



Food systems and COVID-19 in Latin America and the Caribbean: Food consumption patterns and malnutrition

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1. Editorial



The COVID-19 pandemic points out some changes in the consumption patterns of the population. It appears that consumers have tended to prefer less nutritious, less fresh and more economical diets. Such a decision could be explained by a significant decrease in household income and the mobility restrictions imposed to prevent the spread of the novel coronavirus.

We know that poor nutrition implies a higher risk of disease. In Latin America and the Caribbean, we have recently seen alarming figures of malnutrition due to overweight, obesity and undernutrition. This is an even more serious public health issue in times of pandemic, since COVID-19, according to available evidence, is especially dangerous for overweight and obese people.

Healthy eating minimises the risk of disease. That hasn't changed during the pandemic. Governments' initiatives must, therefore, aim at a healthier diet, ensuring access to fresh and nutritious products for people, promoting communication campaigns that value healthy eating and, finally, facilitating the marketing of fresh and quality products produced locally by small and medium producers.

Governments must protect short circuits – such as free trade fairs – because of the many benefits for family farming, retailing and consumers. It will always be preferable to provide retail markets with the necessary personal protective equipment, rather than shutting them down, which undermines the ability of producers to market their products and consumers to access fresh and healthy food at a fair price.

2. Key messages



- Food consumption patterns have changed as the COVID-19 pandemic has progressed.
- There is an increase in the consumption of canned, packaged and non-perishable products, probably because they can be kept for long periods in the home.
- Such products are generally less expensive than fresh ones. They are physically more accessible, thus becoming the primary option for the population whose purchasing power is being severely affected by the COVID-19 crisis.
- An increase in the consumption of highly and ultra-processed non-perishable products is observed, with high levels of sugar, saturated fats, sodium and calories.
- Overweight and obesity, and the chronic diseases associated with these conditions, increase the chances of having a severe case of COVID-19 – if the infection occurs.
- In contrast, a healthy diet – comprising a wide range of nutrient-rich foods – contributes to a well-functioning immune system.
- There is a vicious circle between the pandemic and malnutrition. As the impact and duration of the COVID-19 crisis extend, malnutrition problems increase, and so does the health vulnerability to the disease itself.
- Regular food delivery programs through schools and clinics should be strengthened by modifying the form of delivery.
- The emergency assistance programs implemented since the beginning of COVID-19 should aim to ensure an adequate nutritional intake, especially among those who have been most affected.
- There is a need to ensure the functioning of the supply chain, with emphasis on small and medium producers, who are the main suppliers of fresh and healthy food.
- Empowered, aware and connected consumers are also needed; consumers who are capable of taking actions for healthy eating.



3. Impact of COVID-19 on food consumption patterns and malnutrition



The COVID-19 pandemic has affected food consumption in various ways. One of them is the increase in the consumption of high-calorie products (fried foods, desserts) as well as canned, packaged and less perishable products (Landaeta-Díaz and González-Medina, 2020). This effect draws attention to the fact that, despite being convenient and low-cost foods, they are rarely healthy, fresh and nutritious (Brooks, 2020; FAO, 2020a; Rodríguez-Osiac *et al.*, 2020).

The pandemic has exacerbated income, food and nutrition inequality in Latin America and the Caribbean. Today, the most vulnerable population has less availability and capacity to purchase food; their right to healthy food is being questioned (FAO and ECLAC, 2020a). This is a particularly worrying situation since healthy food contributes to a strong immune system (FAO, 2020a and 2020b).

Governments have prioritized the implementation of emergency social protection measures to assist the most affected people, whether through the provision of food stamps, food rations or solidarity food baskets (FAO and ECLAC, 2020b; World Bank, 2020). In many cases, the food provided by this type of assistance is beneficial. Still, it does not meet adequate nutritional requirements, as it does not include fruit, vegetables, meat or fish, the main sources of fibre, protein, healthy fats and micronutrients (UC School of Medicine, 2020).

Inadequate nutrition is known to be one of the leading causes of morbidity, mortality and disability in the world (NCD Risk Factor Collaboration, 2017). In Latin America and the Caribbean, before the pandemic, 262 million adults (59.5 percent) were overweight or obese to some degree. Besides, 4.9 million (9 percent) and 4 million (7.5 percent) children were stunted and overweight, respectively (FAO *et al.*, 2019). Indeed, approximately 600,000 adults die each year in our region from causes associated with poor nutrition (FAO *et al.*, 2019).

According to the World Food Programme (WFP), the nutritional situation in the region will worsen as a result of the pandemic (WFP, 2020a). In other words, if the crisis persists over time and its effects do not decrease, many people will have no choice but to buy cheaper food of inferior nutritional quality. There is, then, a vicious circle between malnutrition and the pandemic.

Currently, there is little quantitative information on the effect of COVID-19 on food consumption patterns and their respective individual, social and population determinants. Therefore, in this document we have used information from works in progress from high-level institutions – such as the Brazilian Agricultural Research Corporation (Embrapa) – and complemented it with qualitative data from sources such as the press and information notes.

The following figure summarises some of the potential disruptions caused by COVID-19 in the **food supply chain, food environments and consumer behaviour**, which may have negatively changed healthy eating habits (see Figure 1).

3.1. Impacts on the food supply chain

At the moment, the pandemic threatens the food supply chain, especially the fresh and healthy food chain (fruits, vegetables, legumes and fish, among others). Some of the main impacts of COVID-19 in this dimension are:

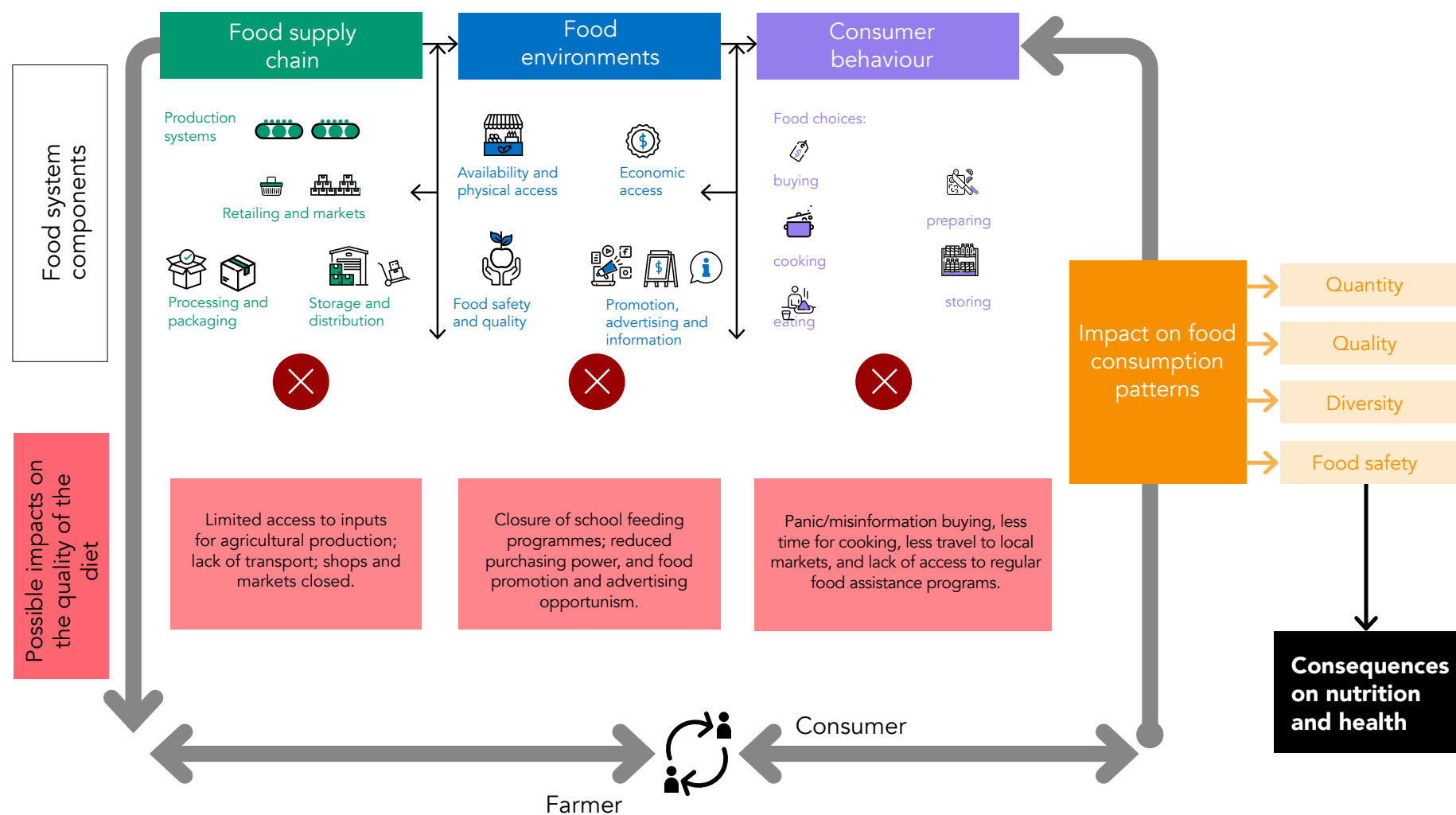
a. Limited access to productive inputs

Containment measures and restricted mobility are an obstacle, and in some cases rightly an insurmountable hurdle for farmers, as they limit their access to markets both for buying inputs and for selling fresh produce (FAO, 2020c).

Reduced availability of productive inputs and labour can affect the planting and harvesting of healthy foods in the field, especially some labour-intensive fruits and vegetables. Ultimately, farmers' productivity is severely affected by the measures.

Access to productive inputs has been made more difficult by disruptions in the importing or logistics process, or by a price increase (dealing with high prices is particularly difficult for small-scale producers).

Figure 1/ Possible impacts of COVID-19 on healthy food consumption patterns



Source: Adapted from HLPE (2017).

Concerning the workforce, although restrictive measures should not apply to workers in the agrifood sector (as provided for in many countries), many of them were prevented or had difficulty in accessing their workplaces. Less access to transport affects local workers; border closures, on the other hand, are a problem for temporary migrant workers (FAO and ECLAC, 2020d).

b. Lack of food transport

Prevailing travel restrictions pose a challenge for food transport and distribution, particularly for the transport of fresh and perishable food, without which it is not possible to follow a nutritious, diversified and healthy diet (FAO, 2020a; FAO and ECLAC, 2020e).

Family farming has been most affected by the lack of transport. Within this group of producers, rural and indigenous women have felt the effects of the pandemic most strongly, since they tend to be in charge of selling in local markets (FAO and ECLAC, 2020f).

Another critical node is the limited access of producers to local markets. Something similar happens with national supply. The closure of localities, the lack of entry and exit permits for food transporters and interruptions in roads make it difficult for food to travel from the countryside to urban wholesale and retail markets. Such measure cause significant losses of perishable and fresh food – fish, seafood, fruit and vegetables, among others – in one of the first links in the chain, transport (FAO, 2020c; FAO and ECLAC, 2020e).

Impacts on food environments

Some of the main impacts of COVID-19 on food environments that affect food consumption patterns are discussed below.

a. Closing of school feeding programs

School feeding programs (SFP) are a crucial component of policies to ensure the right to food. However, because of the closure of schools in most countries in the region, an estimated 65 million schoolchildren have had their usual form of food delivery affected (FAO, 2020d). Even though, for many of them, the breakfast and/or lunch they received at school was the main food they accessed daily.

b. Reduced purchasing power for healthy food

The effects of COVID-19 have mainly hit the most vulnerable, who have lost their jobs, income or livelihoods, making the purchase and consumption of healthy food, and even the purchase of their usual food, an additional economic challenge (CFS-HLPE, 2020; UNICEF, 2020; UNSCN, 2020).

Likewise, high prices of fresh and healthy food are one of the main challenges facing vulnerable populations in this time of crisis. Unhealthy, non-perishable foods are indeed the cheapest alternative, but they also have the most significant negative impact on the nutritional quality of diets (FAO and ECLAC, 2020c; GLOPAN, 2020; Kanter and Boza, 2020).

c. Food promotion and advertising opportunism

In many countries, markets, restaurants and cafeterias, where the consumers usually bought food, have remained closed or partially closed during the pandemic. As a result, they have been forced to change how they sell and, above all, promote their products.

Some examples of specialized marketing strategies used by restaurants, especially fast food, and the industry positioning sweetened beverages, and ultra-processed foods during this crisis are:

- free home delivery;
- donations to assistance programs and/or solidarity food deliveries;
- delivery of its products to health care personnel (today's top-rated professionals); and
- changes in their front packaging with animated characters and different motivational messages to face the crisis (for instance, "Strength", "All Together") (El Poder del Consumidor, 2020).

3.3 Impact on consumer behaviour

Consumer behaviour covers all practices related to the production, selection, purchase, preparation, storage and consumption of food by the consumer (FAO *et al.*, 2019). Two of the main impacts on this dimension are:

a. Panic buying and misinformation

The anxiety and uncertainty regarding food shortages, associated with misinformation, can lead to a behaviour called "panic buying" (Brooks, 2020). According to *The Caribbean COVID-19 Food Security and Livelihoods Impact Survey* – a survey designed by the World Food Programme (WFP) with the support of the Food and Agriculture Organization of the United Nations (FAO) – conducted by the Caribbean Community (CARICOM) in 19 Caribbean countries, nearly three-quarters of those surveyed (74 percent) stated that they were buying more food than usual (WFP, 2020b).

b. Disruption of routines

Confinement measures have disrupted daily life. For some people, today, multiple tasks coexist in a single space: work (through teleworking), child or elderly care, and housework, among others. This disruption of daily life, when added to the fear of contagion, can mean:

- less time available for cooking;
- less travel to local markets (farmer's fairs, fruit shops, fish shops);
- increased home deliveries of fast food; and
- increased consumption of prepared foods high in fat, sodium or sugars.

People may also adopt healthier lifestyles, better organise their meal planning time and cook as a family with healthy ingredients delivered from local markets (Landaeta-Díaz and González-Medina, 2020; Rodríguez-Osiac et al., 2020; UNICEF, 2020).

However, for a vast majority of the population in the region, quarantine means something radically different. Confinement means impoverishment (lack of work), an overload of domestic tasks for women, less access to healthy food or the basic food basket, and difficulties in accessing food assistance programs. Under these conditions, it seems impossible to practice healthy eating (Kanter and Boza, 2020; Rodríguez-Osiac et al., 2020).



