



Food and Agriculture  
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# Food resilience in Quito-region: a permanent challenge



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## Introduction

Important historical threats exist in the Metropolitan District of Quito (DMQ), such as earthquakes, volcanic eruptions, and economic crises, alongside frequent events like floods or forest fires. Chronic tensions from poverty, social exclusion, and a lack of economic diversification are compounded by environmental degradation, transportation inefficiency, and delayed responses to health emergencies like the COVID-19 pandemic (100 Resilient Cities, 2017). This summary

outlines impacts from these threats and collective responses within Quito's food system. It serves as input for proposing programs and projects to enhance resilience, mitigate, and transform the food system for the future. The study involved 15 qualified informants through interviews and focus groups, using FAO's adapted methodology to analyze causality relationships between threats, impacts, and identified collective responses.

## A quick overview of the city region food system

Ecuador is one of the most densely populated countries in the world, with a density of 71 people per square kilometre, compared to the Latin American average of 33. Quito, specifically, has a density of 270 people per km<sup>2</sup>, **and the DMQ is even more densely populated, with 531 people per km<sup>2</sup>**. Ensuring food security for a larger population with limited land is a significant challenge. The construction of the Food Policy of the DMQ with a regional focus is relatively recent, emerging in 2017, leading to the proposal for the formation of the Quito Food Pact (PAQ).

The PAQ proposes incorporating the DMQ and other cantons within the Pichincha province into a unified perimeter referred to as Quito-region. However, the official declaration as a district and autonomous

region is a pending matter subject to the agendas of the local government of the DMQ and the other Decentralized Autonomous Municipal Governments (GAD) within the province<sup>1</sup>. While this recognition is not official, it is valuable for understanding the close physical, economic, and social relationships that exist throughout the Pichincha province.

In this context, the development of resilience and sustainability strategies for food, from public policy and city planning, was not a priority in the rural-urban relationships within the DMQ and other cantons in the province. This is reflected in the limited importance given to lands dedicated to sustainable food production, to the detriment of land use characterized by the expansion of urban

**Figure 1** - Location of the province of Pichincha and the DMQ



1 According to the Organic Code of Territorial Organization, Autonomy, and Decentralization (COOTAD), autonomous decentralized governments include a) those of the regions; b) those of the provinces; c) those of the cantons or metropolitan districts; and, d) those of the rural parishes

areas. Urban-rural relationships related to food in the Quito- region have not been sufficiently analyzed to explore their potential in mitigating and generating food resilience strategies. Rural producers perceive a lack of State support, limited access to technology, inadequate planning capacity, and a lack of organizational partnerships addressing commercialization issues. Migration to urban areas is accelerating due to business failures, and the Municipality of Quito's concern about rural areas is recent.

Regarding the structuring of value chains in the Quito-region, they emerge in a disjointed manner based on the control exerted by groups or families over a significant portion of consumption within the food system. Commercialization is predominantly based on the operation of informal private family oligopolies supplying both wholesale and retail markets. There are more than 120 private centres, including supermarkets, retailers, and private dispensing

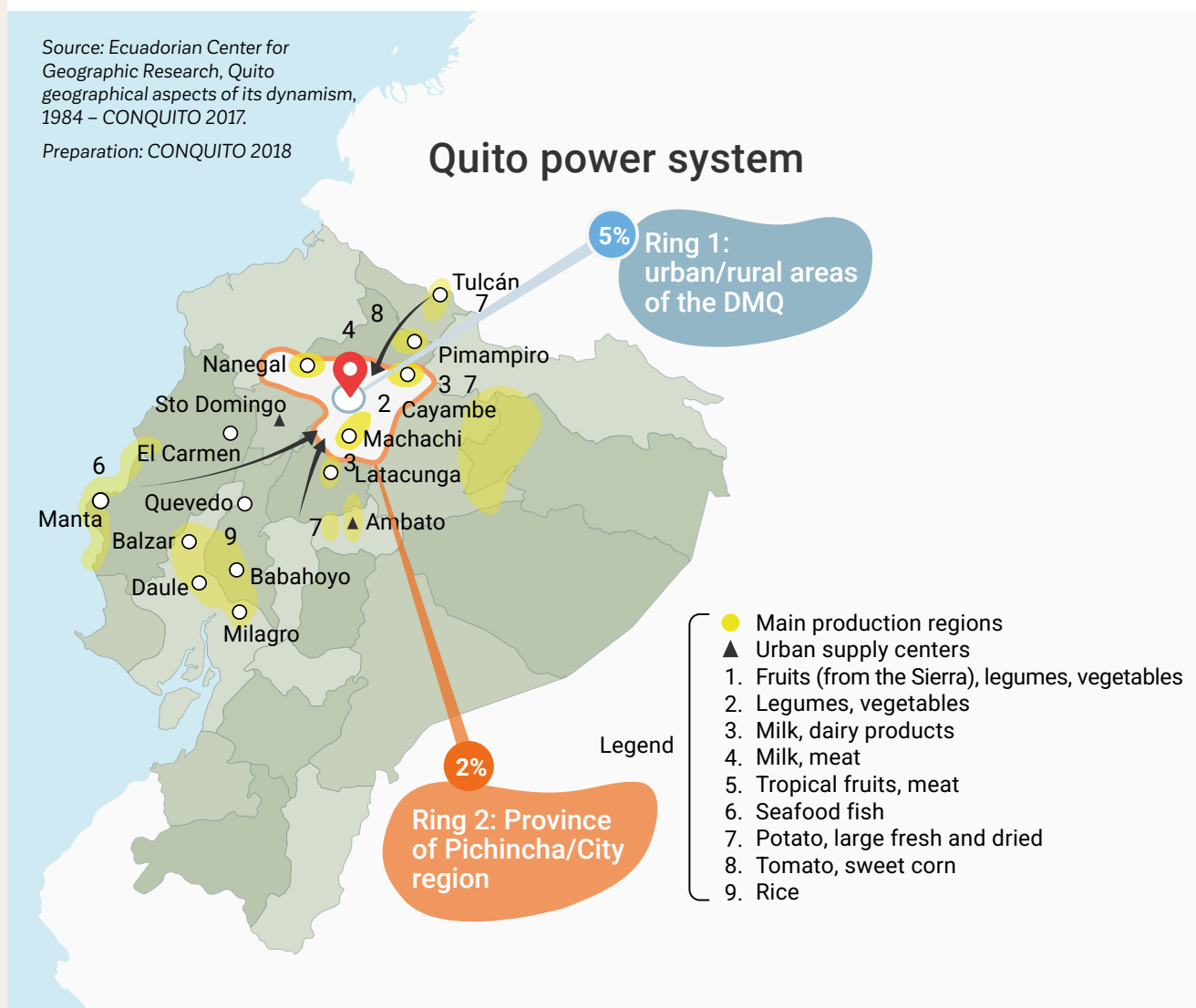
centres, compared to around 60 public markets under the administration of the municipalities in the Quito-region. Public markets often lack adequate infrastructure, operate with inflexible hours, and face significant challenges related to safety, waste management, among other issues.

