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Patterns, Pandemic Challenges and Research Directions: Understanding Household Food Security in Quito

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Introduction

Since early in the COVID-19 pandemic, food security was identified as one of the most pressing challenges for societies around the globe (Crush et al., 2021; Xu et al., 2022). Mitigation policies worldwide disrupted food production, distribution, and consumption, increasing food prices and limiting access (McCordic et al., 2022). Additionally, the economic downturn, job loss, reduced working hours, combined with inflationary pressures on food and essential goods, further strained household purchasing power (Ahmed et al., 2023). Several international organizations warned of a potential "hunger and malnutrition pandemic" triggered by the COVID-19 crisis (CFS-HLPE, 2021, The Lancet Global Health, 2020).

In the case of Ecuador, with the pandemic the population saw a loss of purchasing power, which directly impacted households' ability to purchase food, especially products with a higher nutritional value (FAO-CIRAD-RUAF, 2024). The deterioration in food security triggered by the pandemic was also compounded by shocks occurring before and afterwards, such as increasing prices of fuel and gas in 2015, cycles of social unrest in 2019 and 2022, and the effects of the Russia-Ukraine war in rising prices (FAO-CIRAD-RUAF, 2024).

Like many capitals worldwide, Quito's dynamic urban life was profoundly affected by the COVID-19 pandemic. Economic activity and mobility came to a standstill, and social life was significantly disrupted. Food security in Quito and its metropolitan area was negatively impacted during the pandemic, due to the restrictions on mobility and access to food retail sites during the first half of 2020, as well as the acute deterioration of the economy prompted by the pandemic and the measures set in place to address it (Eguiguren & Martens, 2024; FAO-CIRAD-RUAF, 2024). However, the pandemic's impact varied across the city, with the most vulnerable areas experiencing the highest contagion rates.

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These patterns revealed a strong correlation between infection rates and factors such as socio-economic and housing conditions, access to essential services, and spatial segregation (Barrera et al., 2020). Similarly, the effects on food security, as well as on other basic living conditions, were not equally felt across the city, but rather followed the pattern of unequal socio-spatial diffusion of the disease and the negative socioeconomic effects of the crisis. Hence, the most vulnerable areas of the city were those more economically precarious, and with weaker social and public services, whereas other better-served and wealthier areas were less at risk (Barrera et al., 2020).

This research brief presents the key findings of a household food security survey conducted in Quito in early 2023. The survey focused on experiences and responses to Covid-19, to capture different dimensions of household food security and dietary diversity among residents of Quito. We used non-probability snowball sampling to recruit respondents who were at least 18 years old, had lived in Quito at least since the beginning of 2020, and were able to answer questions about the household's food security characteristics. The sample comprised 1,020 cases across each of the municipal zones in Quito, including the suburban and peri-urban areas, and were geographically distributed as follows: in the South (47%), in the North (26%), in the valleys (suburban areas adjacent to the city centre) (14%), and in the *Centro Histórico* District (13%).

Although the representativity of the sample was limited due to sampling modifications in the context of increased violence and insecurity in certain parts of the city, the findings provide valuable insights into how households in Quito experienced food security challenges during and after the pandemic, laying the foundation for further research on post-pandemic recovery in urban settings in Ecuador.

Household Characteristics

In this study, we adhere to the official household typology established by the Ecuadorian Institute of Statistics and Census (INEC, n.d). In particular, we maintain the distinction between **extended** and **composite** households. An extended household consists of the head of household, their spouse, children, and additional relatives; or the head of household, spouse, and other relatives; or the head of household, children, and other relatives. A composite household, in contrast, includes non-relatives in addition to family members. It may consist of the head of household, spouse, children, other relatives, and non-relatives; or any combination that includes both relatives and non-relatives.

Families in the surveyed households were mainly nuclear (two-parent with children) (40%) or single-parent units (29%), with a prevalence of mothers as head of household, while 17% of households were single-person units, followed by other family types. Most families were made up of 3 or 4 members, reflecting the national trend towards smaller family sizes. According to the National Population and Housing Census (2022), Ecuadorian households had an average of 3 members in 2022 (INEC, n.d.). The sample is also consistent with the trend of increasing single-parent families and female-led households (INEC, 2023).