4. Recommendations to ensure healthy eating in times of COVID-19



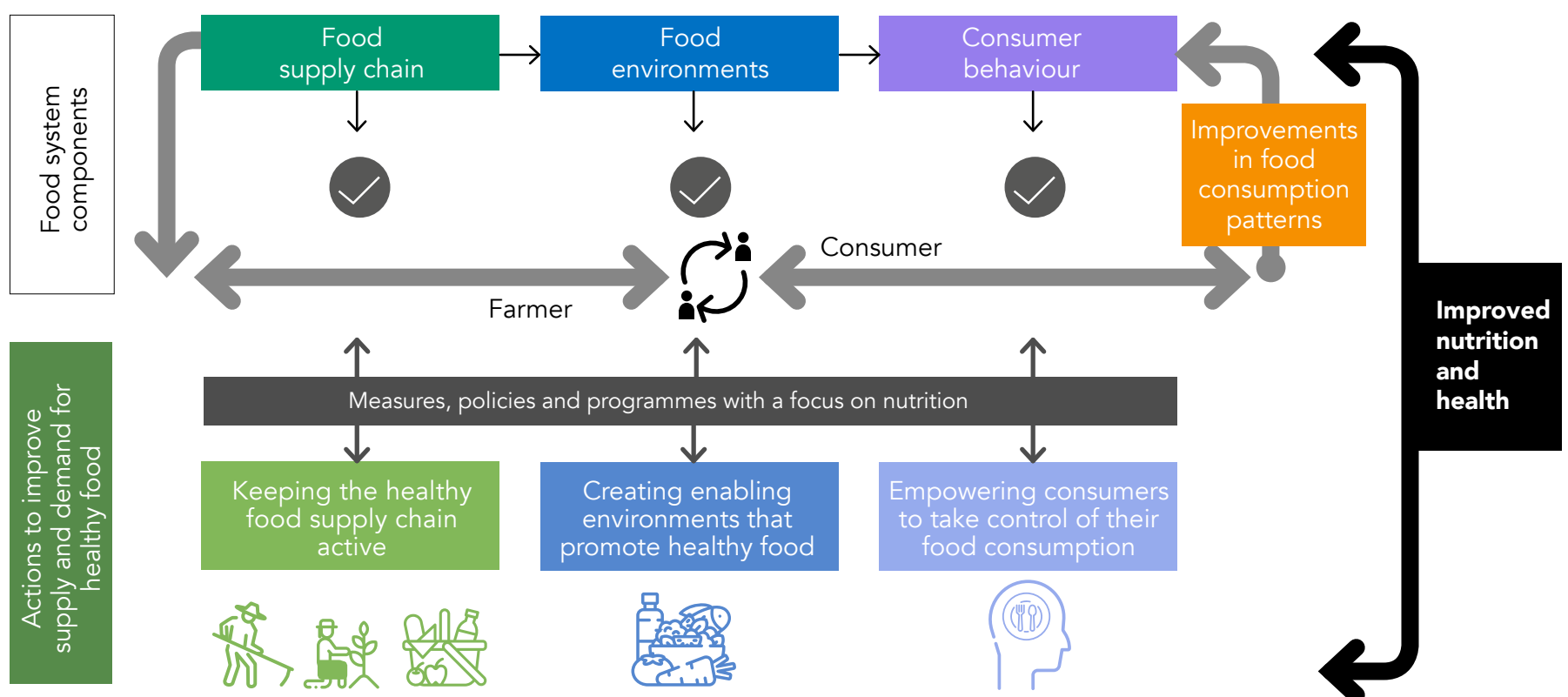
In the midst of such a pandemic, the priority of governments should be to ensure food security and nutrition, within the framework of the right to healthy and affordable food (FAO, 2020a; FAO, 2020b).

To achieve this goal, it is generally recommended to:

- Reactivate the role of multisectoral committees on nutrition. These should advocate healthy eating and ensure that nutrition is adequately reflected in national and sub-national emergency, recovery and resilience plans in the face of the impacts of COVID-19 (SUN Network, 2020).
- Support the health system in complying with health protocols in all activities to be carried out to guarantee the supply, access, promotion, purchase and consumption of healthy food (WFP, FAO and UNICEF, 2020).
- Promote community organization as an associative and supportive response to the crisis. These organizations, through donations, try to ensure adequate food and nutrition for the population that is not served by the state (pregnant and lactating women, children, older adults, indigenous communities and small farmers, among others).
- Adopt a gender approach. Women are more likely to experience declining incomes and problems of malnutrition. Therefore, there must be differentiated alternatives for groups, cooperatives or organizations of rural and farming women (UN, 2020). Also, the redistribution of housework should be promoted, and all types of labour flexibility should be provided so that women can better use their time.
- National governments must provide citizens with the means and information to make them decide to exercise their right to healthy food (FAO et al., 2019). In other words, access to food is a right and cannot be subject to political use and benefit of governments and public institutions of any nature.

Figure 2 shows a series of specific recommendations focused on nutrition, which can be integrated into elements of the food systems impacted by the COVID-19, either directly or indirectly, in the food consumption patterns of the consumer (FAO, 2017).

Figure 2/ Recommendations with a focus on nutrition to mitigate the impacts of COVID-19 and improve the availability, access, promotion and consumption of healthy food



Source: Adapted from HLPE (2017).

4.1 Keeping the healthy food supply chain active

There is a need to implement practical, innovative and safe measures that keep the food supply chain active, stimulate local production and ensure the availability of fresh and healthy food to the final consumer.

To this end, it is necessary to stimulate the production of family agriculture, small and medium-sized producers, promoting the constant demand for fresh and healthy food. Government purchases can facilitate this demand. The products purchased can be used for school feeding programmes (where they continue to operate under different modalities in many of the countries), special feeding programmes for vulnerable people (pregnant women and the elderly, for example) or immediate response food baskets. This measure has a dual function, as it also ensures a secure source of income for the rural populations, who are most vulnerable to this crisis (FAO, 2020c).

Agricultural e-commerce and "hyperlocal" supply chains have increased sharply during the COVID-19 pandemic, primarily to fill the gap in essential food supplies. During the pandemic, business-to-consumer (B2C) and *business-to-business* (B2B) e-commerce platforms have partly addressed access to perishable products such as fruits, vegetables, dairy products, meat, fish, and semi-prepared and prepared foods. In fact, B2C e-commerce has had a particular increase, both in its mobile e-commerce modalities – that is, the type that is carried out from web platforms or applications dedicated to this end – and social e-commerce, which uses a social network as a marketing platform. This type of food requires a logistically efficient and very agile process (FAO and ECLAC, 2020f).

For their part, the wholesale markets are making a huge effort to continue to function. They are changing their routines and implementing innovations in commercial terms so as not to promote disruptions in the chains.

Governments have begun to encourage local communities and citizens to increase local food production (including home and community gardens), through an appropriate stimulus package (cash and in-kind), in order to increase food resilience, minimize food waste and avoid hoarding. The idea is that all members of the community should ensure equitable access to food (World Bank, 2020; FAO, 2020c; IFPRI, 2020).

The quality and safety of food take on special relevance during the COVID-19 crisis (FAO and ECLAC, 2020d; FAO and ECLAC, 2020f). The food supply chain must ensure that the quality of products and crops being purchased, transported and distributed is efficient and, above all, safe. Similarly, special attention should be paid to the coordination and articulation of all actors in the food response, such as the operations of food banks, non-governmental organizations, community groups and private charities (Galanakis, 2020).

4.2. Creating enabling environments that promote healthy food

a. Safeguarding the food security and nutrition of schoolchildren

When educational establishments are closed, and some school feeding programmes are interrupted, it is essential to implement measures to ensure the continuity or reactivation of school feeding programmes. National and local governments are making an effort to serve the school population, with the enormous challenge of guaranteeing a healthy and nutritional diet that includes fruits and vegetables (FAO, 2020d).

To support governments in this challenge, WFP, FAO and the United Nations Children's Fund (UNICEF) have developed the following recommendations for maintaining food and nutrition for schoolchildren when educational establishments are closed or open (WFP, FAO and UNICEF, 2020).