The accounts from various informants in the DMQ characterized the food system as underinformed, in terms of supply and consumption. Currently, there is no evidence regarding the dietary habits of Quito's citizens, making it challenging to identify which products cannot be produced in the city-region, evaluate the need to acquire them from other locations in the country or abroad, as well as determine the necessary quantities, and their sources. Furthermore, the lack of identification of food deserts and swamps, coupled with a prevalence of processed and ultra-processed products over fresh and healthy food offerings, exacerbates the issue.

**Figure 2** Quito Agri-Food System and main value chains

Source: Ecuadorian Center for Geographic Research, Quito geographical aspects of its dynamism, 1984 - CONQUITO 2017.

Preparation: CONQUITO 2018

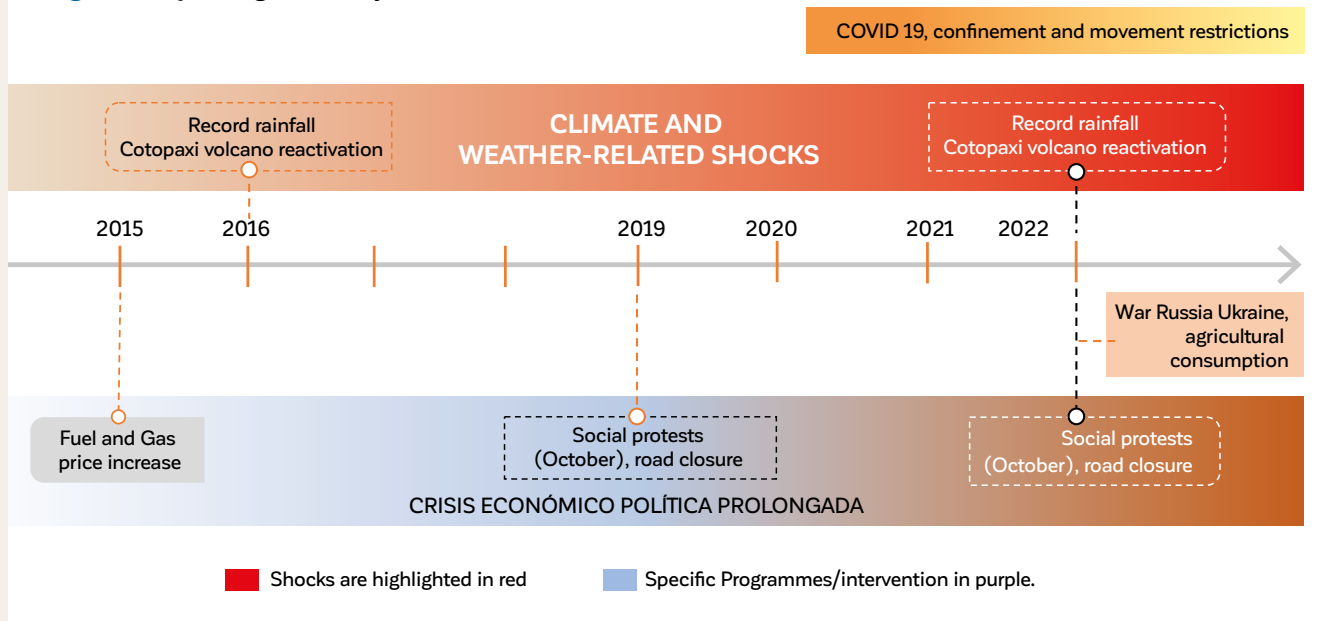


The current socioeconomic situation results in heterogeneous consumer variables. Marked vulnerability exists, with over half of the population relying on credit for purchases. Consumers struggle to regain the consumption capacity they had before the pandemic. According to informants, the general population's eating habits are deteriorating, with