Only 34% of respondents were formally employed. Informal employment (lacking a contract and benefits) and self-employment arrangements such as self-owned business were common, and there was a significant percentage of unemployed (13%), and retired or pensioned (9%) respondents. Unemployment occurred predominantly among women, following a larger national trend associated with structural labour market gender gaps between men and women, as well as with motherhood and care responsibilities being assigned primarily to women (Urquidi et al., 2023). The average monthly income of the surveyed households was USD 1,200. However, 60% of the households had a monthly income of less than USD1,000. Nearly 58% of respondents reported owning their own home, either through purchase or inheritance.

Only 9% of the respondents were internal migrants, although there was considerable diversity in terms of region of origin and period of residence in Quito. Migrant households came from several provinces across the country, and slightly more than half (53%) had lived in Quito for more than a decade, while 21% had settled in the city from 6 to 10 years ago. More than one third considered that moving to Quito had a positive or very positive influence on their household's diet, while 32% felt that there was no impact, and 14% indicated a negative or very negative influence.

Food Sourcing and Preparation

The participant households exhibited distinctly urban consumer behaviours, relying primarily on supermarkets, markets, and other shops for food procurement (98% of respondents). However, decisions regarding food purchases, processing, and preparation follow a traditional pattern in terms of the gendered division of labour within the household. As Figure 1 shows, mothers are responsible for food purchasing decisions in 67% of households. Mothers also undertake the food processing and preparation in 65% of households (Figure 2).

FIGURE 1: Responsibility for Household Food Purchasing Decisions

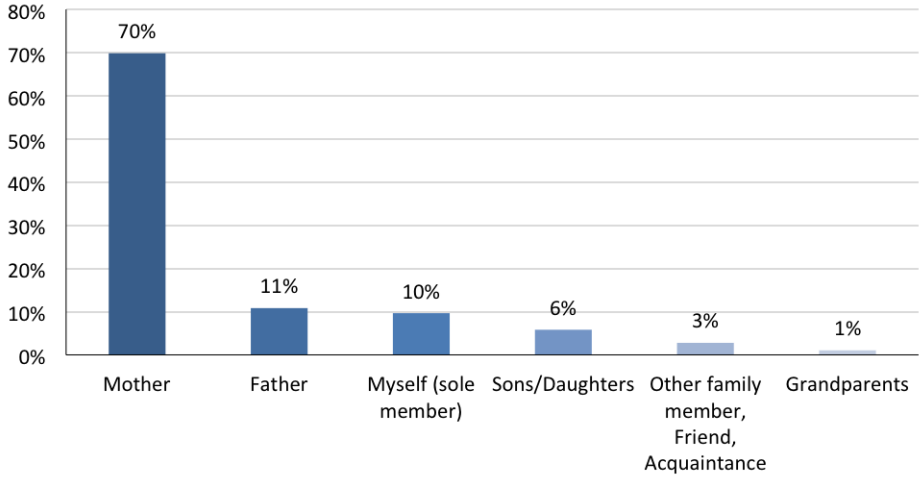
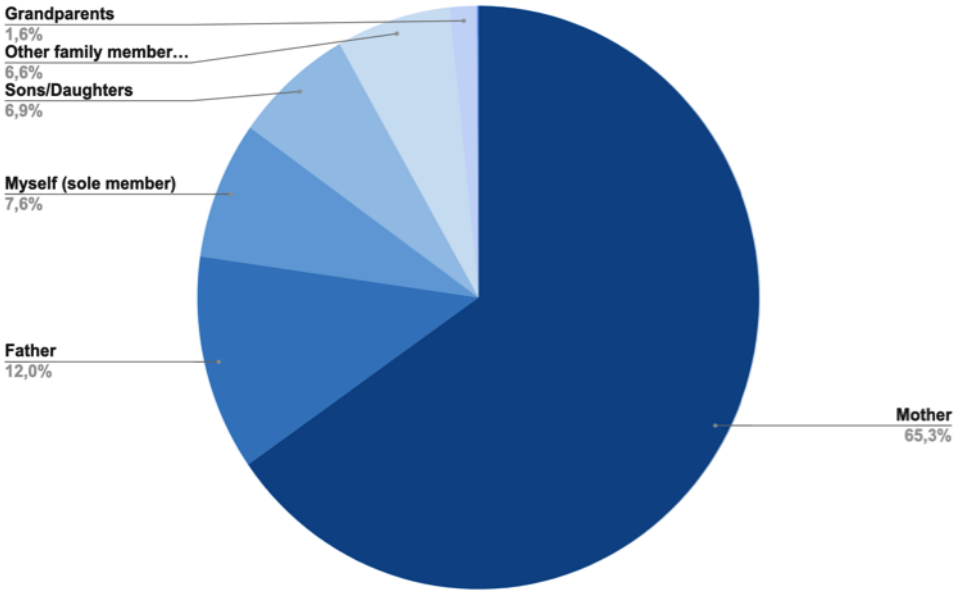