In this regard, the Sustainable School Feeding Network (RAES, by its acronym in Spanish)¹, which brings together 23 countries in the region, has so far identified 14 countries that have continued to serve 55 million schoolchildren (out of the 65 million schoolchildren affected). The modalities of service for students are diverse and comprise home deliveries to each family, cash transfers, food vouchers and food baskets to be picked up at schools by a tutor.

¹ The Sustainable School Feeding Network (RAES, by its acronym in Spanish) has the support of the Regional Office for Latin America and the Caribbean of the United Nations Food and Agriculture Organization (FAO RLC) and the Centre of Excellence of the World Food Programme (WFP) for its implementation. It aims to support the countries of Latin America and the Caribbean in improving the quality of school feeding programmes.

Figure 3/ Recommendations to mitigate the effects of the COVID-19 pandemic on child feeding and nutrition

When schools are closed	When schools remain open
<ul style="list-style-type: none"> • Maintain flexibility and responsiveness to changing conditions for supply and distribution of food and provision of nutrition services, while ensuring compliance with COVID-19 protocols. • Use available resources to safeguard schoolchildren’s food security and nutrition. • Build upon existing safety-net structures to cover vulnerable schoolchildren. • Ensure food and nutrition needs of vulnerable schoolchildren are considered when designing any large-scale national response to COVID-19. • Plan for the future reopening of schools, if possible, with specific benchmarks. 	<ul style="list-style-type: none"> • Comply with COVID-19 prevention protocols. • Ensure optimal hygiene of people and educational infrastructure. • Promote optimal water, sanitation and hygiene services and ensure optimal hygiene and other key behaviours of children, teachers and food service staff/volunteers, school canteens and regulation of food vendors. • Ensure and continue the provision of essential school health and nutrition package (school feeding, micronutrient supplementation, deworming, malaria prevention and oral hygiene). • Avoid potential deterioration in food safety standards. • Ensure adequate nutrition content of meals. • Create contingency plans for the distribution of meals/food baskets in preparation for potential rapid closure of schools.

Source: WFP, FAO and UNICEF (2020).

The challenges for the post-pandemic are short, medium, and long-term (WFP, FAO and UNICEF, 2020). Initially, it will be necessary to strengthen technical assistance networks to reopen schools and create methodologies that contribute to healthy and safe school feeding (WHO, 2020). Later on, it will be necessary to strengthen school feeding policy as a strategy to ensure a better quality of education, food security and social protection.

b. Enhancing the role of social protection systems with a focus on nutrition

For the poorest and most vulnerable people to have access to healthy food during the COVID-19 crisis, social protection mechanisms must be put in place with a focus on nutrition, to improve the diversity and quality of food, and not just the quantity (FAO, 2017).

To this end, it must first be ensured that the foods distributed have a nutritional composition in line with the recommendations of the food guides of each country (GABAS) (Wijesinha-Bettoni et al., 2017). Which implies, as far as possible, to consistently deliver a variety of healthy foods, including non-perishable staples (legumes), enriched food (fortified milk and rice), as well as locally produced fresh food options (fruits, vegetables, eggs and fish).

Second, whether providing cash transfers, food deliveries, or fresh food stamps (fruits and vegetables), these supports must be complemented by nutrition education strategies. The objective is to promote improved feeding practices, especially breastfeeding and complementary feeding – such practices often worsen in crises – and to prevent the emergence of other risks of malnutrition among beneficiaries (FAO, 2017).

c. Protecting the affordability of healthy food

Following the effects of COVID-19 on food prices, a series of fiscal measures should be carefully implemented to ensure the affordability of healthy food, promote less fluctuation in food prices, and in turn discourage the purchase of highly processed foods high in sugar, fat, sodium and additives (FAO, 2017).

To this end, the first step during this period of crisis is to ensure that the exemption of taxes, or other obligations generated by the delay in their payment, also includes the basic food basket.

It is also recommended to extend subsidies for healthy foods such as fruits, vegetables, legumes and fish, at different levels (agricultural, retail markets, consumption) so that these can be affordable and their demand and purchase is encouraged.

Finally, it is necessary not to lose sight of the importance of establishing mechanisms to regulate fluctuations in food prices during crises. This can be achieved through the creation of a price ceiling or a list of fixed-price goods, including such essential foods as rice, beans, cooking oil, meat and fish (GLOPAN, 2020).

d. Promote advertising campaigns that encourage the purchase of healthy foods

In a context of food and economic vulnerability given by local and international market closures, national governments, in collaboration with the private sector and civil society, have innovated and redesigned new food supply chains and environments that include healthy foods. They have also designed specialized advertising strategies to influence the responsible purchase and consumption of these foods, as a measure of health, nutrition, solidarity and revitalization of the local economy, provided that the food environment ensures access to and availability of healthy food.

These promotional measures fulfil multiple functions. In addition to promoting the benefits of healthy eating in the face of an infection such as COVID-19, guiding consumers not to "panic buying", and highlighting country efforts to support national agriculture, they can also counteract the aggressive marketing of sugary beverage industries and unhealthy products. The latter, to the extent possible, should be regulated by governments, to prohibit the distribution, donation, gift, labelling or unfair advertising of these products, particularly to children (FAO, 2017).

4.3 Empowering consumers to take control of their diet

This pandemic has come to highlight the power ratio between the food supply, food environments and the consumer, where it is even possible to talk of a "new post-pandemic consumer". Besides, the availability, access and promotion of healthy food, while indispensable, are not sufficient to promote change. In other words, we are facing a situation where consumers are concerned about food supply and food security; they also require and demand tools to know how to integrate easy, affordable, conscious and healthy food recommendations to survive and recover from the pandemic (More information in FAO, 2020b).

Therefore, it is necessary to emphasize the importance of nutrition education that integrates an innovative vision of food systems and allows the consumer to understand, assimilate and reflect on the multiple health, environmental, socio-cultural and economic dimensions of food that are relevant to this crisis (FAO and WHO, 2019). Today's consumers need to adopt healthy eating habits and take care of their well-being, while at the same time contributing to greater collective responsibility and solidarity along the agrifood value chain, from production to consumption and food waste management (FAO and ECLAC, 2020e; FAO, 2020e).

In this context, some food skills are worth including in nutrition education programmes:

- food safety;
- home-based food production;
- responsible shopping;
- direct purchases from small farmers or local markets;
- anxiety management;
- cooking during quarantine;

- revitalize the local cuisine;
- reduce food waste;
- reduce the demand for unhealthy products in communities;
- strengthen positive parenting skills at mealtimes;
- stay active; and
- healthy eating according to the food guides of each country (GABAS) (FAO, 2020e; FAO and ECLAC, 2020e).

Not to mention, of course, breastfeeding and complementary feeding, which are usually affected during periods of crisis (FAO, 2017).

To integrate this vision, as well as themes and effective learning strategies of nutrition education that aim to empower consumers to take control of their diet and contribute positively to the food crisis, the recommendation is to employ different mechanisms such as:

- Complement nutrition education with social protection and food security interventions.
- Take advantage of the resources that are being used today to provide training to health, education and extension professionals.
- Collaborate with civil society, which has a recognized approach to consumer segments.
- Use available technology. Despite the physical distance, it has managed to keep us connected and able to reinvent ourselves (FAO, 2017; GLOPAN, 2017 and 2020).

5. Relevant experiences in the region



Argentina

Food guides for the Argentine population (GAPA, by its acronym in Spanish)

(http://www.msal.gob.ar/images/stories/bes/graficos/0000000817cnt-2016-04_Guia_Alimentaria_completa_web.pdf)

Keywords: regulatory frameworks, public policy standard

The Ministry of Health of Argentina has adopted Resolution 693/2019, which establishes Food Guidelines for the Argentine Population (GAPA, by its acronym in Spanish) as a national reference standard for the design and implementation of public policies in the food area.