more significant challenges in socioeconomically vulnerable populations such as elderly individuals without pensions, migrants, (especially Venezuelans and Colombians), people with disabilities, and children in peri-urban and urban marginalized areas with high levels of unsatisfied basic needs.

## Main shocks and tensions in the last five years

**Figure 3** Quito Agri-Food System and main value chains



**Table 1:** Main shocks and stresses and the impacts on food systems and the actors

Shock, tension	Main impacts	Food system actors affected by impacts
<p><b>Social paralysis forced suspension of mobilization.</b></p> <p>In October 2019 and June 2022 respectively, there were 15 and 18 days of protests due to the growth of unemployment, low and scarce incomes, and an increasing informalization of the economy.</p>	<p>Access to food in urban areas, especially in the Quito-region, was hampered due to road closures, blockades, and violent protests:</p> <ul style="list-style-type: none"> <li>• shortages of high-demand products from the coast, such as fruit and seafood, and from the mountains, including eggs;</li> <li>• scarcity of essential foods like meat and vegetables, with increased prices due to the risks and costs associated with transportation;</li> <li>• concerns about the quality and condition of available food reaching the population;</li> <li>• forced and temporary closure of markets and various types of businesses by the decision of social organizations;</li> <li>• shortage of labour and decreased production due to mobility restrictions; and</li> <li>• depletion in warehouses and storage centres for wholesale markets and supermarkets.</li> </ul>	<ul style="list-style-type: none"> <li>• peasant farmers;</li> <li>• agro-industry;</li> <li>• intermediaries and traders;</li> <li>• neighborhood stores;</li> <li>• public and popular markets and fairs;</li> <li>• private supermarkets;</li> <li>• consumers from poorer sectors; and</li> <li>• food banks.</li> </ul>

Shock, tension	Main impacts	Food system actors affected by impacts
<p><b>COVID-19</b></p> <p>From March 2020 until a significant portion of 2022, the pandemic has disproportionately harmed poorer and vulnerable sectors, leading to an increase in poverty for thousands of people. This outcome is a result of various measures and imposed restrictions.</p>	<p><b>Confinement and mobility restrictions</b></p> <p>The mobility limitations aimed to reduce contagion and mitigate mortality, leading the population to seek ways to generate income, feed themselves, and overcome the adopted measures:</p> <ul style="list-style-type: none"> <li>• reduction in productive and commercial activities due to circulation restrictions;</li> <li>• fear of trading due to potential contagion for both producers and consumers;</li> <li>• layoffs, growing unemployment, decreased economic income, and increased informality;</li> <li>• reduction in the consumption of healthy foods: fruit, vegetables, protein, and so on;</li> <li>• suspension and restrictions on permits for public space trading, especially in markets and fairs, particularly for prepared foods the activity was prohibited;</li> <li>• increased demand for affordable and easily accessible foods (processed);</li> <li>• disruption in the flow of food;</li> <li>• crowding in enclosed spaces (supermarkets) to acquire food; and</li> <li>• increase in food waste in households.</li> </ul>	<ul style="list-style-type: none"> <li>• urban consumers faced difficulties accessing food;</li> <li>• state entities (Inclusion, Interior) and local entities (Municipality of Quito ) struggled to coordinate actions to assist vulnerable populations; and</li> <li>• producers significantly reduced production and sales capacity (by 50 percent compared to 2019).</li> </ul>
<p><b>Prolonged economic crisis</b></p> <p>Since 2015, with the fall in oil prices, the economic crisis has worsened. Subsequently, in 2017 and 2018, the political crisis added to the challenges, leading to widespread layoffs and a reduction in various social services. In 2020, the COVID-19 health emergency overlapped, intensifying the economic crisis, particularly concerning employment.</p>	<p>The bankruptcy of businesses, unemployment, job instability, and the rise of informality, coupled with the growth of disorganized, heavily competitive, informal commerce, and the takeover of public spaces with high pedestrian and vehicular traffic:</p> <ul style="list-style-type: none"> <li>• imported, cheaper products entering the market to compete with local products;</li> <li>• availability of food of questionable origin without organoleptic control or high levels of agrochemicals;</li> <li>• insufficient management of public spaces: lack of control, order, health, and fair trade of traditional and local brands;</li> <li>• increase in the consumption of processed and ultra-processed foods;</li> <li>• lack of control over unsuitable food products;</li> <li>• market traders or private businesses abandoning stalls to sell in public spaces, on foot or in vehicles loaded with products; and</li> <li>• Lack of affordability of healthy, nutritious food for people with low incomes.</li> </ul>	<ul style="list-style-type: none"> <li>• small peasant farmers;</li> <li>• neighbourhood shopkeepers;</li> <li>• consumers with low incomes;</li> <li>• traditional merchants; and</li> <li>• independent traders</li> </ul>
<p><b>Climate change</b></p> <p>Climate change has not been a priority for the State. In recent years, prolonged heavy rain and droughts in different territories have caused issues for producers and traders. According to several informants, the extended rains in the current year 2022 and droughts in other areas of the country disturb significant productive zones both within and outside the Quito-region.</p>	<p>The impacts of heavy rain on the coastal agricultural and livestock production zone, coupled with road closures, hindered the transportation of food products:</p> <ul style="list-style-type: none"> <li>• the rains affected the harvest of key dietary products, such as rice, of which only 50 percent was utilized;</li> <li>• loss of production and economic income for producers, with small farmers from the Peasant Family Agriculture (AFC) being the most affected;</li> <li>• detailed information on the products currently consumed and affected by climatic impacts is not available; and</li> <li>• road closures and interruptions increased food prices.</li> </ul> <p>Provinces regularly affected by drought, such as Manabí, El Oro, and Santa Elena, provide few agricultural foods to the Quito-region. Many are replaced by products from the coastal zone, increasing their prices, and local producers are the ones affected.</p>	<ul style="list-style-type: none"> <li>• producers from affected areas, especially from the Ecuadorian coast, particularly small-scale farmers; and</li> <li>• market traders who cannot meet the demands of the population.</li> </ul>