FIGURE 2: Responsibility for Food Preparation in the Household



Household Food Security

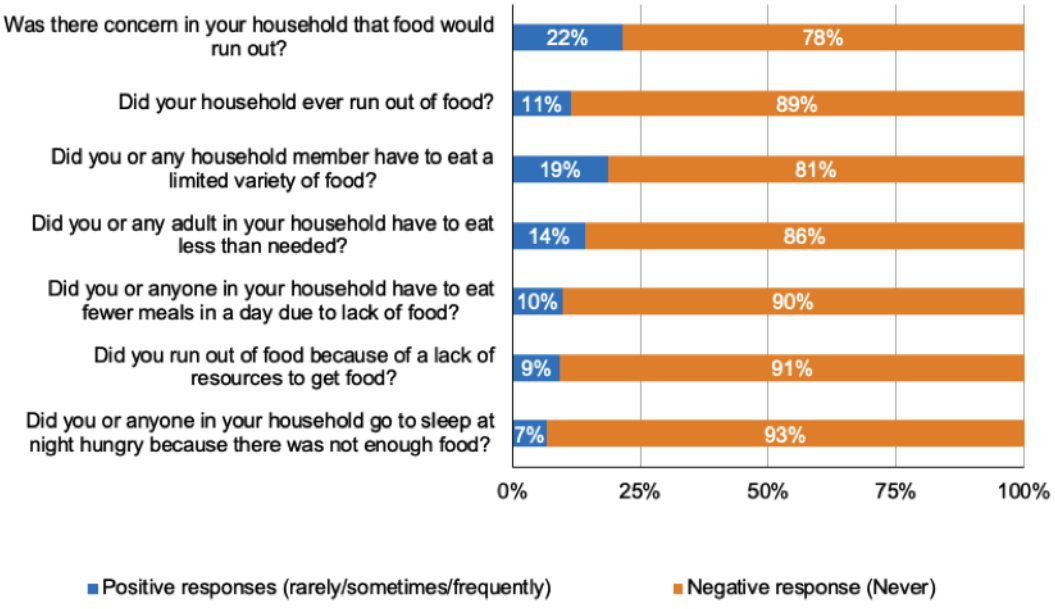
To examine the food security status of surveyed households, we used a modified version of the Household Food Insecurity Access Scale (HFIAS) (Coates et al., 2007). This decision followed the validation stage, during which some participants found the full set of questions repetitive and at times confusing. To minimize respondent fatigue, two of the original nine questions were omitted: those addressing the inability to eat preferred foods and the need to eat foods they did not want due to limited resources. The final instrument consisted of seven questions referring to experiences within the previous four weeks (see Table 1). The resulting modified scale ranges from 0-21 points, of which 0 is equivalent to no food insecurity and 21 is the most severe level of food insecurity. To analyze the distribution of food security conditions among all the households, we categorized the results of the modified HFIAS into four distinct groups, reflecting the varying levels of household food insecurity: (a) never/rarely food insecure (0 to 3.0); (b) mild/sporadic food insecurity (3.1 to 6.0); (c) moderate food insecurity (6.1 to 15.0); and (d) severe food insecurity (15.1 to 21.0).

TABLE 1: Modified HFIAS Survey Questions

In the past four weeks:
1. Was there concern in your household that food would run out?
2. Did your household ever run out of food?
3. Did you or any household member have to eat a limited variety of food?
4. Did you or any adult in your household have to eat less than needed?
5. Did you or anyone in your household have to eat fewer meals in a day due to lack of food?
6. Did you run out of food because of a lack of resources to get food?
7. Did you or anyone in your household go to sleep at night hungry because there was not enough food?

