January 15, 2021

Table of Content

MIGRATION AND MOBILITY

Country	Ecuador
City	Quito
Month	January
Year	2021
Focus	Poverty, Migration and Mobility
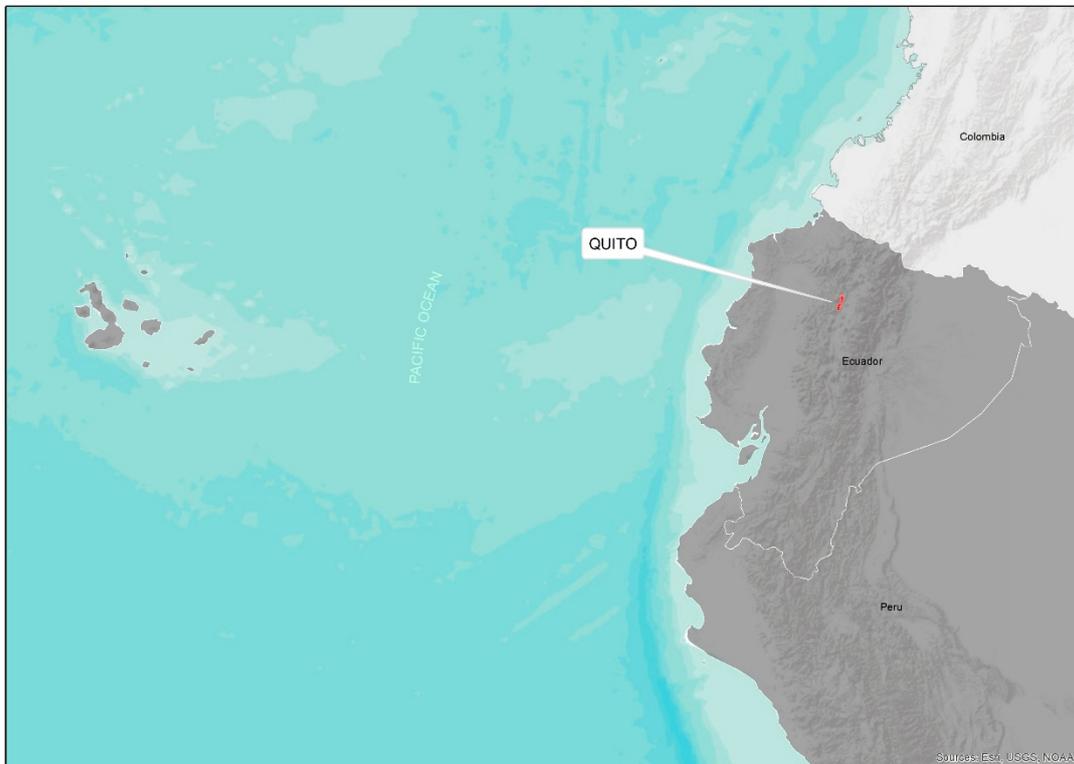
1. Status of COVID-19
    a. Cases: 71,347
    b. Deaths: 1,853

The Metropolitan District of Quito (DMQ) contains 2,781,641 inhabitants, which represent the 16% of the national population, being the largest city in the country. Since March 2020, the city has been struggling in controlling the propagation of COVID-19, throughout several control measures imposed, including: mobility restriction, public transportation limits, and closure of public spaces, such as cinemas, restaurants, public events, among others. Also, raising awareness, through public campaigns, to increase biosafety and control measures has been a corner stone of public intervention.

The city statistics show that to date (January 14th, 2021) there are 71,347 confirmed cases out of 288,667 samples taken, and 190,242 cases were negative[1]. The number of confirmed cases in Quito represent the 32% of national COVID-19 cases. Besides, 1,853 deaths by COVID-19 have been identified, accounting for the 13% of total deaths at

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[1] https://www.coronavirusecuador.com/datos-provinciales/

national level. According to Figure 1, which shows the excess of deaths, compared to similar periods in past years. The peak of deaths occurred in July and August 2020, followed by a decreasing trend of deaths, nonetheless, we may be in a slightly increasing trend that start on December 2020 and probably January 2021.

Figure 1 Excess in mortality, from Jan to Dec 2020, Quito Ecuador[2]

Confirmed cases, in terms of gender, 34,626 for females, representing 48% of total cases, while the 52% are registered for the males with 37,849 cases. In terms of age, the highest percentage of cases are grouped between 20 and 49 years, corresponding to the economically active population with 62.44% of cases, followed by the age group from 50 to 64 years with 20.63% [3].

The highest contagion rates of COVID-19 within the city concentrates mostly in the southern area and the peripherical parishes, which correlated with their higher poverty rate (map 2). Additionally, a hotspot is the commercial center of the city, where most of the financial activities of the city take place.
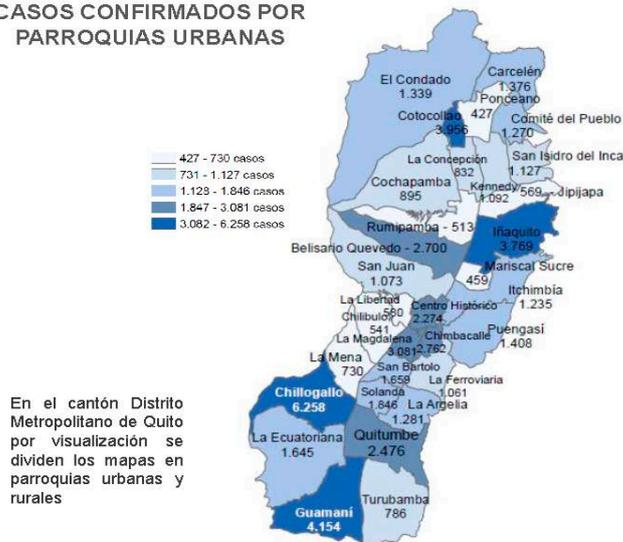
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[2] DMQ, 2021: http://www.quitoinforma.gob.ec/2021/01/13/en-quito-se-mantiene-contagio-sostenido-de-casos-de-covid-19/

[3] DMQ, 2021: http://www.quitoinforma.gob.ec/2021/01/13/en-quito-se-mantiene-contagio-sostenido-de-casos-de-covid-19/

Figure 2 Official Map, COVID-19 cases, Distrito Metropolitano de Quito, Ecuador, 20214

2. Description of economy

The economic importance of Quito within the gross added value is very significant, in 2010 Quito generated 22.11% of the National GDP, followed by Guayaquil with 20.7%5, demonstrating a concentration of productive activity in these two cities.

In 2013, the Gross Added Value of Quito reached the figure of 13,669 million dollars (at constant prices 2007), with a growth of 0.52% compared to 20126. The highest peak of growth was registered in 2011 with a rate of 6.34%. And the most important economic groups are: Professional and Real Estate Activities (25%), Manufacturing (17%), Transport
- Information and Communications (12%) (Banco Central del Ecuador, INEC, 2014)7.

According to Banco Central del Ecuador8, employment figures increased from 55.6% in 2009 to 70.8% in 2014, followed by a decreasing trend and achieving a level employment rate of 59.7% in 2019. As a reference, for the same year, the national level employment rate was of 37.9%. On the other hand, since 2009 underemployment decreased from

[4] DMQ, 2021: http://www.quitoinforma.gob.ec/2021/01/13/en-quito-se-mantiene-contagio-sostenido-de-casos-de-covid-19/

[5] Banco Central del Ecuador, 2007-2010

[6] Instituto de la Ciudad de Quito, 2014

[7] Banco Central del Ecuador, 2014

[8] Banco Central del Ecuador, 2019
(https://contenido.bce.fin.ec/documentos/Estadisticas/SectorReal/Previsiones/IndCoyuntura/Empleo/imle201901.pdf)

14.5% to 4.5% on 2015; however, an increasing trend has developed in the last years achieving 15.5% in 2017 and 9% in 2019. In the same way, employment increased since 2015, fluctuating from 4.4% to 9.7% in 2019, showing a higher rate than the national average of 4.6% (Banco Central del Ecuador, 2019).