The GAPA are extensive technical material, based on scientific evidence, agreed upon by different health teams from the provinces, universities, scientific entities, professionals and civil society organizations. They have specific recommendations about each of the food groups and contain detailed strategies on nutritional health.

In the context of COVID-19, this resolution allows social protection policies to be connected with the pandemic. The following are some examples: monetary transfers through the *Alimentar* card, which enables the purchase of all types of food; workshops or educational strategies based on food guides and, finally, a list of recommended foods is being drawn up with the food guides, to encourage the purchase of healthy food.



Supersaludable (Super healthy)

(<https://www.supersaludable.org>)

Keywords: Campaigns, education, consumer behaviour

The Supersaludable civil association aims to carry out programmes, workshops and playful and innovative activities, aimed at children, and also at adults (teachers, family members) to empower them as multipliers of a healthy life.

In this context of pandemic and social isolation, the Association designed interventions and educational proposals to give continuity to the critical mission of teaching healthy living habits, establishing new virtual links (WhatsApp, e-mails and digital platforms), using innovative tools and working the various dimensions integrally: food, emotions, active life, sleeping hours, sustainability, healthy bonds (technology, food, rest, sports, free time, time with others and the environment).

Various initiatives have been carried out, such as the production of the digital educational manual *Hábitos saludables en tiempo de cuarentena* (Healthy habits in quarantine), aimed at children and their families, to transform social isolation into creative, bonding and satisfactory isolation. A collection of eight "super-healthy stories" was also created. These stories are used as pedagogical tools for the elaboration of school projects with teachers, allowing them to work on different themes: inclusion, care for the Earth, healthy eating and emotions.

Infograms were made to provide graphic, practical and relevant information for healthy cooking. Besides, workshops and virtual talks on cooking were held for families, raising awareness about the concept of food waste and waste separation. The participants elaborated, together with the characters, different rich and healthy recipes, easy to prepare.



Brazil

National School Feeding Programme of Brazil

Keywords: food supply to households

During the pandemic period, Brazil's National School Feeding Programme (PNAE, by its acronym in Portuguese) has been reorganized to serve about 42 million children. The national government, through the National Education Development Fund, altered its legislation so that the 27 states and 5 570 municipalities promote the delivery of food baskets to all students in basic education, with some recommendations, such as:

- The foods that were delivered follow the provisions of the PNAE legislation concerning nutritional and health quality.
- Maintain a weekly supply of fresh fruit and vegetable portions and the purchase of local family farming products

An innovative experience took place in the state of Rio Grande do Norte, where, for 45 days, a family food purchase was made for approximately USD 500 000 (2.8 million Brazilian reals), which corresponds to 56 percent of the purchases made during 2019. In addition, extraordinary sanitary measures were adopted to minimize the risk of COVID-19 infection during the delivery process.

It should be noted that the food supply is adapted to each local culture. Therefore, the inclusion of local products in the distributed baskets is essential for the fulfilment of the objectives proposed by the programme.

The emergency purchase showed that family farming is capable of including other products in large-scale school meals. It was possible to insert 16 000 litres of milk drinks, more than 60 tonnes of beans and more than 50 tonnes of rice, among other regional products with high nutritional value.

Jamaica

Say Yes To Fresh

(https://jis.gov.jm/radio_programs/over-700-thousand-pounds-of-produce-sold-under-say-yes-to-fresh-campaign/)

Keywords: environment, incentive to healthy eating

Jamaica's tourism sector, one of the country's main sources of income, has been devastated by the pandemic. The decline in tourism has also meant a decrease in demand for foods such as high-quality melon, watermelon, pineapple, aubergine and tomatoes, which were originally intended for the hotel and tourism industry.

The Minister of Industry, Commerce, Agriculture and Fisheries of Jamaica stated that the situation was a great time to address Jamaica's consumption patterns. They created the Say Yes To Fresh campaign, a partnership with the private sector to absorb excess produce and re-educate consumers about the importance of making local food choices and consumption.

As part of its campaign, Jamaica's Ministry of Industry, Commerce, Agriculture and Fisheries has directly bought up farmers' surpluses and then resold or redistributed them. The private sector has helped with the storage of excess produce. The short shelf life of these products has made rapid redistribution mandatory. In many cases, the ministry has allocated produce to food programmes, children's homes, and prisons.

The population has been encouraged to consume foods such as aubergines and pumpkins, which were previously destined for the tourism sector and have not traditionally been part of the typical Jamaican diet. Consumers are actively mobilizing through social networks with the hashtags #supportourfarmers and #buywithpurpose in support of the movement.

6. Survey on changes in the food consumption patterns in Brazil



The pandemic has strongly influenced the vegetable market in different regions of Brazil, as health restrictions have affected the distribution, marketing and, consequently, consumption of vegetable products. Therefore, society is being subjected to several changes in its routine, including its eating and consumption patterns.

Embrapa Hortaliças, in partnership with the Brazilian Institute of Horticulture (Ibrahort), conducted a survey (by email and WhatsApp using Google Forms) between 15 May and 25 May 2020. From all over Brazil, 4 265 consumers with different levels of income and schooling participated. They responded on access and consumption of vegetables in the domestic environment during the COVID-19 pandemic.

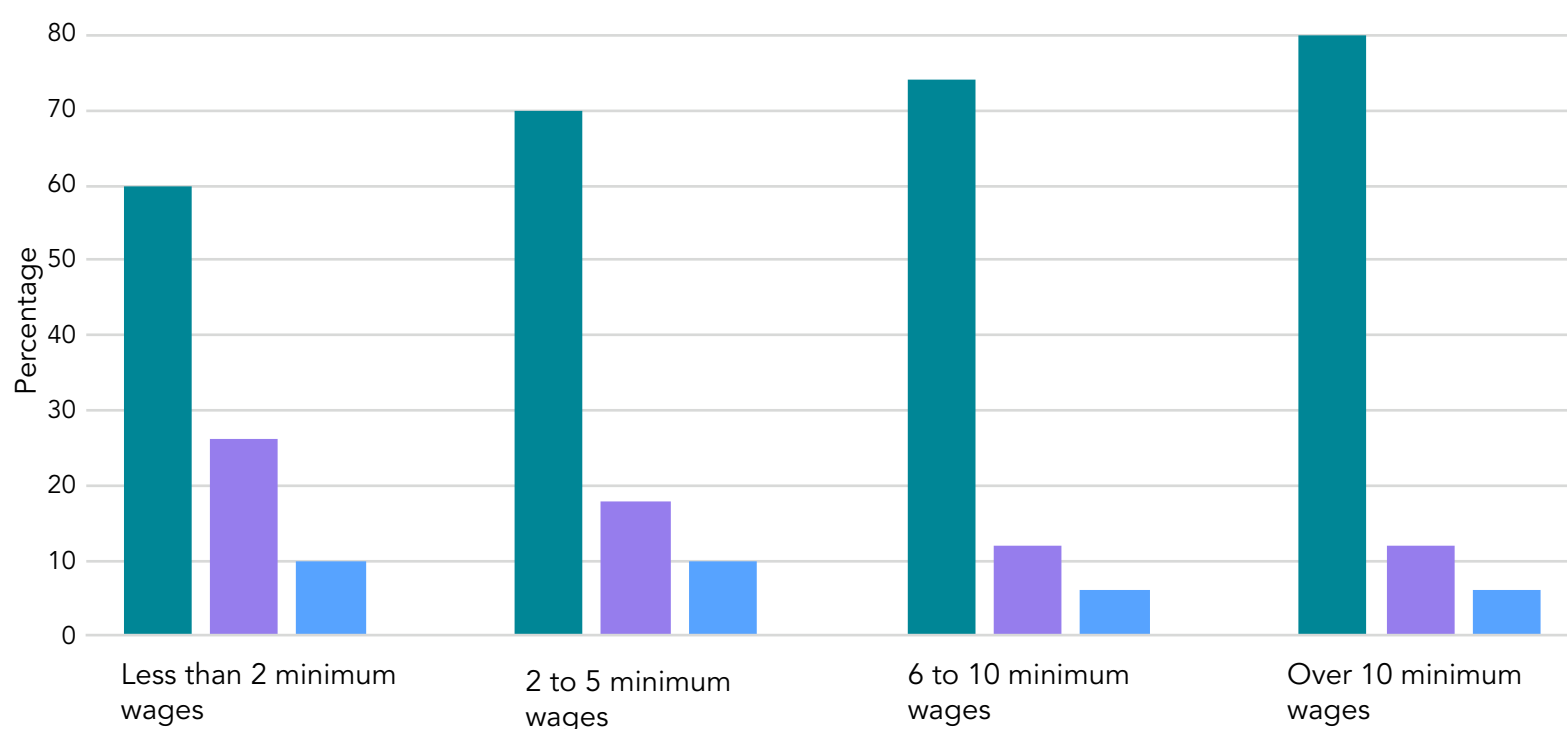
a. Access to vegetables according to income