The average household score based on the modified HFIAS metrics was 1.33, indicating that experiences of food insecurity are low. Approximately 85% of the households never or very rarely experienced food insecurity (0-3). Just over 8% of the households had had mild or sporadic experiences of food insecurity (3.1-6.0) and another 7% had experienced moderate food insecurity (6.1-15.0). Finally, only 0.5% of households experienced severe food insecurity. The most common negative food security experience was concern about food running out (22% of households), followed by a lack of dietary diversity (19%), eating less than needed (14%) and actually running out of food (11%) and skipping meals (9%) (Figure 3).

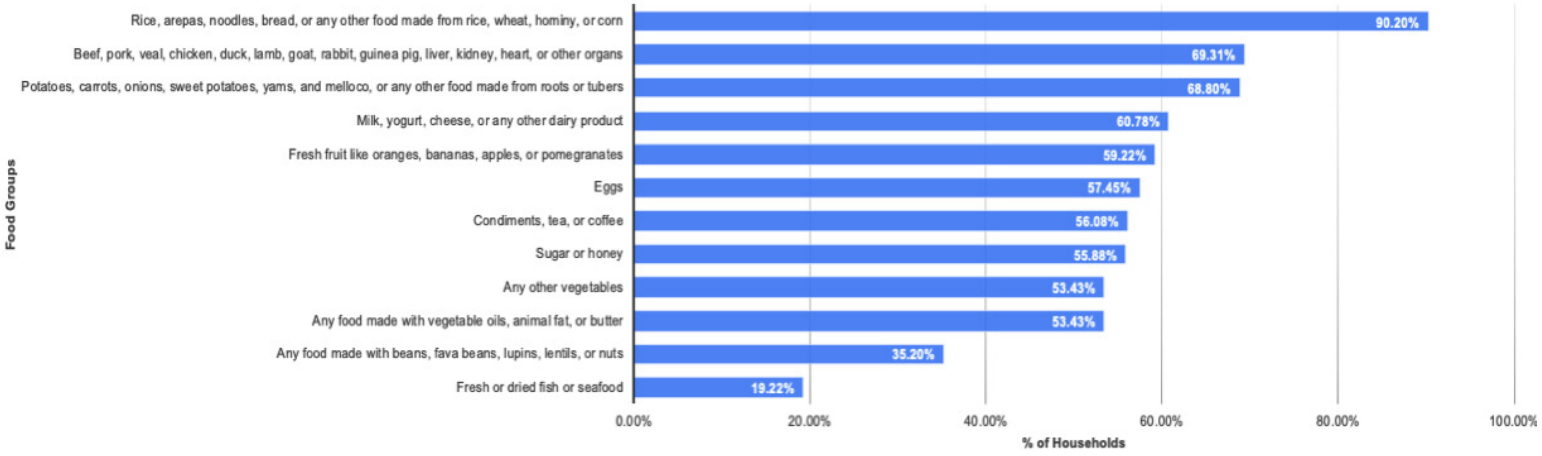
FIGURE 3: Household Access to Food



We used the Household Dietary Diversity Score (HDDS) to assess the variety and diversity of foods consumed in the household in the 24 hours prior to the survey. Overall dietary diversity wase high in the households surveyed, with an average HDDS of 7.0 out of a possible 12.0. However, there is significant variability in the consumption of foods from different food groups. As Figure 4 shows, the high consumption of foods dense with carbohydrates (90%) is noteworthy, compared to lower consumption of foods high in protein, especially seafood, plus vegetables and fruit.

The Months of Adequate Household Food Provisioning (MAHFP) metric assesses the consistency of food access over time, identifying periods of vulnerability (Bilinsky & Swindale, 2010). While 80% of the households reported having enough food throughout the year, 20% experienced shortages, primarily between September and December. These food deficits were largely driven by economic constraints and seasonal price fluctuations. Among the households facing food shortages, 48% went without food for at least one day, 31% endured shortages for two to four days, and 21% lacked sufficient food for more than five days. The most affected food categories included proteins such as meat and fish (57%), fresh fruit (29%), dairy products (25%), and eggs (21%).