The economic section that generates the most suitable employment in Quito is the Services sector (48.40%), Commerce and repair of vehicles (22.1%), Manufacturing industries (12.3%), Public administration and security (7.7%), Construction (7.5%). Together concentrated 98% of the employed population. Within Services the highlights are: Accommodation and food activities (7%), Transportation and storage (6.6%), Teaching (5.5%), and Professional activities, scientific and technical (4.6%), Service activities in private homes (4.5%), and Administrative activities and services (4.5%) [9].
Recent research [10] indicates, that in economic terms, Quito is the Ecuadorian city hardest hit city by the COVID-19 health emergency. There are three indicators that account for the dimension of the impact of the pandemic and the restrictions for individuals and businesses that were decreased since mid-March.

1. Sales and exports in Quito reached USD 30,395 million, which means a contraction of 27.31% or the equivalent of USD 11,422 million less compared to the same period in 2019. The capital is the city with the largest contraction in sales and exports in 2020, according to the Internal Revenue Service (SRI). May was the month in which the greatest drop in sales was recorded: USD 3,068 million. Since june a trend of increasing sales and exports began to show. In July, the drop-in sales in Quito was USD 1,759 million [11].
2. In June 2020, the unemployment rate in Quito was 22.8%, that is, 7.9 percentage points above the Guayaquil rate and 9.5 percentage points above the national unemployment rate [12].
3. The decrease in tax collection, due the drop-in sales and exports, as well as the deterioration in employment and the reduction in family income. Between January and August 2020, tax collection in Quito decreased 18% or the equivalent of USD 1,698 million compared to the same period of 2020.

Three factors are considered as important in the economic reduction of the city. First, nearly 50% of the public sector and its employees are in Quito. Second, most of the income from sales and exports comes from activities that were subject to restrictions, such as trade. Third, the extension of the stage of physical isolation to prevent contagion.

3. Vulnerable Populations

Poverty

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[9] ENENDUM, 2014

[10] Coba, Gabriela (2020) "Quito: tres indicadores muestran impacto de la pandemia en la economía", PRIMICIAS, ene 2021. https://www.primicias.ec/noticias/economia/indicadores-quito-ciudad-golpeada-crisis-covid/

[11] SRI, 2020

[12] Camara de Comercio, 2020

Since 2017 (21.5%), poverty and income inequality at the national level has shown a tendency to increase, reaching 25% in 2019. Specifically, in Ecuador´s urban areas poverty has also shown the same trend on the rise, reaching 17.2% by 2019, while Quito presents a notably lower rate of 8.2%. Meanwhile Quito´s extreme poverty indicator is of 2.8%, accompanied by the Gini coefficient of 0.462, which demonstrate the levels of inequality in the city.

In other words, 11 of every 100 inhabitants of Quito are below the poverty line. Some of the reasons for these situations are related to labor, such as underemployment, unemployment, and the deep dependence of the city on public spending.

Immigration

The last census, conducted in 2010, shows that the number of foreigners residing in Ecuador amounts to 181,848 people and their percentage with respect to the population total remains at 1.3%[13]. This population, includes people of Colombia, followed by Peruvian and American, and are concentrated in provinces from Pichincha, Guayas and Carchi. Further, this census highlights an increase in arrival of Cubans, Haitians and places like Nigeria, India, China, Pakistan, Afghanistan, among others[14].

In 2010, immigration was not entirely visible on the streets, commerce, and services. Just with the increase of migratory flows of people with Colombian, Cuban, and Haitian and later Venezuelan nationality, in the last decade, international in-migration became visible. The crisis in Venezuela of the last four years increased the migratory flows, in the last decade. According to the Ministry of the Interior in 2015 was a population for Venezuelan migrant was 8,901 in the country and is 362,862 in 2020[15]. With 15.8% of the active settlements and communities registered in Quito[16].

In the context of the COVID-19 pandemic, within very difficult economic situation, all indicators of poverty with a tendency to increase, and the increasing number of migrants, especially from Venezuelan, the prospects of Quito in front of the COVID-19 situation are challenging.

4. Project Focus

Mobility and migration are potentially, large, second order impacts of the COVID-19 pandemics, with strong implications to economy, well-being, and regional security. In Quito, it is expected that thousands of persons, will move in from national and internationally places of origin. During the 10 months of the health crisis this has been the case. Migration to and from main cities can occur as combination of different pull and push factors. Among the main economic factors, availability of formal and informal labor, is one of the more important. In terms of social factors, access to health services, education and security are significant. Moreover, the role of social networks will be crucial for cities in the long term.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

[13] INEC, 2010, Base de Datos de Migración, https://www.ecuadorencifras.gob.ec/base-de-datos-migracion/

[14] INEC, 2010

[15] https://gk.city/2019/07/29/venezolanos-ecuador-migracion/

[16] https://r4v.info/es/situations/platform/location/7512

Table 1 .- C2M2 metrics for Quito

Focus priority	Objectives	Variable	Data obtained Quito
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases	✔
		Mobility due to COVID-19	✔
		Hospital Infrastructure	✔
		Public investment in health	✔
		Hospitalized patients	✔
		Emergency Calls during the COVID-19 Pandemic	✔
		The List of Designated Hotels - Coronavirus	✔
		Donations Received During the COVID Pandemic	✔
		Delivery Apps in time of COVID-19	✔
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment	✔
		Poverty and unsatisfied basic needs	✔
		Working Age Population (PET)	✔
		Economic indicators	✔
		Electricity consumption	✔
		Quality of household materials	✔
		Access to basic services	✔
		Internet access and consumption	✔
Social	Assess poverty, migration, violence, and education before and after the pandemic	Well-being index	✔
		Population Location (urban or rural)	✔
		Domestic violence	✔
		Crime	
		Gender-based violence	✔
		Human Rights Violations	✔
		Waste generation	✔
		Air quality index (AQI)	✔
		School Attendance	✔

Lima City Project

Country	Perú
City	Lima
Month	January
Year	2021

Focus   Poverty, Migration and Mobility

1. Status of COVID-19

The information provided by the MINSA allows us to know the confirmed cases and the number of deaths from COVID-19 as of January 12, 2021.The department of Lima show a total of 462.044 confirmed cases and 17.053 deaths during the pandemic. 17

The measures adopted by the Peruvian government until January 17, 2021 mention that: the population cannot circulate on the street between 11:00 p.m. to 4:00 a.m. the next day.

Children under 12 years of age: when they go out, they must keep a distance of no less than two meters from other people, which does not include the adults who accompany them (parents, guardians or adult caregivers).

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[17] https://covid19.minsa.gob.pe/sala_situacional.asp
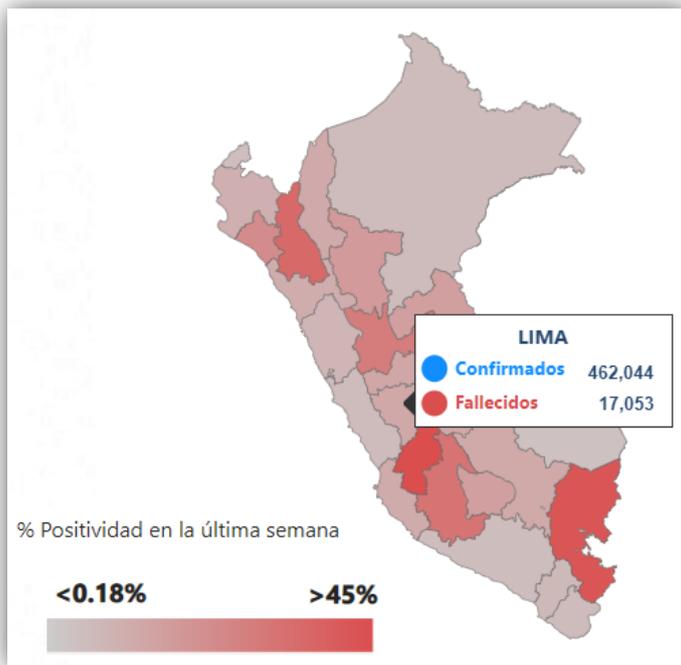
Figure 3 Map of confirmed cases and number of deaths by department in Peru[18]

a. Cases

Based on the table, it can be observed that the number of cases is greater in the urban area than in the rural area of the department of Lima.