A proportion of 72.5 percent of those surveyed said that they had not had any significant problems (encontra com facilidade, finding it easy) in accessing the purchase of vegetables. However, the percentages vary according to income level and region of the country (Embrapa, 2020a).

The crisis caused by the new coronavirus also impacted the price of most vegetables, with the result that consumers with lower income or no income prioritized the purchase of other food products (see Figure 4).

These differences can also be seen at the geographical level, confirming the economic differences between the regions of Brazil. The less developed regions (north and northeast) continue to have stable access, but in much lower proportions than the southeast and south regions (see Figure 5).

Figure 4/ Access to vegetables (%) during physical isolation according to income range, in Brazil



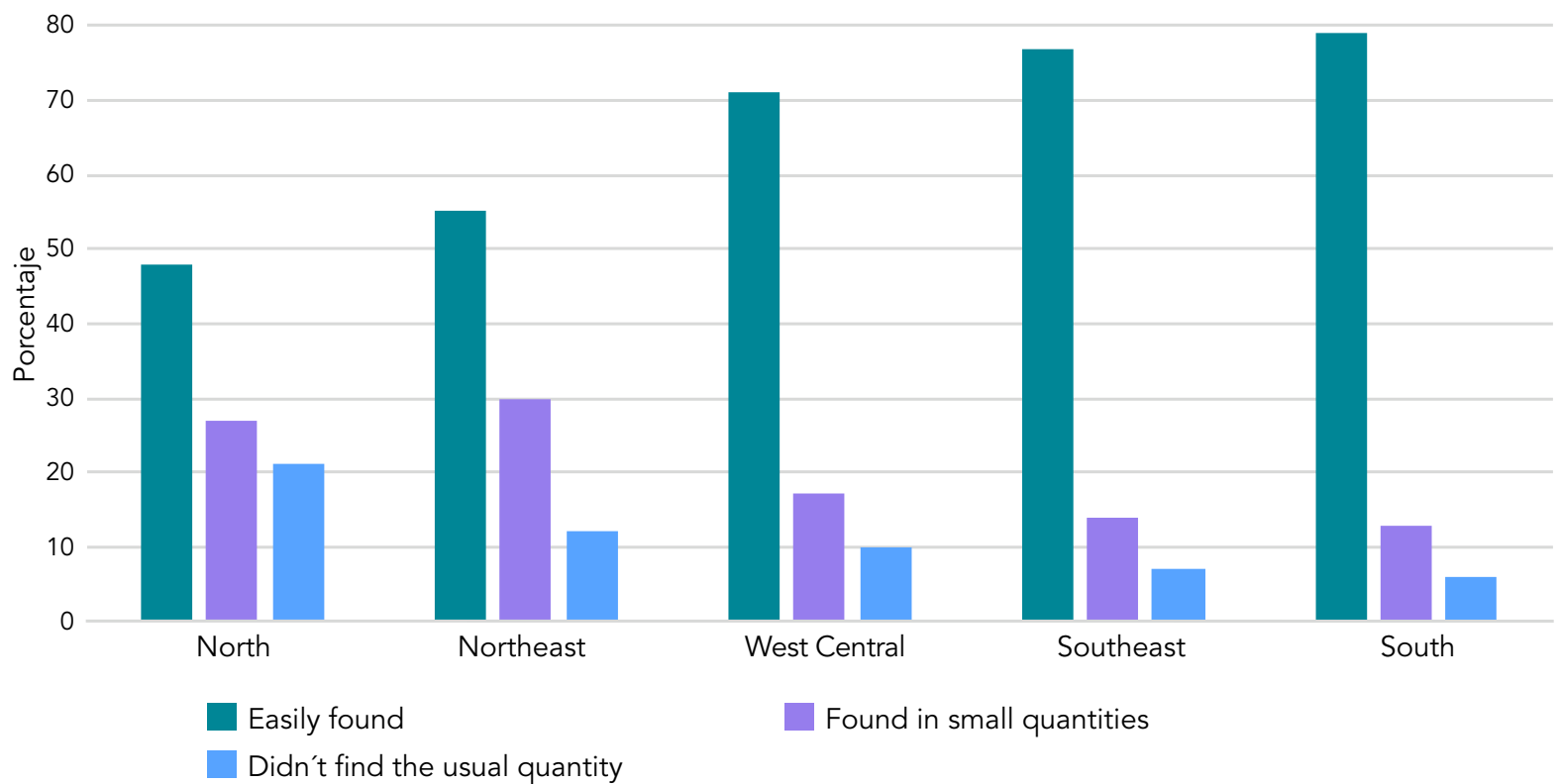
■ Easily found

■ Found in small quantities

■ Didn't find the usual quantity

FAO, with data from Embrapa (2020a).

Figure 5/ Access to vegetables (%) during physical isolation, by region, in Brazil



Source: FAO, with data from Embrapa (2020a)

