, hunger and guarantee the HRAF.** Hunger and food and nutrition insecurity are complex phenomena, since they have multiple causes, and are directly related to poverty. The best strategy to quickly reduce poverty and hunger of the population is through a systemic approach, combining comprehensive and sustainable strategies to combat poverty and policies that guarantee FNS with direct interventions in nutrition, health, water, gender, education, agriculture, among others.

- **Transformative measures and collaborative work among countries are necessary to achieve sustainable development.** Recognizing that the eradication of poverty in all its forms and dimensions, including extreme poverty, is the biggest global challenge for sustainable development, the 2030 Agenda sets out 17 SDG for poverty eradication, the protection of the planet and the extent of prosperity for people. It is clear that the fulfillment of the SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture - will require, among other things, review policies and address issues related to the food and nutrition dimensions of food and diets, focusing on all aspects of the food chain. This implies promoting sustainable agricultural practices, through the support of family farming, equitable access to land, technology and the market.
- **Nutrition is essential for the sustainable development of people and countries.** In addition to SDG 2, nutrition is linked to all other SDG. We have seen that good nutrition is key to health, education, social and economic development, poverty reduction and inequality. In the same way, the reduction of poverty and inequality, quality education, access to social protection, water and sanitation and hygiene, agriculture and sustainable food systems and the reduction of climate change, have a huge positive impact on the nutrition results of the population.
- **Malnutrition rates, both in adults and children, are still unacceptably high.** Despite the progress made in previous years and in some regions, the rates of malnutrition - food and nutrition insecurity, undernutrition, chronic and acute malnutrition, overweight, obesity and micronutrient deficiencies - are still unacceptably high in LAC and others regions.
- **It is urgent and necessary to accelerate the process of meeting the global goals related to nutrition and chronic noncommunicable diseases.** In view of the challenges imposed, the United Nations Decade of Action on Nutrition has been established with the call for countries to increase investments in nutrition. Further, they should implement policies and programs to accelerate the implementation of the Second International Conference on Nutrition (CIN2) commitments, achieve the Global Nutrition Targets and the Global Goals for Chronic Noncommunicable Diseases (NCD), and contribute to the achievement of the SDG by 2030. The goal is to eradicate hunger and malnutrition in all its forms and reduce the burden of food-related NCDs in all age groups.
- **School feeding has already been recognized as key to the realization of the HRAF, FNS and several of the SDG.** SFP in several countries have undergone significant advances and, nowadays, constitute strategies that also have the potential to contribute, directly or indirectly, to:
 - SDG 1: End poverty in all its forms everywhere.
 - SDG 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

- SDG 3: Ensure healthy lives and promote well-being for all at all ages.
 - SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
 - SDG 5: Achieve gender equality and empower all women and girls.
 - SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
 - SDG 10: Reduce inequality within and among countries.
 - SDG 12: Ensure sustainable consumption and production patterns.
- **Due to their importance and potential, countries must plan for the sustainability of their SFP.** The elements that contribute to the development and strengthening of a sustainable SFP are:
- Broad engagement of all stakeholders involved in the SFP
 - Intersectoral and interinstitutional coordination
 - Financial capacity of governments that allows a long-term budget allocation
 - Design of an SFP that is suitable to the reality and needs of each country
 - Clear legal and regulatory frameworks that regulate the implementation, monitoring and social control of SFP
 - Provision of adequate, healthy and culturally appropriate foods to all entitled students
 - Promotion of education for food and nutrition security and for the development of healthy eating habits
 - Adequate infrastructure and equipment for the storage, preparation and consumption of food in schools
 - Participation and social control
 - Linkage with local markets and producers, especially family farming
 - Diagnosis, monitoring and evaluation systems
- **The realization of FNS and the promotion of adequate and healthy food require integrated approaches that guarantee both adequate supply and demand.** On the one hand, the strategies must be focused on promoting access to healthy food, guaranteeing its quantity, quality, diversity and safety, while promoting inclusive and sustainable development. The supply of healthy foods must be ensured, through the creation of sustainable and nutrition-sensitive food systems. In addition, effective FNE policies and initiatives must be developed and embedded into the country's education policy, and implemented at the most different levels and environments, so that individuals have personal knowledge and skills to make appropriate, more informed and responsible consumer choices. All this implies a comprehensive and coordinated approach, as well as a common agenda among the various sectors for the effective formulation, implementation and monitoring of policies of agriculture, education, health, nutrition, social development, food regulation, health surveillance, water supply and basic sanitation, prenatal care, promotion of breastfeeding, school feeding and FNE, among others.