Table 2.- Number of cases

Department	PCR (+)	Quick test (+)	Antigen Test (+)	Total cases (+)
Metropolitan Lima	159.723	268.187	921	428.831
Lima Region	7.204	25.965	44	33.213
			TOTAL	462.044

b. Deaths

Despite the fact that the cases are not as high in the rural area of Lima, the fatality rate of COVID-19 is higher than in the urban area.

Table 3.- Number of deceased

Department	Deceased	Lethality (%)
Metropolitan Lima	15.491	3,69%
Lima Region	1.562	4,70%
TOTAL	17.053	8,39%

According to official data, the elderly is the group with the highest number of deaths in Peru. The male sex being the most affected by this disease.

Figure 4 Deceased by life stage[19]

Figure 5 Deceased by sex[20]

2. Description of economy

Lima, the capital of Peru, is located on the central coast of the country, on the shores of the Pacific Ocean, forming an extensive and populous urban area known as Metropolitan Lima, flanked by the coastal desert and extended over the valleys of the Chillón, Rímac and Lurín rivers. According to the National Census of 2017, the department with the largest population in the country is Lima, with a total of 9 million 485 thousand 405 inhabitants.

Currently, it is considered as the political, cultural, financial and commercial center of the country. Internationally, the city ranks fifth among the most populated cities in Latin America and is one of the thirty most populated urban agglomerations in the world.

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19 Instituto Nacional de Salud y Centro Nacional de Epidemiologia, Prevención y Control de Enfermedades - MINSA

20 Instituto Nacional de Salud y Centro Nacional de Epidemiologia, Prevención y Control de Enfermedades - MINSA

Jurisdictionally, the metropolis extends mainly within the province of Lima and in a smaller portion, to the west, within the constitutional province of Callao, where the seaport and the Jorge Chávez International Airport are located. Both provinces have regional autonomy since 2002. 21

According to INEI data, in 2019 the country's gross domestic product reached 762 million soles, with the Department of Lima having a participation of 45.8% and a growth of 3.2%.22

The main economic activities are:

- Manufacturing industry (60.1%)
- Trade, maintenance and repair of motor vehicles and motorcycles (54.1%)
- Transportation, storage, mail and courier (57.4%)
- Accommodation and restaurants (65.9%).

In the last 20 years, Peru has significantly reduced its poverty level, although much of its middle class is still vulnerable. According to IDB data, poverty in Peru fell from 49.8% in 2000 to 20.7% in 2018. This socioeconomic transformation was mainly due to economic growth, but also to the redistributive and social policies implemented during that period23, the middle class expanded, from 49.6% to 77.7%. However, this social transformation is fragile since 43% of the population still belongs to the vulnerable middle class as adverse effects such as the COVID-19 crisis.

The labor market and household income were severely hit by the crisis. In Metropolitan Lima, the INEI estimates that 1.9 million jobs were lost in the mobile quarter May - June - July 2020 compared to the same period in 2019, a figure that implies 40% of total employment. Likewise, the wages of those who kept their job contracted by 10.6% in the same period. These impacts tend to be greater among the lower-income population groups.

According to an IPSOS study, while approximately half of the respondents belonging to the poorest socioeconomic stratum have been left without a job or are not receiving income from their work, this percentage drops to 22% for the highest income socioeconomic group. It should also be noted that during the first weeks of the quarantine, more than 167,000 Peruvians requested to return to their provinces of origin, having produced a reversal of the internal migration process that is unprecedented and that occurred in extremely precarious conditions, which could have contributed to spread the pandemic to rural areas of the country. 24

3. Vulnerable Populations

The COVID-19 crisis had a particularly marked impact on certain population groups:

Immigrants

21 https://www.munlima.gob.pe/lima

22 https://www.inei.gob.pe/media/difusion/app/#p=14

23 Cruces y Gasparini (2013) señalan que, en América Latina y el Caribe, el crecimiento económico explica, al menos, el 70% de la reducción de la pobreza. El porcentaje restante se debe a políticas sociales y redistributivas.

24 https://publications.iadb.org/publications/spanish/document/Peru-Desafios-del-desarrollo-en-el-post-COVID-19.pdf

The more than 860,000 Venezuelan migrants who have established their residence in Peru. Among the factors that exacerbate the vulnerability of this group, according to the Survey on Living Conditions of the Venezuelan Population (ENPOVE) carried out by the INEI (2018) identifies the following: i) the informality of their working conditions (close to 90% work without a contract); ii) the lack of health insurance (this affects more than 90%, who do not have any insurance of this nature); and iii) overcrowding conditions and the lack of formal rental contracts, which affects a high proportion of the migrant population, increasing the risk of eviction. Furthermore, the Venezuelan population has fewer savings or assets than Peruvians to cope with the crisis, and, as a foreigner, the family support networks they can access are weaker.

Women
Another group that is suffering with particular intensity from the effect of the crisis is that of women victims of violence. Although the statistics are imperfect, the available indicators suggest that during confinement there has been a significant increase in episodes of intimate partner violence. Likewise, the obstacles faced by these women to be protected have become more acute, since during the quarantine the Women's Emergency Centers (CEM) have operated with reduced mobile equipment and have only been able to focus on the most dramatic cases. A latent risk is that this increased incidence of violence against women (VAW) will extend beyond the pandemic, especially if the impacts of the economic crisis that COVID-19 is causing are not mitigated

4. Project Focus

As with Quito and Santiago, mobility and migration are the focus of the project. The second order impacts of the COVID-19 have strong implications to economy, well-being, and regional security. In addition, during the 10 months of the health crisis this has been the case. Migration to and from main cities can occur as combination of different pull and push factors. Among the main economic factors, availability of formal and informal labor, is one of the more important.

In Lima, there will be an especial focus on the impacts of COVID19 on the health systems, mostly because UPCH (Universidad Peruana Cayetano Heredia) is a medical university with high potential to understand and discover public health trends and its implications within the socio-economic system of Lima.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

Table 4.- C2M2 metrics for Lima

Focus priority	Objectives	Variable	Data obtained Lima
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases	✔
		Mobility due to COVID-19	
		Hospital Infrastructure	✔

		Public investment in health Hospitalized patients Emergency Calls during the COVID-19 Pandemic The List of Designated Hotels - Coronavirus Donations Received During the COVID Pandemic Delivery Apps in time of COVID-19	15
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment Poverty and unsatisfied basic needs Working Age Population (PET) Economic indicators Electricity consumption Quality of household materials Access to basic services Internet access and consumption	
Social	Assess poverty, migration, violence, and education before and after the pandemic	Well-being index Population Location (urban or rural) Domestic violence Crime Gender-based violence Human Rights Violations Waste generation Air quality index (AQI) School Attendance	

Country	Chile
City	Santiago de Chile
Month	January
Year	2021
Focus	Poverty, Migration and Mobility

1. Status of COVID-19

According to official numbers, (updated to January 14th, 2021) by the Ministry of Health of Chile, the current status of the disease is as follows:
   a. Confirmed cases: 329,427
   b. Active cases: 5,095
   c. Confirmed deaths: 11,024
   d. Recovered: 313,016

Chile is one of the Latin American countries with the largest number of confirmed cases of COVID-19 25. The most affected area is the Metropolitan region, where the capital city of Santiago is located. As the number of confirmed cases of COVID19 accounts for roughly half of the total cases registered in Chile.

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[25] https://www.statista.com/statistics/1103828/chile-coronavirus-cases-region/

Chile has the third largest gross domestic product (GDP) per capita, in Latin America, after Uruguay and Panama. Yet its health system is deemed less stable than those of Argentina, Nicaragua, and Peru, for instance[26]. Chile has over 66% more inhabitants than the Dominican Republic, but the latter has over twice as many hospitals[27]. While the number of hospitals in Chile has decreased recently, the number of confirmed COVID19 cases continues to rise. Thus, Chile has experienced in the last four weeks a second wave of infections with an increase in the number of cases that has returned it to figures that were not registered since June, when it was on the verge of sanitary collapse (figure 6).

Figure 6 Number of confirmed cases per day in Chile28

2. Description of economy

According to the census of 2017, the population that made up the Santiago metropolitan area reached 6,257,516 inhabitants, equivalent to 35.6% of the national total29. This figure reflects the broad growth in the city's population during the 20th century.