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Shock, tension	Main impacts	Food system actors affected by impacts
<p><b>Russia-Ukraine conflict</b></p> <p>A few months after the war began in February 2022, it led to an increase in the costs of various products.</p>	<p><b>Increase in the costs of various inputs:</b></p> <ul style="list-style-type: none"> <li>• increased costs of imported inputs such as urea, soy, corn and oil;</li> <li>• rise in fuel prices: diesel, gasoline;</li> <li>• increase in transportation and commercialization services; and</li> <li>• decrease in the acquisition of products for production and commercialization, considering that sales were recovering after the effects of the restrictions due to COVID-19.</li> </ul>	<ul style="list-style-type: none"> <li>• producers dependent on imported inputs;</li> <li>• small-scale producers dependent on transporters;</li> <li>• transporters involved in commercialization (intermediaries); and</li> <li>• consumers acquiring fewer foods due to increased prices.</li> </ul>



The construction of the causality diagram during the focus group allowed verification of how various identified shocks occurred in short moments or periods that disrupted normalcy, such as COVID-19, military conflicts (Russia-Ukraine), and social upheavals in 2019 and 2022. Additionally, some tensions accumulated over months or years, such as the prolonged economic-political crisis and climate change, resulting in the inability to ensure a healthy and nutritious food system. Currently, several impacts are observed as overlapping- threatening food security. These include unemployment and underemployment, rising food prices, increased insecurity, and a strong informalization of the economy, overlaid with prolonged rains and droughts, among others.

For example, according to one informant, a poultry farmer has to confront various problems and threats continuously. In approximately the last year, starting

with the economic investment for post-COVID-19 economic recovery, which was interrupted by roadblocks during social upheavals that prevented the merchandise's transportation, followed by heavy rains that destroyed several houses and animal sheds, the increase in the prices of inputs such as corn, oil, vaccines, and fuels due to the Russia-Ukraine war, intense internal competition and competition from other countries with similar products, and the limited technical and economic support from the State have resulted in the impact and economic collapse of small businesses engaged in this activity.

In contrast, other events go unnoticed for most actors. The majority of informants did not identify the ongoing threat of the Cotopaxi volcano eruption, which has become active again, potentially affecting one of the most critical mobility and supply routes for the Quito-region located in the southern entrance.

## Main collective initiatives and public policies

Testimonies from interviewees and focus groups identified various collective initiatives and proposed public policies in response to the various impacts.

**Table 2:** Collective initiatives, the impacts and the actors involved

Collective initiatives	Main impacts addressed by collective initiatives	Actors involved
<p><b>Organic family gardens and biofairs</b></p> <p>AGRUPAR, belonging to the Conquito organization in alliance with the Municipality of Quito, has promoted and managed the creation of organic urban gardens since 2002 with its own resources and sometimes with cooperation funds. Currently, more than 2 000 orchards are beneficiaries with the distribution of more than 4 500 urban farmers.</p>	<ul style="list-style-type: none"> <li>• improve food security in areas with high poverty rates, contributing to the economic savings of vulnerable groups of people through the production of urban gardens;</li> <li>• during disruptions such as the COVID-19 pandemic, AGRUPAR r demonstrated great potential for the resilience of participating organic producers, and was also important for the creation of new gardens and the generation of product exchange networks;</li> <li>• faced with movement restrictions due to the pandemic, the gardens functioned as an effective response to guarantee access to healthy, quality food;</li> <li>• subsequently, it was key to maintaining the biofairs with strict weekly controls, in addition to those that have been carried out since 2002 in which urban and rural farmers from the Quito-region participate; and</li> <li>• it contributes to promoting interest in the proximity relationship between producers and consumers in various urban and rural neighbourhoods of the Quito-region, whose inhabitants are aware of the added value of fair trade.</li> </ul>	<ul style="list-style-type: none"> <li>• AGRUPAR, CONQUITO, network of urban farmers. Its purpose is to increase the sustainability of the city by prioritizing self-consumption.</li> </ul>