FIGURE 4: Household Consumption of Different Food Groups



Major Determinants of Household Food Security

Household Structure

Household structure has a significant impact on food security (Table 2). Extended and composite families exhibited the highest food insecurity levels, with average scores of 2.5 and 2.3, respectively. Single-parent households had moderate food insecurity, averaging 1.5, while nuclear families (couples with children) and childless couples displayed the lowest levels of food insecurity (1.2 and 0.4 respectively). One-person households, though less likely to experience food insecurity, had the lowest dietary diversity, with an average HDDS score of 5.7. Possible factors explaining this outcome may be time constraints and limited cooking habits, which may contribute to reduced dietary variety.

TABLE 2: Household Structure and Average Food Security Indicator Score

	Modified HFIAS	HDDS	MAHFP
Couples with children	1.2	6.4	11.4
Composite households	2.3	6.5	11.3
Extended households	2.5	6.9	11.2
Single-parent families	1.5	6.6	11.4
Childless couples	0.4	6.1	12.0
One-person households	1.4	5.7	11.6

Household Income

Households in the lowest income quintile (Q1) experienced the highest levels of food insecurity, reflected in a household food insecurity score of 2.35 (Table 3). Those in the highest income quintile (Q5) exhibited the lowest level of insecurity, with a score of just 0.4. However, the relationship between income and dietary diversity was less linear, as middle-income households displayed consumption habits similar to those of lower-income groups. This suggests

that beyond income, other factors, such as access to diverse food markets, time available for food preparation, and cultural food preferences, also influence household diets.

TABLE 3: Food Security Indicators by Income Quintiles

Income quintiles	Average household food insecurity metrics	Average HDDS	Average MAHFP
Q1	2.4	6.0	11.0
Q2	1.8	6.5	11.2
Q3	1.3	6.5	11.5
Q4	0.7	6.0	11.8
Q5	0.4	6.8	11.9

Economic stability played a crucial role in food security, as income contraction directly impacted access to an adequate food supply. Households in the lowest income quintile struggled the most, with their ability to maintain a stable food supply often linked to job security. Additionally, families facing a severe illness within the household often had to redirect their financial resources away from food purchases, further intensifying food insecurity.

Food Security During the COVID-19 Pandemic

The COVID-19 pandemic intensified food security concerns across Quito, particularly for households experiencing employment and income disruption. Almost 20% of surveyed households reported that they had concerns about securing enough food during the crisis, and 10% indicated that they had gone hungry at some point. In addition to these difficulties, institutional aid played a minimal role in addressing food insecurity (Eguiguren & Martens, 2024). Instead, most households relied on informal support networks, turning to family members, neighbours, and friends rather than government programs or non-governmental organizations.

Job loss was a major contributor to economic hardship. Half of the surveyed population (507 households) experienced job loss during the pandemic, significantly affecting their ability to secure food. To cope, many households adopted alternative survival strategies. Some sought new jobs, worked overtime, or engaged in multiple informal economic activities. Others resorted to selling goods or reducing their food intake. Approximately 25% of affected households relied on social networks to secure employment after job loss, highlighting the crucial role of community-based support during the crisis.

Beyond economic challenges, the pandemic also reshaped food consumption habits due to concerns about foodborne virus transmission. Fear of contracting COVID-19 through food was reported by 79% of the households. This led to changes in food-handling patterns, with 85% of households disinfecting food containers, 78% increasing the intensity of food washing, and 80% adopting stricter handwashing routines after handling food. Additionally, 60% of households reduced their consumption of food from restaurants and street vendors due to perceived hygiene risks.

The post-pandemic economic recovery was marked by rising food prices and declining perceptions of food quality. More than half (57%) of respondents reported that food prices had increased compared to pre-pandemic levels, while 33% maintained the same food expenditure and only 11% reduced spending. In 2023, for example, the cost of the market basket in Ecuador went from approximately USD 790 in the first half of the year to USD 830 by the end of the year (INEC 2023). The rising cost of food placed additional strain on household budgets, particularly for lower-income groups.

At the same time, perceptions of food quality declined: 77% of the respondents considered food to be of good quality. By 2023, this figure had dropped to 74%, while the percentage of those rating food quality as only "fair" increased from 22% to 25%. Concerns over food additives, contamination, and hormone residues in animal products also became more pronounced, with 69% of respondents expressing concerns about pesticide residues in fresh produce and 56% worrying about antibiotic residues in meat.