- **Countries must adopt multiple strategies to promote the supply and consumption of healthy foods, decrease the offer foods of low nutritional content and prevent NCD.** Countries must urgently adopt multiple strategies to promote adequate and healthy food and, at the same time, to contribute to curb the consumption and sale of foods with high caloric content and low nutritional value. The application of fiscal policies, regulation of advertising and food labeling, implementation of FNE in various environments, the creation of institutional environments (such as schools) that promote healthy food, regulation of small food shops and “street foods” and the development and adequate use of Food-Based Dietary Guidelines are several of the possible strategies that have already been implemented in many countries.
- **FNE initiatives should promote quality education on food, nutrition and related aspects, critical reflection and the autonomy of individuals. This education should consider the social, environmental and structural factors that facilitate healthy behaviors and lifestyles.** FNE is a field of action of FNS and health promotion and as such, should be based on the development of personal skills and the active participation of individuals for informed, aware and responsible decision making, in terms of healthy and sustainable eating and lifestyle practices. Changing habits requires cognitive and attitudinal changes. In this sense, the strategies and actions of FNE must consider the phenomenon of food in its complexity, incorporating a more holistic vision, where the various dimensions of food and the act of eating must be worked, in coordination with the technical aspects of nutrition, always, considering the different levels of behavioral influences - individual, family/group, community/institutional and national levels.
- **For FNE to be effective, it must have a behavior-based approach, include educational strategies based on behavioral theories, relate to the reality of individuals and consider the environment, policies and coordination among the sectors involved.** Behavior-based FNE implies: a) Behavior change as a goal; b) The active participation of individuals in problem solving; c) A practical approach; d) Participation and appropriation, and an active learning process; e) Dialogue, reality, critical thinking; f) Content and activities socialized and integrated into a situation and context g) Considering not only what people know and understand, but also how their practices are determined by their attitudes and perceptions.

In addition to the individual behavior change, we should also consider support of the environments, promotion and development of policies, and collaborative work with the various sectors involved and with agro social networks.

- **FNE initiatives must be built through a systematic planning process, which will help ensure that the actions developed are aimed at the real needs and interests of**

the target audience, that they are based on clear, specific and measurable objectives and that adequate methodologies are used. For the implementation of effective interventions and programs of FNE, it is necessary to comply with methodological and technical criteria that ensure the quality, usefulness and replicability of the actions. The stages that we have proposed are those presented below, which should be adapted to the environment and to the groups to be worked with.

- **Initial diagnosis**, which involves: a) The identification and prioritization of the needs/interests and of the public/group with whom one is going to work; b) The identification and prioritization of behaviors that contribute to the need/interest identified c) The establishment of the behavioral goals of the intervention; d) The identification and prioritization of the support competences on a personal and environmental level.
- **Design of the intervention, considering:** a) The selection of the theory and components of the program; b) The establishment of educational goals and objectives, considering the cognitive/intellectual, affective and psychomotor/practical skills domains; c) The resources available and d) Different channels and intervention methods.
- **Development of educational strategies, through:** a) The planning of educational activities, which should be directed to the potential support competences identified and b) The development of the class plan.
- **Evaluation of the intervention**, through formative, process and summative assessments.

Throughout the planning, it is important that the following elements are defined: What?, Why?, What is expected at the end?, For what?, With whom?, For whom?, Where?, How?, When?, How to evaluate?

Next, we engage in a more specific analysis, remembering how the school environment, school feeding and the different SFNE strategies in schools can contribute to health, education and to healthy and more responsible lifestyle practices:

- **The school environment and school feeding have been recognized as important channels of promotion of adequate and healthy food, linked to the development of health and education of children and adolescents.** The importance of the school as an environment that promotes healthy living practices is recognized in national, regional and global frameworks. Countries must develop and implement national and local policies, regulatory frameworks and strategies that promotes a school environment conducive to healthy eating practices through: a) School feeding and school health policies and programs that stimulate healthy eating in schools; b) Regulation of the availability and advertising of foods with high content of calories, salt, sugar and fats in the kiosks/cafeterias and in the school surroundings; c) Investment of financial resources in SFP; d) Healthy, varied, local and seasonal school menus; d) Training of kiosk/cafeteria owners; e) Linkage of the SFP with the public procurement system of family farming and, of course, e) Systematic and integrated implementation of SFNE.