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Collective initiatives	Main impacts addressed by collective initiatives	Actors involved
<p><b>Networks of organic and agroecological fairs</b></p> <p>Agroecological fairs and biofairs have been taking place for more than 15 years in Quito. They are meeting spaces between producers and consumers, in which the values of sovereignty, nutrition and food security are promoted.</p>	<ul style="list-style-type: none"> <li>• overcome mobilization restrictions and activate the delivery of products to consumers in the face of events such as confinement and social strikes, which significantly challenged the provision of food;</li> <li>• confront other impacts such as access to healthy food, self-consumption and savings;</li> <li>• allow the formalization of the economy;</li> <li>• facilitate the approach of consumers to networks of peasant producers, friends and population interested in the consumption of healthy foods free of agrochemicals and under fair trade conditions; and</li> <li>• in the year 2022, several organic and agroecological fairs in Quito-region decided to join in a single space called Mother Earth Network of Agroecological &amp; Peasant Fairs. Today this space has the participation of six fairs (Siembra por la Vida, Allpa Maki, Mikuyta Karana, Casa Mitómana, La Canastas and Madre Tierra Agroecological Market). Organic and agroecological fairs cover the demands of a low percentage of the population of Quito-region.</li> </ul>	<ul style="list-style-type: none"> <li>• entities such as AGRUPAR de CONQUITO, Cooperativa Sur Seriendo, market merchants, shopkeepers, restaurants, among others, resorted to the use of social networks to sell their products in times of restriction on mobilization; and</li> <li>• he fairs that had been operating for several years had to be redefined to continue their operation, for example improving food safety and handling, of those that require more handling.</li> </ul>
<p><b>Central government aid called Opportunities Credit, interest rate of 1 percent for up to 30 years</b></p> <p>It is a public policy initiative set up by the current government that has scheduled to deliver, starting in 2022, USD 100 million in credits to benefit around 43 000 citizens nationwide.</p>	<ul style="list-style-type: none"> <li>• loans are granted to the most vulnerable sectors that are initiating or strengthening activities related to the production and marketing of goods and services, including the small-scale agricultural and livestock sector with an interest rate of 1 percent for up to 30 years;</li> <li>• amounts from USD 500 to 5 000 are financed at an interest of 1 percent per year from 1 to 30 years; and</li> <li>• although relevant aspects such as rate of return, training, added value. are not known in detail, by 2022 more than 60 000 people have accessed the aforementioned credit. Furthermore, there is no information data on credits for economic activities, which does not allow the economic activity to be interpreted.</li> </ul>	<ul style="list-style-type: none"> <li>• national Government through the public Bank Banecuador, in coordination with deconcentrated entities such as the MIES (Ministry of Economic and Social Inclusion) in charge of the social area who manages other social assistance bonds.</li> </ul>
<p><b>Quito Food Bank (BAQ)</b></p> <p>Important actor that provides food to people in situations of extreme vulnerability and poverty. The BAQ is a civil society organization that was born in 2003. Its purpose is to take advantage of food that is about to be thrown away and donate it to people who suffer from hunger. Its management model is based on a contingent of at least 200 volunteers.</p>	<ul style="list-style-type: none"> <li>• it reduces food waste, since its function is to classify food that is about to be discarded but is still suitable for consumption;</li> <li>• strengthens the alliance with people, markets and companies that produce, transform and market perishable and processed foods; and</li> <li>• the BAQ was the only organization that could react early in times such as confinement and still can when families in poverty and extreme poverty are in a situation of hunger.</li> </ul>	<ul style="list-style-type: none"> <li>• in general data, the BAQ serves 119 organizations and 5 000 families.</li> </ul>



Several identified initiatives aimed to respond to various shocks and tensions that hindered access to food. In cases like COVID-19 and its social paralysis, the right to free mobility was restricted. Actors such as the government and its ministries in the social sector (Ministry of Economic and Social Inclusion, Ministry of Public Health, Ministry of Education), municipalities, and other civil society organizations, including NGOs, merchants, and supermarkets, promoted the use of electronic commerce through mobile applications or virtual platforms on social networks. This could be considered a collective social phenomenon to overcome conditions of social mobility. Similarly, virtual social networks promoted the delivery of food baskets. However, actors such as representatives of the Sur Siendo fair and BAQ mentioned that virtual tools work at specific times to confront the restrictive measures of the national and local governments and the actions of protesters in social strikes. This initiative is perceived as limited compared to other more sustained tensions over time that result in unemployment, business bankruptcies, and the increase in the price of inputs, among others, which have few or no organizational and collective responses.