Santiago is the most important pole of economic development in Chile and one of the most relevant cities in Latin America. According to the Central Bank, the gross domestic product of the Metropolitan Region in 2005 was 24,461,582 million Chilean pesos (approx. USD 35,380 million) and it was equivalent to 43.68% of the total national GDP30. This figure, adjusted with purchasing power parity, increased to USD 91 billion, which places it as the 53rd city with the highest income, and the fifth largest city in Latin

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[26] https://www.statista.com/statistics/1105897/latin-america-global-health-security-index-robust-health-system/

[27] https://www.statista.com/topics/6197/coronavirus-covid-19-in-chile/

[28]Cifras Oficiales COVID-19 https://www.gob.cl/coronavirus/cifrasoficiales/#reportes Consultado el 14 de enero de 2021

[29] Instituto Nacional de Estadísticas, Ministerio de Vivienda y Urbanismo (2017). https://ine-chile.maps.arcgis.com/apps/Cascade/index.html?appid=cf0be9a196e24eaa9e6eafb970939f2a. Consultado el 14 de enero de 2021.

[30] Banco Central de Chile, Ficha Producto Interno Bruto Regional 2003 – 2005, https://web.archive.org/web/20071222065556/http://www.bcentral.cl/publicaciones/estadisticas/actividad-economica-gasto/aeg07b.htm Consultado el 14 de enero de 2021

America (after Mexico City, Buenos Aires, São Paulo and Rio de Janeiro). By 2020, Santiago´s GDP would reach USD 170 billion with an effective annual growth rate of 4.1%.

Santiago is the financial and administrative center of the country; consequently, the main activities are concentrated in the tertiary sector, producing 79.81% of the city´s GDP. Industrial activities also play an important role, being responsible for 19.5% of the city's GDP, contributing 45.22% of the sector's income nationwide. Similarly, activities such as construction, transport, commerce and finance, contributes with 40 to 50% of the national GDP in each sector[31]. And tourism also stands out, concentrating in Santiago and Los Libertadores trans-Andean pass, 55% of turists who enter the country per year. And even though this economic prosperity, the average salary is $861.

Like everywhere else, the COVID-19 outbreak comes with consequences for Chile's economy. Alike other Latin American markets, the country's GDP is set to decrease at least six percent by the end of 2020. Between March 3 — when the first coronavirus case in the country was reported — and March 19, 2020, the value of the Chilean peso depreciated almost seven percent, whereas the IPSA stock exchange index declined by around 30 percent.

3. Vulnerable Populations

Recently, Santiago was the scene of social manifestations, through which the people initially opposed the rise in the price of subway tickets, but later evolved into a revolution to express discontent with the previous and current government's management due to the great social and economic inequality gap among the Chilean population (the gap between the rich and poor dropped by 5.1 percent). Although Chile has shown itself to be one of the most economically stable countries within the region, the reality of the population lives differs[32].

Polarization among social classes is evident in the city (figure 7). The wealthiest part of the city, northeastern Santiago, is a stark contrast to the poorest areas in the south and northwestern parts. Centers of culture are congregated at the center of the city. Shopping malls and new cultural buildings are being placed in already high-income parts of the city. In the south, where poverty in Santiago is evident, important buildings, like high schools, are being underdeveloped. Instead, these regions are known for landfills and jails.

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[31] Banco Central de Chile, Ficha Producto Interno Bruto Regional 2003 – 2005, https://web.archive.org/web/20071222065556/http://www.bcentral.cl/publicaciones/estadisticas/activ idad-economica-gasto/aeg07b.htm Consultado el 14 de enero de 2021

[32] France 24, Las manifestaciones en Chile desafían el Coronavirus y al Gobierno de Sebastián Piñera, marzo 2020. https://www.france24.com/es/20200314-manifestaciones-chile-desafian-coronavirus-gobierno-sebastian-pinera Consultado el 14 de enero de 2021
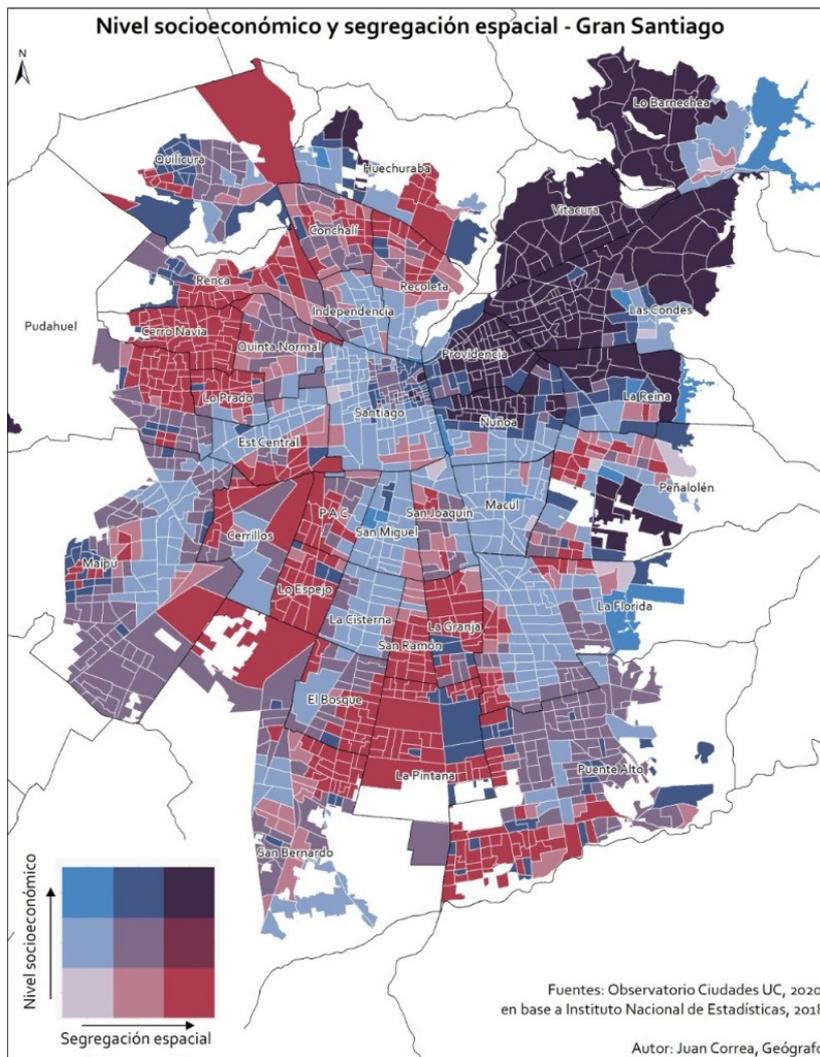
Figure 7 Socioeconomic segregation in Santiago de Chile[33]

Poverty rates in Santiago are on the rise. Although Santiago remains below the national poverty rate of 15.2 percent, it increased by about 1 percent between 2007 and 2010. Access to healthcare is one of the most relevant problems in the city, and now more than ever, the limitations of the health system were made evident by the coronavirus outbreak. While, health education is also lacking and many of the city's poorest residents develop preventable diseases as a result.

The population of Santiago doubled between 1940 and 1960, resulting in a housing crisis. Even the efforts of the government through projects such as 'Operation Site', the problem persists, and low-income people live in precarious conditions.
Average education for Heads of Household is nine years. In some of the most poverty-stricken neighborhoods of Santiago, only one out of five youths have access to higher education. Moreover, the average family's head of household has only reached nine years of education[34].

[33] Correa, Juan (2020) Mapa de Segregación Socioeconómica – Santiago de Chile, Centro Producción del Espacio, UDLA. https://producciondelespacio.org/2020/09/11/11-9-la-ciudad-de-santiago-como-simbolo-fascista/ Consultado el 14 de enero de 2021.
[34] Babb, Stefanie (2018) "10 important and relevant facts about poverty in Santiago", Borgen Project.