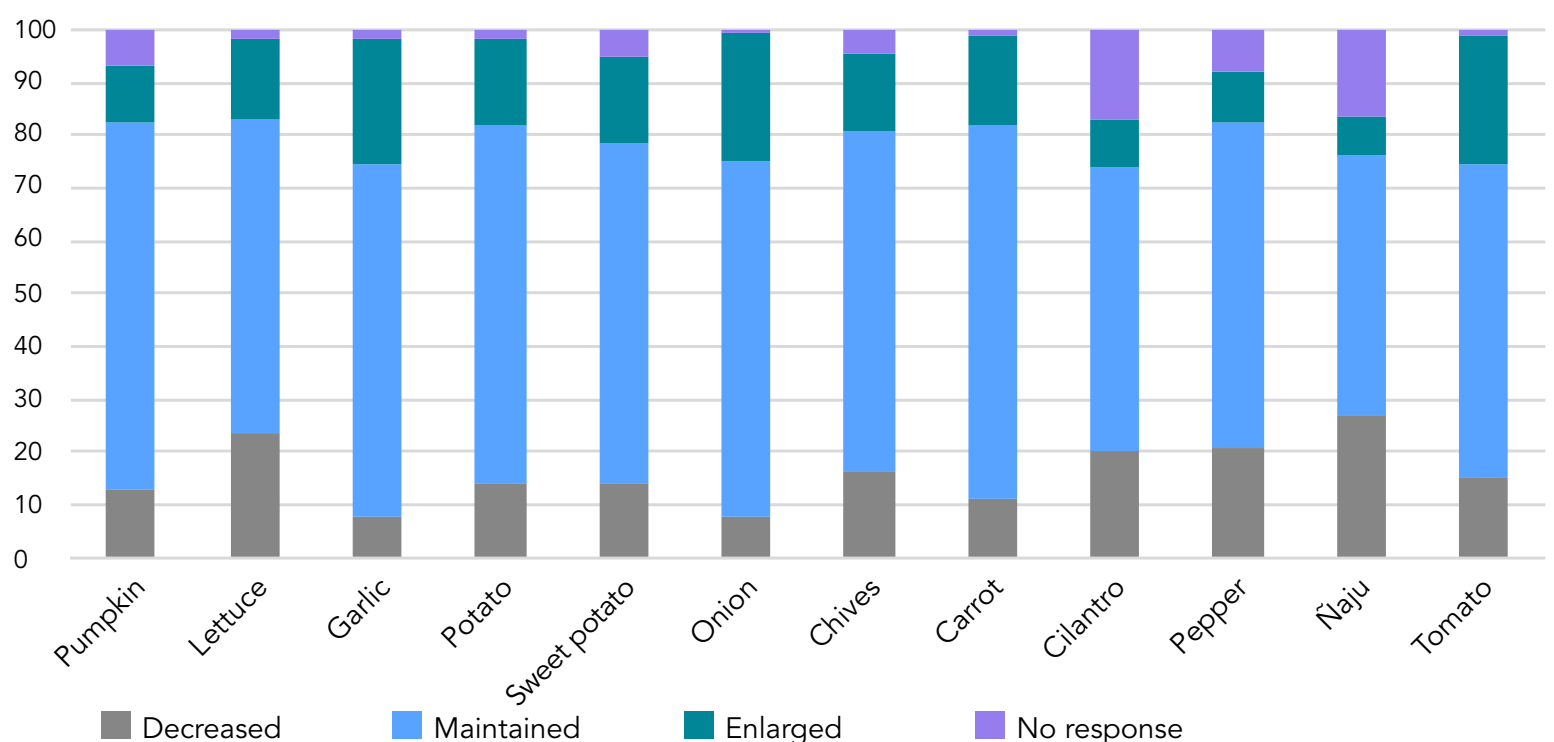
b. Changes in consumption patterns by type of vegetables

The survey also investigated possible changes in purchasing and consumption patterns of the most consumed vegetables in the country, such as pumpkin, lettuce, garlic, potato, sweet potato, onion, scallion, carrot, coriander, peppers, okra and tomato. Vegetable consumption patterns remained stable in most cases (see Figure 6).

However, when analysing the differences between products, it can be seen that there was a substantial drop in the purchase of lettuce (23 percent), which is less durable than other vegetables. On the other hand, this product is widely sold in street markets, which have been partially closed due to municipal regulations.

A reduction in potato consumption can also be observed since French fries in restaurants are one of its main outlets. Given that the restaurants are closed and operating from delivery services, the order of salads and fries as side dishes was reduced (Embrapa, 2020b).

Figure 6/ Perception of variation in vegetable purchases (%) during the pandemic in Brazil



Source: FAO, with data from Embrapa (2020a).

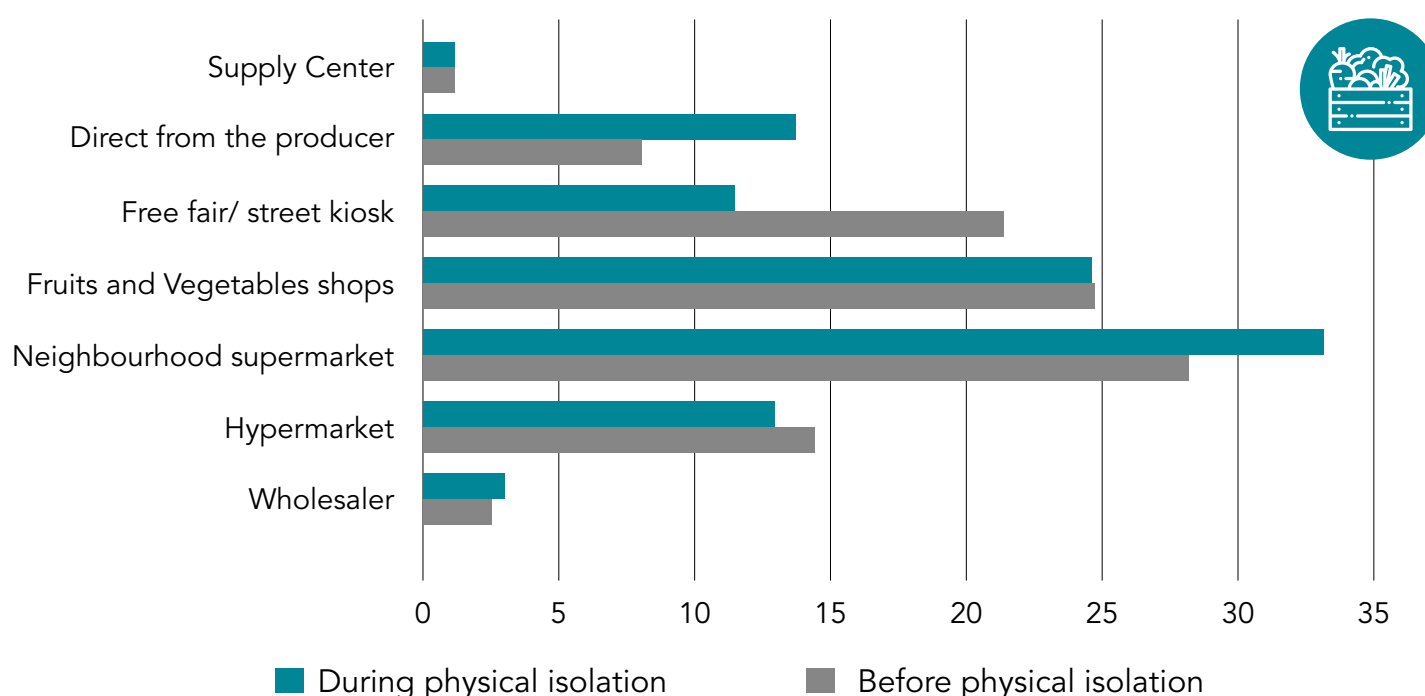
In contrast, garlic and onion consumption increased, which may be related to the fact that people are cooking more at home. This type of vegetables, which are used as a base for a vast majority of preparations, showed an increase during the period, which may also account for the rise in tomato consumption (see Figure 6).

c. Marketing of vegetables

When analysing marketing during social distancing, a reduction in purchases made in street markets and hypermarkets can be seen. In contrast, neighbourhood supermarkets have become the most important outlets for vegetables during the pandemic. By reducing the frequency of shopping, consumers seek to concentrate the purchase of the products they need (Embrapa, 2020c) (see Figure 7).

The investigation also showed an increase in direct purchases from the producer, by delivering various products (not only vegetables) via delivery, drive-thru or take-away. This alternative has emerged as one of the new marketing strategies. The use of digital media, through cell phones, mainly WhatsApp, has undoubtedly been a great ally of the short marketing circuits of fruits and vegetables, even more than online purchases, which have also increased.