However, AGRUPAR's urban garden strategy or BAQ's food delivery represents important actions to mitigate threats to food security caused by multiple situations. For example, the Quito Food Bank ensured food for hundreds of vulnerable people and families with economic deficiencies who cannot access healthy and nutritious food. For many informants, food management at various times has been more efficient than that of responsible entities ensuring the rights of people like the Municipality of Quito and the Ministry of Economic and Social Inclusion (MIES).

Some unaddressed impacts have to do with the little information available on the rural areas of the Quito-region. The testimonies in the study focused on the urban area where most of the population is concentrated; few elements mentioned the problems and initiatives in the rural area. Other impacts that were not developed in greater depth in the informants' testimony, but are present in secondary sources, are the threats of volcanic eruptions, possible social paralysis, prolonged rains, and droughts in unaddressed productive areas, for example, the Amazon.

The demand for healthy and clean products, whether organic or agroecological, has allowed a growth in commercialization through organic and agroecological fairs. Although there is no official data on consumption in Quito-region, for most informants there is a trend of growth in demand. A Nonetheless, this type of consumer represents a

minority in relation to a population close to three million inhabitants, since most of the population depends on processed and ultra-processed products, which they traditionally obtain from nearby places, without knowing their origin or their quality. One of the challenges that these fairs face is the generation of responsible consumption campaigns that allow the increase of the commercialization of fresh and clean foods.

The Opportunity Credit that the Government of Ecuador is promoting aims to benefit various productive sectors, including agri-food producers and merchants, with small productive loans of up to USD 5 000. For most of the interviewees and in the focus groups, it is perceived as a limited initiative that generates many questions. The technical support to improve productive capacity is not known, the training and modernization of products are unknown, there are no market studies to know the most viable products, there is no value-added approach, the management of return rates is unknown, among other aspects that do not ensure the quality of goods and services that can be developed. Most informants such as producers from the Mejía Agricultural Chamber, producers from the parish of Cotaló, and market traders in Quito are unaware of how access to this credit works in detail. Those who have heard or have certain information mention that there are too many documents and procedures that must be carried out, and in some cases, such as the livestock sector, they mention that credit provides very little to enhance or improve their activities. Similarly, the credits are not timely and take several months to be assigned; they do not respond in a timely manner to the needs of the productive dynamics.

The use of virtual tools for commercialization was a collective action that allowed people and organizations to overcome the restrictions from the COVID-19 confinement and during periods of social shutdowns. For consumer representatives such as the Sur Siendo Association and merchants from Quito markets, they state that most clients want and choose to be physically present at the fair, in addition to seeing, handling, and making decisions about the products they want to purchase. In Quito-region they did not feel a strong shortage of supplies in moments such as the COVID-19 confinement, the need of creating new logics to have greater control in the markets, improve commercialization from the health aspect and influence to reduce the intermediation chain, was very clear. In this respect, actions were also identified that were not completed; informants such as the Quito Food Bank and agroecological fairs identified the potential of virtual tools during "normal times" that can be useful to consumers in two senses: a) the creation

of an application to socialize and share food that is not going to be consumed or that is in excess, to reduce losses; and b) as a source of information on specific food products that certain consumers or companies need.

In the BAQ, resilience capacities such as absorption, adaptation, anticipation, prevention are present in the efforts they carry out and in a small territorial space (south of Quito), however, the support of the State and local GAD is minimal. The food demand on the BAQ from people and institutions such as NGOs, churches, and neighbourhoods has motivated new actions, for example, the Fe y Alegría Schools network, joined forces with several foundations to create community kitchens in peri-urban and rural areas with a high poverty index, to improve the food situation, prioritizing caring for boys and girls between 1 and 12 years old. In the last four years they went from delivering ten tons per

week before the pandemic to between 5 to 10 tons per day. This growth demonstrates the management and articulation capacity in different spaces that strengthen the networks and social capital of those who lead the BAQ.

Resilience capacities vary according to the actor and the way in which they manage their initiatives. Adaptation and anticipation are the most characteristic features of the behavior of the actors in the Quito-region food system. According to the testimonies of the actors, the capacities of absorption, prevention, and transformation is less perceived. A reason is the institutional weakness and the lack of participatory governance in food matters. The food issue being seen as a strategic pillar in the development of cities is new, it has not yet been integrated into the technical-political actions of the Quito-region and the central government.

## Main challenges observed and recommendations

During the present study, it was not possible to delve deeply into the resilience strategies developed in the rural areas of the Quito-region. The rural parishes of the DMQ and other cantons have conditions to be more resilient, especially through what could be defined as temporary migration, city to countryside, particularly during the COVID-19 lockdown. Most of this population, considered semi-urban due to its proximity to the DMQ, has two key characteristics: access to land, water; and an environment with lower population density. These features enable cultivation and self-consumption to withstand events such as mobility restrictions and confinement, feeling less affected by isolation and contagion. Although the capacities for food resilience could be important, other impacts related to the ability for self-consumption, access to foods that do not exist in their territories, and the prioritization of self-consumption are not known. The rural territorial condition constitutes an important factor in building resilience. Understanding what happened with the initiatives developed by rural actors and how they contribute to the sustainability of the Quito-region is still a pending topic.