4. Project Focus

The influence of Venezuelan migrants to the Andean region has been an external shock for the infrastructure, economy and social services. In Santiago, there are reports of large flows of migrants refugees returning to places of origin, but it is unknown the real behavior and condition of migrants. As with Lima and Quito, the focus in internal and external in-migration. One especial focus is on the public policy aspects of the pandemic, how local governments have try to control and assess the pandemics, in light to the national referendum to change the constitution that will reformed during all 2021.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

Table 5.- C2M2 metrics for Santiago de Chile

Focus priority	Objectives	Variable	Data obtained Santiago de Chile
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases	
		Mobility due to COVID-19	✔
		Hospital Infrastructure	
		Public investment in health	
		Hospitalized patients	
		Emergency Calls during the COVID-19 Pandemic	
		The List of Designated Hotels - Coronavirus	
		Donations Received During the COVID Pandemic	
		Delivery Apps in time of COVID-19	
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment	✔
		Poverty and unsatisfied basic needs	
		Working Age Population (PET)	
		Economic indicators	
		Electricity consumption	
		Quality of household materials	✔
		Access to basic services	
		Internet access and consumption	
Social	Assess poverty, migration, violence, and education before and after the pandemic	Well-being index	
		Population Location (urban or rural)	
		Domestic violence	
		Crime	✔
		Gender-based violence	
		Human Rights Violations	
		Waste generation	
		Air quality index (AQI)	
		School Attendance	✔

TOURISM

Country   Ecuador
City   Santa Cruz
Month   January
Year   2021
Focus   Poverty and Tourism
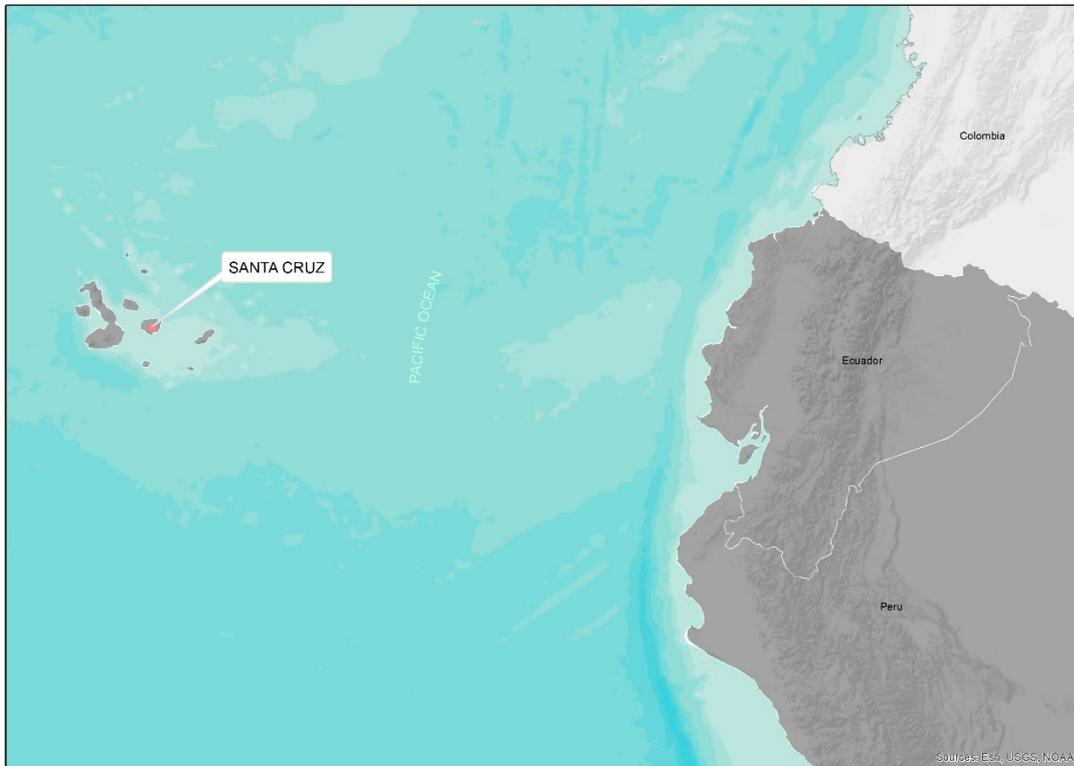
1.   Status of COVID-19

Based on the information provided by the Ecuadorian Ministry of Health through their INFOGRAFÍA N°322 with cut-off on 14/01/2021, the city of Santa Cruz registers a total of 613 confirmed cases of Covid-19.[35] This corresponds to a contagion rate of 3.02% of the total population, which by the end of 2020 is estimated at 20,302 inhabitants.[36] The general total of Covid-19 infections for the Galapagos Islands is 1,089 people and the number of deaths from this cause adds up to a total of 8. This corresponds to a mortality rate of 0.73%, which is relatively low in relation to the average mortality produced by the disease.

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[35] Secretaria Nacional de Riesgos y Energencias Del Ecuador (National Secretariat of Risks and Energies of Ecuador). (14/1/2021). Infografía N°322.

[36] Instituto Nacional de Estadistica y Censos (National Institute of Statistics and Censuses). (2020). Proyección de la Población Ecuatoriana por Años, Según Cantones 2010-2020: Proyecciones poblacionales.

In the following table we can see the evolution that the contagion of Covid19 has had in Galapagos and the city of Santa Cruz since the beginning of the pandemic in March 2020 to date.

Table 6.- People with COVID-19 in Galápagos and Santa Cruz

PEOPLE WITH COVID-19 IN GALAPAGOS AND SANTA CRUZ (1)				
PERCENT FOR EVERY THOUSAND INHABITANTS				
	GALAPAGOS (2)		SANTA CRUZ	
MONTH	TOTAL	PERCENT	TOTAL	PERCENT
2020				
MARCH	5	0,2	2	0,1
APRIL	68	2,1	50	2,5
MAY	76	2,3	54	2,6
JUNE	88	2,7	57	2,8
JULY	103	3,1	71	3,5
AUGUST	109	3,3	74	3,6
SEPTEMBER	198	6,0	146	7,2
OCTOBER	227	6,9	163	8,0
NOVEMBER	628	19,0	422	20,7
DECEMBER	918	27,8	504	24,7
2021				
JANUARY	1.089	33,0	613	30,0
(1) UNTIL JANUARY 14, 2021 ACCORDING TO INFOGRAFIA N°322				
(2) The estimated population of Galapagos in 2020 is 33,042 inhabitants, according to the INEC.				
SOURCE: SERVICIO NACIONAL DE RIESGOS Y EMERGENCIAS DEL ECUADOR, Informes de situación e Infografías.				
ELABORATION: Project team.				

In the following graph we can see the growth in the level of contagion of Covid-19 in Santa Cruz. The behavior of the trend is almost identical in the hole Galapagos Islands. It is important to emphasize that Santa Cruz is the main gateway to the Islands and the most important city in terms of tourist activity and other economic activities in Galapagos.
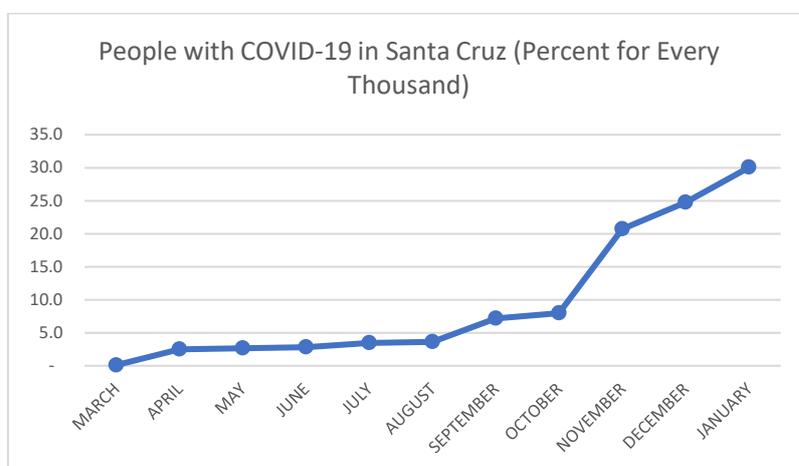

Figure 8 People with COVD -19 in Santa Cruz

Regarding the trend of the contagion curve, it is important to emphasize the acceleration that from August 2020 has the level of contagion of Covid-19 in the city of Santa Cruz and in general in

the Galapagos Islands. The probable cause of the increase in infections, which in the city of Santa Cruz goes from 3.6 per thousand inhabitants in August 2020 to 30 per thousand inhabitants in January 2021, is the restart of tourist activity. The economic boost that the restart of tourism supposes, due to its importance in the total production of the city and the Islands, is contrasted with the negative effects that it could be generating in terms of health of the inhabitants (See Table 2).