Figure 7/ Main vegetable marketing points (%) during physical isolation, by region, in Brazil



Source: FAO, with data from Embrapa (2020a).

d. Perceptions of producers and marketers

Some changes and trends in vegetable consumption during the pandemic period were identified through telephone interviews with various actors in the vegetable production chain in several regions:

- The products of family agriculture and/or local producers are privileged.
- There is an increased demand for products without pesticides (organic products).
- More care and precautions are taken regarding the origin and health of the vegetables (Embrapa, 2020d).
- There is an active search for disinfected and processed products (Embrapa, 2020e).

Finally, it should also be noted that there is increased interest in healthier foods (fruits and vegetables) in order to strengthen the immune system, an essential aspect in these times of pandemic.

7. Interview



Renato Alvarado
Minister of Agriculture and Livestock of
Costa Rica (MAG, by its acronym in Spanish)



Do you think that COVID-19 could put at risk the production, commercialization and consumption of healthy food in Costa Rica?

Yes. That is why, in Costa Rica, the Ministry of Agriculture and Livestock (MAG, by its acronym in Spanish) has been very aware of the importance of continuing to guarantee the production and distribution of food in the country. The consumption of fresh and healthy products – such as vegetables, fruits, fish and meat – from national producers must also be supported. In this context, we have taken measures to guarantee the supply of agricultural products, such as ensuring the continuity of farmers' fairs, always under strict hygiene measures to prevent the spread of COVID-19, and promoting the consumption of healthy foods.

In these times of pandemic, the government has considered it essential to support producers, small and medium enterprises and local civil society organizations, so that production continues and the population is provided with affordable, adequate, safe, varied and culturally appropriate food.

At the MAG, we set out to communicate and provide tools to promote the consumption of safe, quality products produced by rural and coastal families. We also encourage that producers, agricultural providers, sellers, and consumers respect food safety and food security, without breaking the recommended protocols, and ensuring the welfare of the entire population.

Progress has also been made on a joint health intervention plan, given the impact that the COVID-19 pandemic is having on districts and cantons in the north, which are a substantial source of agricultural production activity. Finally, I would like to mention that we are already designing the protocols that will make it possible to ensure food production and distribution once the pandemic is over.

In the current context, what measures has the Costa Rican government taken to ensure healthy and responsible production that promotes a nutritious and varied diet?

We have announced 58 measures for the agricultural and fisheries sector to counteract the impact of the pandemic. These measures range from the preparation of health guidelines to the automatic extension of operating permits and certifications, extensions and facilities for bank loans, to mitigate the negative impact of the pandemic on the economy.

Thus, to ensure healthy and sustainable production, a national high-technology programme was launched and promoted to improve the productivity and sustainability of the agricultural sector. To do so, precision tools and value addition to agriculture will be applied gradually throughout the country. We are convinced that emerging technologies have the potential to revolutionize the way food is produced in the field. The AGRINNOVATION 4.0 platform will allow the systematization of data for decision-making, the strengthening of rural agribusinesses and the insertion of the primary productive sector in the value chains, to successfully overcome the impacts generated by this pandemic.

In response to the impact of COVID-19 on the marketing of agricultural and fishery products, the MAG presented two initiatives to promote wholesale trade in goods of agricultural and fishery origin. One of them, the virtual and text messaging platforms for marketing, has facilitated direct communication and negotiation between producers and buyers.

Additionally, two days of virtual business meetings were held, within the framework of La Finca Agropecuaria, with a catalogue of 40 products for an estimated value of over USD 17 million. In these first meetings, the participation of a total of 2 279 producers and 50 buyers was coordinated. A total of 144 sessions were held.

Concerning food supply, we have focused mainly on children. The National Production Council (CNP, by its acronym in Spanish) has so far benefited about 570 000 schoolchildren during the emergency, with the delivery of just over two million food packages. At the same time, the Directorate of Education and Nutrition Centres and Children's Centres for Integrated Care (CEN-CINAI, by its acronym in Spanish) has provided children with more than 100 000 daily rations of varied food, including basic grains, dairy products, meat, eggs, fruit, vegetables and salads. Finally, in the last three months, the CNP delivered a total of 112 000 packages to the National Commission for Risk Prevention and Emergency Care (CNE, by its acronym in Spanish) to be distributed to families at risk.

With whom and how has the Ministry of Agriculture and Livestock partnered to achieve these objectives (healthy and responsible production, promoting a nutritious and varied diet)?

The Ministry of Agriculture and Livestock has done extensive work in articulating with all institutions in the agricultural sector. It has also worked with the Ministry of Economy, Industry and Commerce, the Ministry of Health, the Ministry of Labour, the Costa Rican Foreign Trade Promotion Agency (Procomer), the food industry, the private sector and international organizations such as FAO, the Inter-American Institute for Cooperation on Agriculture (IICA), Bioversity International. I would especially like to highlight the active participation of producers and the organizations that represent them.

The launch of a social network campaign is worth noting, in conjunction with FAO, which promotes the consumption and production of healthy food. The objective is to foster the consumption, marketing and production of fresh and local food, produced by small farmers, which invigorates rural economies. This initiative is also an opportunity to guide and raise awareness among the population with contents that highlight the value of adequate food and nutrition to preserve and strengthen the immune system.

What actions are you taking to prevent the spread of infection to food system workers and the disruption of the supply chain?

From the beginning of the pandemic, the agricultural sector developed, in a participatory manner, the protocols and guidelines that would allow them to work permanently, since, for obvious reasons, food distribution chains must not stop.

We want the sector to continue working, producing and generating employment and development in rural areas. We do not want crops to be lost. That is why, based on established protocols and guidelines, health regulations will be rigorously applied to avoid contagion, knowing that producers, agribusiness and agro-export companies are committed in this effort and fully comply with the requirements; they even go a step further.

Costa Rica has a serious agricultural sector that knows how to work under strict sanitary standards, good practices, in a sustainable way, and that meets the requirements of international markets. This post-pandemic stage will not be the exception. Our sector will know how to adapt to new demands and maintain its quality.

8. Resources



In this section, we provide readers with some initiatives available on the web that may be useful to deepen the topics covered in this issue.

FAO

Food-based dietary guidelines

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

The food-based guidelines are intended to establish a basis for the formulation of national policies in the areas of food and nutrition, health and agriculture, as well as nutrition education programmes aimed at fostering healthy eating habits and lifestyles.



FAO

Maintaining a healthy diet during the COVID-19 pandemic

<http://www.fao.org/3/ca8380es/CA8380ES.pdf>

This document provides recommendations for all people to maintain healthy living habits during the pandemic, and includes some recommendations that we can all follow in our daily lives.



FAO, WFP and UNICEF

Mitigating the effects of the COVID-19 pandemic on food and nutrition of schoolchildren

<http://www.fao.org/3/ca8434en/CA8434EN.pdf>

This document summarizes a series of response measures that can be taken to deal with school closures and the impediment of normal functioning of School Feeding Programmes in times of pandemic.



UN

Policy Brief: The Impact of COVID-19 on Food Security and Nutrition

https://www.un.org/sites/un2.un.org/files/sg_policy_brief_on_covid_impact_on_food_security.pdf

The document describes the impact of COVID-19 on nutrition and food security, and provides measures to save lives, strengthen social protection systems and, finally, invest in transformations that will lead to a sustainable future.



FAO, IFAD, UNICEF, WFP, and WHO

The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets

<http://www.fao.org/3/ca9692en/online/ca9692en.html#>

This report monitors progress in eradicating hunger and improving global food security and nutrition. According to this document, among all the regions of the world, Latin America and the Caribbean has the highest cost for a diet that meets the minimum energy requirements.



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