Most interviewed producers, traders, representatives of civil society, and public employees perceive that proposals for food governance are limited. The PAQ is a proposal that manages to convene and involve various actors in the agri-food system. The Municipality of Quito is the main actor that should ensure coordination among the actors of the food system. However, the PAQ is a space still under construction which needs to expand management to involve its leaders, such as councilors and the mayor of the DMQ. In addition, the involvement of

sectors such as market and fair traders, academia such as universities and institutes, representatives of key productive actors, among others, is pending.

Understanding the food system means to comprehend that it forms the foundation of other systems, especially the social, health, and educational systems. Systems must function in a coordinated and complementary manner. If the food system fails, it also interrupts other systems through these interdependencies (Vanderheyden, 2019). The present study compiles the testimonies of various interviewed actors, and in general, they agree on the difficulties that the DMQ faces and the limited role of the Municipality in improving food management. Likewise, the lack of coordination, organization of production, and resilient food access were mentioned. While legally the Municipality of Quito does not have competencies directly related to food sovereignty and productivity, it is responsible for, and the main guarantor of, the rights of its population, in this case, ensuring access, security, and food sovereignty.

The actors mentioned several recommendations to make the development of a more resilient system possible:

- The first action is the need to strengthen meeting and exchange spaces that address food and resilience issues. The PAQ represents a space for proposals and actions with clear objectives to promote actions and public policies on food security and sovereignty in the Quito-region. Establishing, approving, or legitimizing the multi-actor space is a priority that will allow

more organic and legitimate functioning. The proposal for the Food Charter and its action plan, which incorporates aspects to strengthen food governance, sustainability, and resilience, needs to be presented and subsequently approved. These elements were addressed during the elaboration of the present study.

- To enhance initiatives like urban gardens, the use of public spaces for local food production, especially in urban areas, is proposed. In the Quito-region, public spaces belonging to public entities such as the DMQ and various ministries of the executive branch could be used for food production, prioritizing vulnerable areas. However, it was also mentioned that this approach should be changed and established in territorial planning, such as the Land Use and Management Plan. For example, declarations of public utility could be made to give these spaces a community use for the development of gardens, prioritizing areas with high levels of Unsatisfied Basic Needs (NBI).
- The BAQ provides and ensures fresh food for families that do not have the economic capacity to acquire them. Proposed actions to enhance resilience toward transformation involve the possibility of reducing or forgiving some of its operational costs such as water, electricity, internet. This would require shared responsibility from basic service providers to sustain this initiative. Furthermore, the involvement of more companies and sectors supporting the BAQ's work, such as public markets that discard several tons of food daily, needs to be expanded. There is also a need to continue raising awareness and motivating companies for food donations and other aspects such as transportation, product and service exchange, and so on.
- Regarding the government proposal Opportunity Credit provided by the public bank BanEcuador, several aspects need to change for it to become more resilient. These include: a) evaluating and reducing the number of documents or requirements to access credit, considering aspects such as individuals indebted with the banking system unable to acquire new credits, and many producers not having their property legalized; b) reducing the time for credit delivery (from four to eight months), as credits from other private banking entities take only a few hours or days; c) encouraging the development of ventures that align with local contexts, prioritizing the sovereignty of local products; and d) allowing other public or private banks to provide the service, especially in productive areas and sectors of the popular and solidarity economy. In this regard, it is

recommended to leverage the expertise of private banks, which are more experienced in providing credits, insurance, and corresponding follow-up.

- Concerning producers, a proposal mentioned by representatives of the Ministry of Agriculture and Livestock is to promote the certification of the Family and Peasant Agriculture Seal, better known as the AFC seal. This government initiative, not prioritized by the interviewed producers, aims to improve the productive situation of farmers, especially those who are struggling and at risk of gradually disappearing. Similarly, several informants express the need for a local seal for products that, due to their nutritional qualities, have high demand. This includes products from producers who supply healthy or quality food, while also promoting aspects such as fair trade, circular economy, food sovereignty, among others. This action should be accompanied by campaigns promoting local consumption and the positive and symbolic value of local products compared to external products in the Quito-region and the country.

In the analysis carried out, it was observed that when multiple impacts combine, the State responses are delayed and poorly organized. An example of this was the lack of plans for the distribution of healthy food in vulnerable areas during health lockdowns and social shutdowns. Additionally, there is a recurring lack of foresight and early action towards other existing threats, creating significant uncertainty and immediate responses that do not stem from the identification and learnings from recurrent events.

A primary conclusion is that until citizens start questioning where their foods come from, "where they are produced, how and by whom they are produced, and how they reach their tables, nutrition will remain an everyday, inert act of lesser importance. Only formal education and within the family sphere will allow awareness that favours a radical change in dietary habits for the city. For this to happen, it is necessary for the citizens, especially in urban areas, to reconnect with the rural areas of the countryside and understand that food is generated there with natural resources. The main challenge for the Quito-region is to give more prominence to the issue of food, considering that the population is predominantly urban and highly dependent on external food sources.