Therefore, the biggest question that emerges from this analysis is whether there is any way to correct this acceleration of covid-19 infections and at the same time maintain the increase in the flow of tourism.

Some other statistics as of January 9, 2021 on the status of Covid-19 in Galapagos are the following[37]:

Accumulated Discarded Cases: 9,338
Accumulated Recovered: 898
Stable Hospitalized: 5
Hospitalized Reserved: 3

2. Description of economy

General data

- Area of the territorial unit: 1,794 km²

- Location: The canton Santa Cruz is located in center to the Galápagos Islands (0 ° 37′0′′S, 90 ° 21′0′′W). The city of Puerto Ayora, the most populated of the archipelago, is the cantonal head and its urban parish. Bellavista and Santa Rosa are its rural parishes. In addition to Santa Cruz Island, under its jurisdiction, there are the following islands: Baltra, Marchena, Rábida, Pinta, Santiago, Pinzón, Seymour and its nearby islets.

- Limits: It borders the cantons of San Cristóbal to the East and Isabela to the West. The three councils complete the districts of the Province of Galapagos.

- The canton is characterized by its location and concentrated geographic distribution (urban area), and the dispersed area (rural area). Puerto Ayora constitutes the center of the Canton Santa Cruz, that is, the axis of the set of economic, political, social and cultural dynamics. The periphery is made up of two different units: the first, which includes rural parishes, very important due to its role in the supply of agricultural products, and the second, made up of Baltra, the main gateway to Galapagos.[38]

- UNESCO declared the Galapagos Islands as a Natural Heritage of Humanity on July 28, 1979 and a Biosphere Reserve and Whale Sanctuary in 1985.

- Geography:

[37] Source: MSP-COE PROVINCIAL DE GALAPAGOS. Weekly bulletin on the current situation of COVID 19.
[38] Marambio Chávez, J. (2009). Análisis Situacional sobre la Percepción del Uso y Consumo de Drogas en el Cantón Santa Cruz de Galápagos.

- Temperature: In the dry season (that goes from June to December), temperatures vary between 18 and 20 º C; while in the hot and rainy season (that is from January to May), temperatures vary between 24 and 29 º C.
- Altitude: from 0 to the maximum altitude of 864 meters above sea level.
- Weather: The annual average of precipitations in the coast is between 0 to 300mm per year, while in the upper part it is between 300 and 1700 mm (Hamann, 1981).

- Population:39

- Resident people: 15,701 which represents 62.2% of the total of Galapagos. Its urban parish Puerto Ayora has 46.8%, Bellavista 13.4% and Santa Rosa the remaining 2%.
- Male residents: 8,000
- Female residents: 7,701
- People residing in urban areas: 11,814 habitants residing in Puerto Ayora.
- People residing on the rural beach: 3,887 people residing in Bellavista and Santa Rosa.
- Migration (Galapagos): Of the 25,244 registered inhabitants, 36.1% were born in the province of Galapagos (9,125 people), while 62.5% are immigrants who arrived from other provinces of the country and 1.3% were born abroad.

- Education: 79.4% of women and 76.9% of men in school age (from 5 to 24 years) attend a regular education establishment. This difference in favor of women has narrowed in recent years, although it still remains at 2.5 percentage points.

- Tourism: Since 1980, tourism is the main economic activity of the Galapagos Islands and also of Santa Cruz. An average stay of 4,501 tourists per day is estimated. The annual tourist population for 2018 was 275,817. This represents a growth of 14 percent compared to 2017 and of 6.05 percent compared to the last 10 years. According to the Galapagos Tourism Observatory, in 2018, a total of 317 accommodation establishments, 153 restaurant and bar establishments, and 190 tourist boats were registered. The Economic Active Population (EAP) related to the tourism sector is estimated at 42.78 percent of the total population, while the EAP related to agricultural activities is less than 6 percent.40 For 2019, the entry of tourists was 271,238 people. Therefore, there was a decrease in the number of tourists of 1.7 percent.

In order to better appreciate the possible negative impact of tourism on the level of contagion, the following table shows the evolution of the flow of tourists during 2020.

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[39] INEC (2015).Census data.
[40] Plan DSOT, 2015.

Table 7 Monthly arrivals to Galapagos and Santa Cruz

MONTHLY TOURIST ARRIVALS TO GALAPAGOS AND SANTA CRUZ		
2020	GALAPAGOS	SANTA CRUZ
JANUARY	22.045	15.710
FEBRUARY	23.947	16.491
MARCH	11.369	7.826
APRIL	7	-
MAY	20	7
JUNE	28	13
JULY	38	28
AUGUST	456	383
SEPTEMBER	1.232	1.006
OCTOBER	3.366	2.506
NOVEMBER	3.738	2.719
DECEMBER	6.292	4.404
TOTAL ANNUAL	72.538	51.093

Source: Galapagos Tourism Observatory.
ELABORATION: Project team.

3. Vulnerable Populations

According to the results of the Living Conditions survey for 2014, the 10 percent of the population living in Galapagos is in poverty by consumption.[41] Within the framework of the Ecuadorian Social Protection Network, 2,315 families residing in the Galapagos Islands are in a vulnerable situation. Most of these families live from tourist activities (which have been affected by the impact of the COVID-19 pandemic), and they receive a Family Protection Bonus for Emergency.

According to the Unsatisfied Basic Needs (UBN) methodology, one in 10 people in Galapagos is in a situation of extreme poverty (lack of access to two or more basic needs) and another 40% is in a situation of non-extreme poverty (presents a single basic deficiency). The most common conditions that contribute to this situation are inadequate sanitary conditions and critical overcrowding.

Of the 24 provinces of Ecuador, only two (Pichincha and Azuay) have lower levels of poverty than Galapagos, where the poverty rate is 52 percent. As in the rest of the country, rural areas of the Galapagos have a higher incidence of poverty (78 percent) compared to urban areas (47 percent). This is largely due to the dispersion of the population in rural areas and the difficulty of achieving a good coverage of basic services.

Moreover, as in the rest of the country, the urgent need for improvements in the quality of life of the population is evident, especially in rural areas. Some of the most important deficiencies are the coverage of the water systems by public network, the adequacy of the houses and the establishment of systems for the management of sewage, either through septic tanks or sewage systems.

Finally, according to the Poverty Lines methodology, there is no extreme poverty in Galapagos. However, a segment of the population (8 percent) is very close to the extreme poverty thresholds

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[41] Inec-World Bank. (2014). Report of poverty by consumption Ecuador 2006-2014.

and must be considered in a vulnerable situation. This methodology confirms a higher incidence of poverty in rural areas. Similarly, it indicates that although there is inequity in terms of the distribution of goods among the inhabitants of Galapagos, there is a higher level of equity in the islands than in the rest of the country.42

4. Project Focus

The focus of the project is on the secondary order effects of the pandemics in the security of the community and families. The collapse of tourism, the main driver of the local economy, has posed many economic challenges. This project will look at the following factors: intra-family violence, drug micro-traffic, and wildlife illegal trade. At the same time, will look at other indicators including participation on social programs, education, and migration.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

Table 8 C2M2 metrics for Santa Cruz

Focus priority	Objectives	Variable	Data obtained Santa Cruz
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases	✔
		Mobility due to COVID-19	✔
		Hospital Infrastructure	✔
		Public investment in health	✔
		Hospitalized patients	✔
		Emergency Calls during the COVID-19 Pandemic	✔
		The List of Designated Hotels - Coronavirus	✔
		Donations Received During the COVID Pandemic	✔
		Delivery Apps in time of COVID-19	✔
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment	✔
		Poverty and unsatisfied basic needs	✔
		Working Age Population (PET)	✔
		Economic indicators	✔
		Electricity consumption	✔
		Quality of household materials	✔
		Access to basic services	✔
		Internet access and consumption	✔
Social	Assess poverty,	Well-being index	✔
		Population Location (urban or rural)	✔

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42 Granda L, M, S González C and V Calvopiña C. (2013). Measurement of poverty in Galapagos. Pp. 84-91. In: Galapagos Report 2011-2012. GNPD, GCREG, CDF and GC. Puerto Ayora, Galápagos, Ecuador.

	migration, violence, and education before and after the pandemic	Domestic violence	✔
		Crime	
		Gender-based violence	✔
		Human Rights Violations	✔
		Waste generation	✔
		Air quality index (AQI)	✔
		School Attendance	✔
Tourism	Know the state of the tourism sector pre and post pandemic	Hotels and rooms available	✔
		Number of tourists that enter annually	✔
		Arrivals and departures data	✔
		Migration movements	✔
		Income received from tourism	✔

Country   Perú
City   Cusco
Month   January
Year   2021
Focus   Poverty and Tourism

1. Status of COVID-19

During the months of March and April, the highest morbidity and incidence of covid-19 was in Lima and the regions coastal and Amazonian regions of northern Peru, in early May, the CDC-Minsa (2020) reported an increase in cases nationwide and warned of the risk of outbreaks in the central and southern regions of Peru, due to the fact that several inhabitants returned to their localities of origin. Another risk of contagion that was identified was the appearance of covid-19 cases in some mining companies.