As part of their food resilience strategies, some households turned to alternative food sources, including urban agriculture. Approximately 22% of surveyed households engaged in growing food or raising animals for consumption, primarily cultivating vegetables, herbs, and raising poultry. Most of these activities took place in home gardens, patios, or rooftops. However, the pandemic did not lead to a significant shift toward home food production, as only 8% of households reported increasing their agricultural activities in response to the crisis.

A smaller portion of the population relied on food bartering. About 15% of households participated in informal food exchange systems with neighbours or extended family. These exchanges, though limited in scope, provided additional food security for some vulnerable households.

Future Research Directions

Our findings on the effects of the COVID-19 pandemic on food security among households in Quito, shed light on a specific urban demographic. While these households exhibited relative economic stability, this did not fully protect them from food insecurity risks. Their financial security generally facilitated food access and dietary diversity, yet the pandemic exposed vulnerabilities, particularly through employment disruptions, food price increases, and growing concerns over declining food quality. Even food secure households experienced periods of uncertainty, highlighting that economic stability alone does not eliminate food insecurity risks in urban settings.

This study underscores that employment conditions and food affordability were more significant determinants of food security than food availability itself. Informal support networks played an important role in maintaining access to food, particularly during the pandemic when government assistance was limited. Additionally, while dietary diversity remained relatively high, it did not always correlate directly with income. Lower dietary diversity scores in households with relative income advantages suggest that food security is shaped by more than just economic resources, pointing to the need for further research and broader policy considerations.

Future studies should further explore the evolving dietary habits of Quito's population, particularly how time constraints, cultural food preferences, and access to diverse food sources shape household food security. Additionally, the role of informal support networks in food crises and the long-term impact of economic disruptions on food security require further research. Ultimately, the study suggests that, in Quito, the most pressing threats to food security stem not from food shortages but from economic disruptions, emphasizing the need for policies that address employment stability, food affordability, and household resilience.

References

Ahmed, D., Benavente, P., & Diaz, E. (2023). Food insecurity among international migrants during the COVID-19 pandemic: A scoping review. *International Journal of Environmental Research and Public Health*, 20(7), 5273.

Barrera, A. et al. (2020) *Quito y el Covid-19. Atlas*. FLACSO Ecuador.

Bilinsky, P., & Swindale, A. (2010). *Months of Adequate Household Food Provisioning (MAHFP) for Measurement of Household Food Access: Indicator Guide (v.4)*. Washington, D.C.: FHI 360/FANTA.

Coates, J., Swindale, A., & Bilinsky, P. (2007). *Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide (v.3)*. Washington, D.C.: FANTA.

CFS-HLPE (2021). Impacts of COVID-19 on food security and nutrition: developing effective policy responses to address the hunger and malnutrition pandemic. *HLPE Issues Paper*, Committee on World Food Security: High Level Panel of Experts on Food Security and Nutrition

Crush, J., Thomaz, D., & Ramachandran, S. (2021). South-South Migration, Food Insecurity, and the COVID-19 Pandemic. MiFOOD Paper No. 1, Waterloo.

Eguiguren, M., & Martens, C. (2024). Impacts of COVID-19 Policy Measures on Migration and Food Security in Ecuador. MiFOOD Policy Audit No. 2, Waterloo.

FAO-CIRAD-RUAF (2024) Food Resilience in the Quito City Region: An Ongoing Challenge. Rome: FAO.

INEC, 2023. IPC – Canastas 2023. At: https://www.ecuadorencifras.gob.ec/informacion-historica-ipc-canastas-2023/

INEC, n.d. Resultados nacionales definitivos. At: https://www.censoecuador.gob.ec/wp-content/uploads/2024/05/Presentacion_Nacional_2da_entrega.pdf

The Lancet Global Health (2021) Food insecurity will be the sting in the tail of COVID-19. *The Lancet Global Health*, 8(6): e737.

Urquidi, M., Chalup, M., & Serrate, L. (2023). Brecha de género en los ingresos laborales en Ecuador. Un análisis de su evolución en el período 2000 – 2021. Banco Interamericano de Desarrollo (BID).

World Food Programme, 2021. *Ecuador Annual Country Report*.

Xu, F., Crush, J., & Zhong, T. (2022). Pathways to food insecurity: Migration, hukou and COVID-19 in Nanjing, China. *Population, Space and Place*, 29(1): e2640.