Finally, to build resilience, solutions must arise from participatory strategies convened by local governments such as GAD-DMQ, cantonal GADs in the Quito-region or the province of Pichincha, the provincial GAD of Pichincha, and the ministries of agriculture, health, economic inclusion, and

education. These strategies should be led by sectors of producers, transporters, traders, consumers, universities, among others, that can contribute to organizing and proposing actions and strategies with multidimensional approaches. This will enable the region to address present tensions such as environmental degradation, climatic factors, and shocks that are permanent in the case of the Quito-

region, which can affect the development of the agri-food sector, food security and nutrition. The challenge is to ensure access to safe, nutritious, and affordable food for all its inhabitants. To fulfill this purpose, greater involvement of local, national, and international individuals and entities is necessary, transcending individual agendas, political positions, and personal interests.

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## Annex (additional data)

- The Metropolitan District of Quito (DMQ) is the capital of Ecuador and covers 44.6 percent of the surface area of the Pichincha province. It is located at an average altitude of 2 850 ms above sea level and has a size of 372 400 km<sup>2</sup>. Natural vegetation covers 278 763.46 ha, representing 66 percent of its total area. The population of DMQ in 2020 was estimated at around 2.8 million people, representing 86 percent of the entire province where 3.2 million inhabitants live.
- In 2008, the constitution established new regulations and legal frameworks in the administrative perimeter of DMQ. In 2016, DMQ authorities decided to sign the Milan Pact (MUFPP)<sup>2</sup>.
- The city has an unemployment rate of 9.4 percent and underemployment of 11.7 percent, directly aggravated by the consequences of the COVID-19 pandemic and other factors indirectly affecting the increase in poverty, such as the prolonged economic crisis, subsequent social protests, and climate change.
- The food dependency of DMQ, particularly in the urban axis, is very high. Quito-region needs food from other provinces that produce food surpluses. Traditionally, the food and beverage group of the basic basket constitutes 32.03 percent of the products, which include cereals and derivatives, meat and preparations, fish and seafood, fats and edible oils, milk, dairy products, eggs, fresh vegetables, tubers and derivatives, legumes and derivatives, fresh fruit, sugar, salt and seasonings, coffee, tea and soft drinks, other food products, and food and beverages consumed outside the home (INEC, 2022, p. 9). Many of these products are mobilized and exposed to permanent natural and social hazards, posing a constant risk to the food security of the dependent population. To reach Quito-region, there are three important supply nodes involving intermediaries and producers from other provinces: a) Ambato: located 150 km away, two hours from Quito, it has a network of wholesale markets in the central highlands and the Amazon region with interregional importance; b) Santo Domingo de los Tsáchilas: located 150 km away, three hours from Quito, it functions as a collection centre for products from the coast and its own area of influence; and, c) Carchi Province, located 247 km away, four hours from Quito, centralizes its own production and border imports from Colombia (legal or informal). In the logistics part, around 62 percent of the food comes from the central and southern regions of the country, entering through the Tumbillo route south of the city, the path that food takes to Quito-region (Vanderheyden, 2019). This route is a few kilometers from the crater of the Cotopaxi volcano, which was last active in 2016 and is currently active again, putting food flows at risk once again.
- In this context, the local production capacity needed to supply the food consumption demand is not sufficient and faces serious challenges for the future. One of the food suppliers for the population is neighbourhood stores, which have grown significantly. During the pandemic in 2020, the Municipality of Quito reported that there are 9 246 stores with municipal permits that sell food and other products. However, there is no current statistic to know the situation and the real number of these types of businesses. According to various secondary sources, it is estimated that many of these have closed in response to an oversupply of stores, a decrease in customers, high competition, and rising prices in rents and services such as water and electricity. Finally, the autonomous trade sector is an important supplier to meet the city's food demand. According to information from the Municipality of Quito and trade organizations, these would be around 14 000 people.
- In general figures, it is estimated that the percentage of production of DMQ to satisfy its population barely reaches 5.17 percent, but if we take into account the production of the other cantons in the province, versus the food needs of the populations of the Pichincha province, this will reach 10.98 percent. The production of rural parishes in DMQ can self-supply by 45.18 percent, and in the same sense, the production of other cantons in the city-region (excluding Quito) can supply 47.21 percent of their populations. (Andino, 2021). Regarding the export of food products in DMQ, between perishable and value-added products, these represent 8.8 percent of the main export products.
- In 2021, two companies, La Favorita Corporation and El Rosado Corporation, led the ranking of the most profitable companies. Their activities are mainly related to food and involve transformation, packaging, distribution, and logistics processes.
- During the preparation of this study, the reunion of the PAQ took place on August 30, continuing the articulation and updating of the action plan. In this event, five working groups were developed, resulting in a series of recommendations and action proposals to strengthen the food system of the Quito region and resilience.

2 In 2016, Quito joined the Milan Urban Food Policy Pact, a global alliance of cities working towards the development of sustainable and resilient food systems. This pact has served as a guiding framework for the participatory process of constructing food policy.