Cusco reported its first case of covid-19 on March 13, from the United States. As of June 30, the date on which quarantine measures were lifted for most cases. Cusco was between nine regions with less than two thousand positive cases for covid-19.

Statistics from the province of Cusco on 14 January 2021 show that to date there are 50,982 confirmed cases out of 531,234 samples taken. For the district of Cusco, the number of cases is

15,390. In addition, the technical report records 1,363 deaths with a fatality rate of 1.72%. According to figure 1, we can see that the male gender is the most affected by this pandemic.[43]
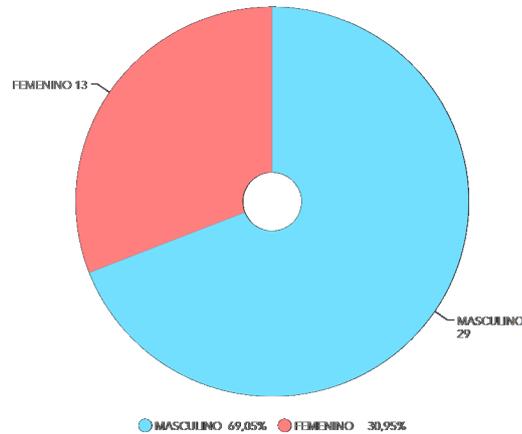

Figure 9 Deaths by gender

Additionally, we can see in figure # that the most affected population is in an age range greater than 60 years.
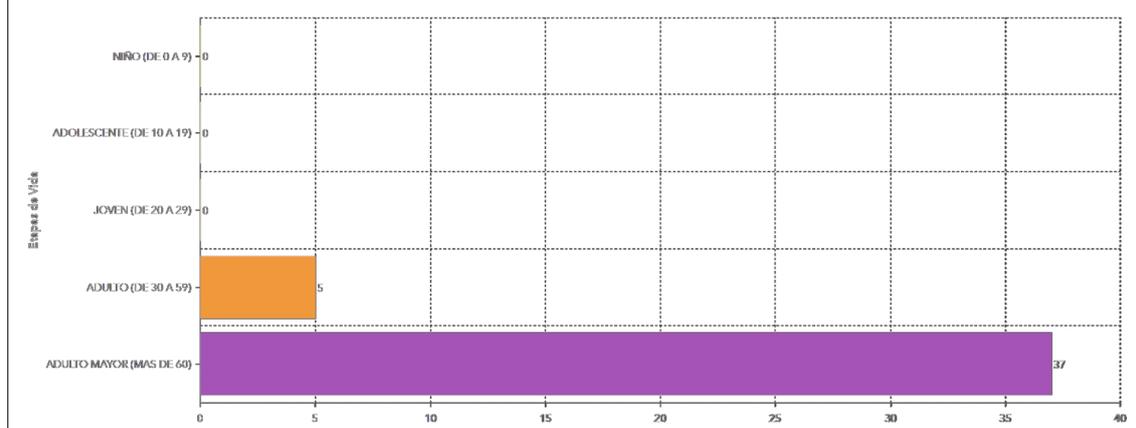

Figure 10 Deaths by stage of life

Regarding the reports, it is worth mentioning that the figures differ between those presented by the regional government of Cusco and those reported by the Ministry of Health MINSA.

2. Description of economy

43 https://diresacusco2020.maps.arcgis.com/apps/opsdashboard/index.html#/a28819de66a14c059498b7e02f08a781

The Cusco economy registered an average annual growth of 4.5 percent during the period 2010-2019, mainly driven by increased mining activity and hydrocarbons. In the national context, Cusco contributed 4.0 percent to the Added Value National Gross (GVA) in 2019, ranking as the fourth economy after Lima, Arequipa and La Libertad.

The main economic activity was:

- Gas and mineral extraction, which represented the 44.8% of the departmental GVA; followed by trade (7.4%); building (7.3%); manufacturing (5.4%) and; agriculture, livestock, hunting and forestry (4.9%); among the main.[44]

Cusco is mainly a farming and mining department, and in the last years, the tourism has passed to be one of the main economic activities in Cusco. The agriculture produces mainly: barley, corn, potato, quinua, broad beans and other altitude crops. In Espinar (province of Cusco) the multi-metallic Tintaya Mine is found and in La Convencion (province of Cusco also), we can find Camisea Gas Fields as well.[45] The arrival of lodging establishments amounted to 3.5 million people in 2019, showing a slight decrease (-0.1 percent) compared to 2018 visits.

The arrival of foreign tourists was similar to the previous year; meanwhile, the arrival of nationals decreased 0.4 percent. The main attraction, the historic sanctuary of Machu Picchu registered the visit of 1.6 million people, a figure higher by 0.7 percent with respect to the previous year. The department of Cusco has a great tourist offer: archaeological centers, centers cultural, ethnic, landscape, natural, visit to peasant communities (cultures alive) and hydrotherapy. These resources have allowed the department to position itself as the main tourist destination nationwide.[46]

Due to the COVID 19 pandemic, the Peruvian tourism sector faces what will probably be one of the worst crises in its history. With the entry of 4.4 million visitors in 2019, the tourism sector contributed 3.9% of GDP to the country, not including inland tourism, which could represent another 5% of GDP. At present, the sector is paralyzed by the closure of borders and social distancing measures promoted by the government.

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[44] https://www.bcrp.gob.pe/docs/Sucursales/Cusco/cusco-caracterizacion.pdf

[45] https://www.cuscoperu.com/en/useful-information/currency-economy

[46] https://www.bcrp.gob.pe/docs/Sucursales/Cusco/cusco-caracterizacion.pdf
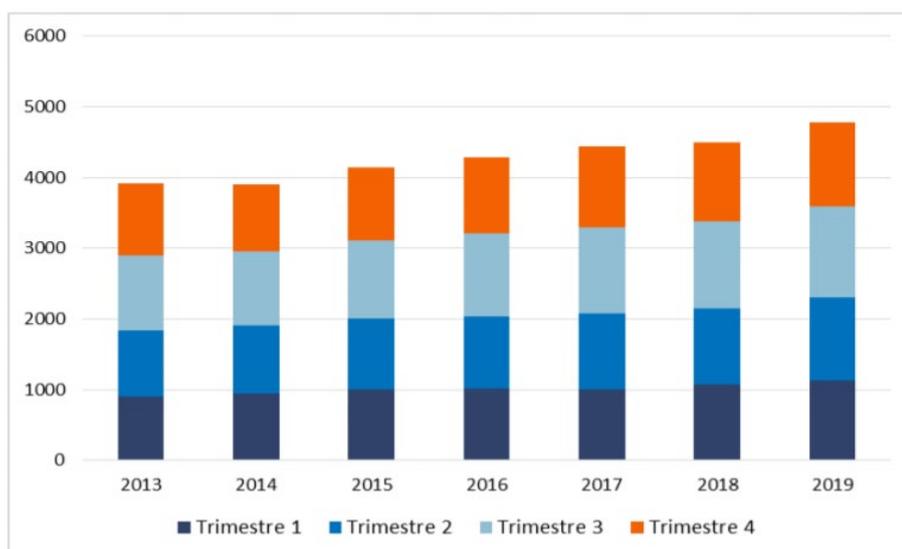
Figure 11 Foreign currency income linked to tourism activity 2013-2019 (in millions of USD)

However, the sector is very heterogeneous and presents worrying levels of informality. The National Chamber of Tourism (CANATUR) estimates that 72% of companies engaged in tourism-related activities are informal. The activities of restaurants and accommodation would be the second sector with a higher degree of informality labor in the Peruvian economy, where 67% of the population employed in these activities would be considered informal. 47

Cusco contributes to 14% of GDP at the regional level, with women having the most participation in these jobs, that is, 6 out of 10 work on a dependent basis and 9 out of 10 independently.