- **The promotion of effective and lasting healthy food and lifestyle practices in children and young people in schools requires a coordinated approach among the various components and actors.** Schools should plan for strengthening the coordination among the school environment (which includes the school feeding and its staff, the canteen/cafe-teria and the school feeding infrastructure), the school curriculum, the FSNE actions (us-ing, among the various strategies, school gardens with an educational approach, whenever possible), the families and the community, and the on-going training of educators and the entire school community in health, SFP and SFNE issues.
- **SFNE consists of coherent learning strategies, accompanied by supports in the en-vironment in order to facilitate the construction of knowledge and the practice of behaviors and skills related to healthy and responsible lifestyles.** It is essential to en-sure that school feeding contributes positively to the development of knowledge, behaviors and skills related to healthy and responsible lifestyles. It is up to the schools to promote the connection between school feeding and the different topics related to nutrition, FNS, health, and the environment, in order to contribute to the formation of individuals that are aware and critical about the world around them. By offering quality food, SFP promote the discussion of SFNE in a practical way, encourage learning conditions, and have the po-tential to demonstrate what is food and the act of eating, in their complexity, in a healthy way. Other learning moments that can be utilized are the experiences at lunchtime and the activities in the kitchen.
- **Under the framework of the foods offered, schools should take advantage of the cross-cutting aspects of food and nutrition topics to integrate them into the var-ious academic subjects of the school curriculum, in a systematic and continuous manner.** The topics related to food, school feeding, culture, health and the environment are transversal and can be integrated into the school curriculum in various subject areas, such as Math, Geography, History, Arts, Sciences. It is essential to ensure that the infor-mation is correct and based on evidence, that it is addressed by teachers during the classes, and if the skills intended to be developed in students are linked to well-being, self-care, the appreciation of diversity and empathy. In addition, to ensure continuity and linearity of the issues, it is recommended that the topics be approached systematically, which implies coordination among the academic subjects, involving the various teachers, pedagogical co-ordinators and principals. Finally, we must ensure the implementation of the activities that are in the curriculum, as planned, and that assessments are carried out to evaluate if the expected achievements were met.
- **The use of participatory educational strategies contributes to greater involvement of individuals and greater effectiveness of the SFNE actions.** Actions must be partic-ipatory and connected with the reality of the individuals and groups. Among some of the

possible strategies, we can mention: Group discussions; Practical demonstration of procedures (food hygiene, hand washing, planting of seedlings); Culinary workshops for practical experience; Assembly of maps related to the local food circuit; Dramatization of everyday situations with analysis of the role of each “character” and possible changes; Visits to fairs and markets for knowledge of food and labeling and for dialogues with producers; Exchange of traditional recipes from the family or region; Implementation of backyard, community and school gardens.

- **To ensure the effectiveness and sustainability of school gardens as powerful teaching and learning tools, careful planning of the stages of design, implementation, monitoring and evaluation is necessary, with the participation of all.** The planning and strengthening of the school garden with an educational approach should include awareness raising and involvement of all the actors (principal and teachers, students, school officials, SFP staff, families and other members of the local community, such as family farmers, program managers of the health, education, agriculture sectors - at national, state and local levels). Other elements, such as the definition of the type of garden and its objectives; space planning; the planting plan development; the preparation of the educational plan and the planning of the systematization, monitoring and evaluation processes are also fundamental.
- **It is essential to sensitize and promote the participation of different actors in the SFNE actions.** Families, educators, program managers, school officials, kiosk owners and other community members, such as family farmers and food vendors around the school should participate in the SFNE activities. This commitment will not only benefit the students, but also the entire community, as they also need to develop healthy practices. In addition, teachers and school staff play a fundamental role, as they serve as role models.
- **Activities of awareness raising and capacity training for educators for effective SFNE must be guaranteed, and in a continuous way.** The professionals who have the role of implementing SFNE in a systematic, integrated and continuous way are the educators/teachers, who can (and should) have the technical support of a nutritionist. They must be permanently trained, not only with respect to the technical content on food and nutrition, but also, in relation to the strategies and pedagogical methodologies appropriate to the content, age-range of the students and established objectives. In that sense, it is recommended that these trainings be institutionalized within the Ministry of Education and, in the same way as the SFNE activities for students, they should be based on participatory, practical and problem-solving methodologies.
- **Finally, schools should plan for the effectiveness and sustainability of the SFNE strategies.** The following elements contribute to greater effectiveness and sustainability of educational activities within the framework of the SFP:

- SFNE initiatives must be embodied as systematic and continuous activities in the school health and the school feeding policies and other legal and regulatory devices.
- Coordination among local, state and national health, education, agriculture and social development policies related to school feeding.
- The educational activities must be implemented in healthy school environments (provision of healthy school meals accompanied by kiosk/cafeteria regulations and training of establishment owners, regulation of food advertising).
- Fidelity of the intervention as planned through the use of a standardized protocol that can be replicated.
- Continuous training of program managers and school community in the process of food supply and SFNE in all its dimensions and complexities.
- Approach oriented towards the active participation of students, ensuring that they develop specific competencies for acting, reacting and interacting in real-life environments.
- Involvement of all those who directly influence the dietary practices of students, in particular the family, the school in general, teachers and the community.
- Promotion of reflection on the parameters of a healthy and adequate diet and other associated topics.
- Promotion of the appreciation of regional food and cultural habits
- Encouragement and promotion for procurement of healthy, organic and/or agroecological foods from family farming.
- Continuous monitoring and evaluation of the SFP and FNE activities.
- On-going monitoring of the nutritional status of students.

3. WHAT'S NEXT?

Before we wrap-up with these contents, we would like to highlight a few important points:

It is essential to recognize that FNE is not an exclusive activity of nutritionists. Professionals from various sectors can (and should) do it and, therefore, it is very important that they possess the knowledge and experience to develop and implement actions based on appropriate methodologies.

It is also worth mentioning that, given the importance and complexity of all the issues discussed in this course, the construction of healthy environments and the implementation of FNE strategies and activities are responsibilities of the **whole society**. This is everyone's great challenge!

Schools and SFP play a fundamental role; however, they are not enough, by themselves, to fight the high rates of food and nutritional insecurity and malnutrition among children and adolescents. Similarly, it must be recognized that there is a set of elements that make up the

school environment and the student’s life, such as their cultural, social and economic environment, the food industry, access to (un)healthy food, among others.

Therefore, simultaneously to an offer of healthy food in schools, it is essential to guarantee FNE for all, to discuss and regulate food advertising, labeling and fiscal policies. And, equally important, families, food stores, restaurants, the food industry, community centers, governmental and non-governmental institutions, universities and the media must be actively involved in the process.

Very soon, we will all meet at the face-to-face meeting. This event aims at promoting reflection, discussions, and experience sharing among the participants about all the topics addressed in throughout the units.

In addition, during the meeting, you will also have the opportunity to discuss and develop a practical proposal of a FNE activity to be implemented at a school or another location of your choice, always considering that it should, ultimately, benefit the SFP of your community/country. The idea is that you apply the knowledge accumulated throughout the readings and the discussions when planning and implementing your FNE intervention.

It is worth considering that the learning process offered through this course will allow you, participants, to internalize the new information and convert it into useful knowledge for the SFP scenario in your country.

Each one will take experiences and visions (re)built through the readings and activities carried out in the group environment, during the face-to-face meeting, and during the field work. We hope that the knowledge built by each one will become inputs to follow-up the processes that are instituted in each country and, more than this, that it may favour new ways to move forward with the SFP and the FNE policy.

We are certain that, from your most qualified SFNE intervention, there will be possibilities to strengthen capacities installed in the governments, in the schools and other Study Units to advance towards more structured programs, to reach a greater number of benefited students, to better produce education and health indicators, and, consequently, to go one step further towards social development for your country.

Finally, we recommend that you take advantage of the potential of this large and varied network of professionals of which you are a part, to become multipliers of this training in your work environments, and to potentiate the promotion of the human right to adequate food, of FNS, and of the health and social development of children.