3. Vulnerable Populations

Through Ministerial Resolution 095-2020-MINSA issued on March 18, 2020,48 the Ministry of Health ordered that the regional governments had to approve a regional plan strengthening of health and containment services of covid-19, with the aim of quickly establishing procedures to strengthen health services, contain disease and strengthen effective participation citizen.

In the case of Cusco, it was observed that there was a lack of precision in the information on the resources available for the treatment of patients with COVID-19 (ICU beds, ambulances, ventilators, among others). Nor was it mentioned the specific actions on vulnerable groups such as: indigenous peoples, the elderly, people in extreme poverty, people on the street, the prison population and tourists.

Another of the vulnerable groups due to their work and lack of resources are migrants. In Cusco they live in the city (approx. 10,000), the political position adopted by the regional government towards Venezuelan immigration was not welcoming and partly exclusive. For example, in July 2019, the Regional Government of Cusco approved a decree that stipulated that it was illegal to

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47 https://propuestaciudadana.org.pe/wp-content/uploads/2020/08/NIA-32-2020-COVID-19-y-turismo-en-Cusco.-Balance-de-los-primeros-impactos-en-el-sector.pdf

48 https://www.gob.pe/institucion/pcm/noticias/109780-comunicado-a-los-gobiernos-regionales-y-locales-frente-a-la-emergencia-del-coronavirus-en-el-peru

fire a Peruvian worker to hire a foreigner. The decree specifically mentioned the PTP, the document that is given only to Venezuelan citizens.49

4. Project Focus

The focus of the project here includes, as in the case of Galapagos, on how the negative impacts related to the collapse of tourism affected families, specially to intra-family violence and neighborhood insecurity. In Cusco, the focus of the project will be on topics related to livelihoods mobility and opportunities in other areas of the economy, such as bureaucracy and commerce. Also, the analysis will explore migration as an adaptive activity for people of Cusco.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

Table 9 C2M2 metrics for Cusco

Focus priority	Objectives	Variable	Data Obtained Cusco
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases Mobility due to COVID-19 Hospital Infrastructure Public investment in health Hospitalized patients Emergency Calls during the COVID-19 Pandemic The List of Designated Hotels - Coronavirus Donations Received During the COVID Pandemic Delivery Apps in time of COVID-19	
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment	✔
		Poverty and unsatisfied basic needs	✔
		Working Age Population (PET)	✔
		Economic indicators	
		Electricity consumption	
		Quality of household materials	
		Access to basic services	✔
		Internet access and consumption	
Social	Assess poverty, migration, violence, and education before and after the pandemic	Well-being index	✔
		Population Location (urban or rural)	
		Domestic violence	
		Crime	
		Gender-based violence	✔
		Human Rights Violations	
		Waste generation	
		Air quality index (AQI)	

49 https://publications.iadb.org/publications/english/document/A-Study-of-Municipal-Best-Practices-in-Three-Peruvian-Cities.pdf

		School Attendance	✔
Tourism	Know the state of the tourism sector pre and post pandemic	Hotels and rooms available	
		Number of tourists that enter annually	✔
		Arrivals and departures data	✔
		Migration movements	
		Income received from tourism	✔

Country	Brazil
City	Ouro Preto
Month	January
Year	2021
Focus	Poverty and Tourism

General data

- Area of the territorial unit: 1,245,865 km²
- Location: The city is located in the Serra do Espinhaço, in the Metallurgical Zone of Minas Gerais (Quadrilátero Ferrífero). It is in the Central Region of the Metallurgical Macroregion and Campo das Vertentes de Minas Gerais.
- City limits:
  South: Catas Altas da Norway, Itaverava, Ouro Branco and Congonhas
  West: Belo Vale and Moeda
  East: Mariana
  North: Itabirito and Santa Bárbara
- The city has 12 districts: Amarantina, Antonio Pereira, Cachoeira do Campo, Engenheiro Correia, Glaura, Lavras Novas, Miguel Burnier, Rodrigo Silva, Santa Rita de Ouro Preto, Santo Antonio do Leite, São Bartolomeu, Santo Antônio do Salto and the headquarters municipal.
- Geography:
  Temperature: between 6 and 28 degrees Celsius. In June and July, it can reach 2 degrees Celsius.
  Average altitude: 1,116 m. The highest point is Pico do Itacolomi, with 1,722 m

Rivers: springs of Rio das Velhas, Piracicaba, Gualaxo do Norte, Gualaxo do Sul, Mainart and Ribeirão Funil.

- Land Topography:
  Flat: 5%
  Wavy: 40%
  Mountainous: 55%
- Weather: Altitude tropical climate. The average rainfall is 2,018 mm / year, with irregular distribution. The rains were concentrated in the summer.
- Population (Data from Census 2000 - IBGE):
  Resident people: 70,281
  Male residents: 34,277
  Resident women: 36,004
  People residing in urban areas: 56,292
  People residing on the rural beach: 9,985
- Health:
  Hospitals: 1
  Hospital beds: 110
  Outpatient units (1999): 44
  Health places (1999): 3
  Health centers (1999) 5
  General Hospital Outpatient Clinics (1999): 1
- Economy:
  Companies with active CNPJ (1998): 1,743 companies
  Number of employed persons (1998): 11,553 employed persons
  Bank branches: Banco do Brasil, Caixa Econômica Federal, Bradesco, Itaú, Banco Real, HSBC
  GDP per capita (2018): 92,319.75 R $ (USD 17,420.70)
  Percentage of income from external sources [2015]: 78.3%
  Municipal Human Development Index (MHDI) [2010]: 0.741
- Education: Literate resident population 62,468 people.
- Tourism: 78 lodging companies (NUPETUR, 2005).

1. Status of COVID-19

According to the Epidemiological Bulletin on Coronavirus (Covid-19), issued on January 12, 2021 by the Municipality of Ouro Preto, the current status of the disease is as follows:

e. ICU occupation rate: 90%
f. Notified cases: 5,165
g. Cases disclaimed: 3,269
h. Confirmed cases: 1,782
i. Confirmed deaths: 43
j. Recovered: 1,542
k. Under investigation: 113
l. Internal patients: 16
m. In domestic insulation: 280

The latest data from the Municipality, however, showed that the virus has spread and cases have increased significantly. At the beginning of November, for example, the weekly incidence rate was 36.21 in the Macro Central Region, in which Ouro Preto is located. This means that for every 100,000 people, 36 were infected with the COVID 19 virus. This index rose to 96.61 in the first week of December and reached 136.20 at the beginning of the year, higher than the peak of the pandemic in August which was 123.01 (Coelho, 2021).

2. Description of economy

The economy of Ouro Preto is highly dependent on tourism, but there are also important metallurgical and mining industries in the city. The Ouro Preto microregion has the mining sector as the engine of its economy. The Brazilian multinational mining company Vale SA is located in this region, which is one of the largest mining companies in the world and also the largest producer of iron. The main economic activities are tourism, the transformation industry and the exploitation of mineral reserves in its subsoil, which includes the extraction of valuable minerals such as iron, bauxite, manganese and marble.

The Ouro Preto's Gross Domestic Product (GDP) per capita in 2018 was US$ 17,420. Historically, the participation of the Service Account (which includes tourism activity) in the GDP has been very significant (until 2002, it represented around 31 per cent of the GDP), while the industries sector has been the most important one with around 69 per cent of the GDP. Although, the industries sector suffered a strong fall in 1999 and a slow recovery along the years 2000 and 2001. Notably, the service account sustained the stability of Ouro Preto's GDP during the years 2001 and 2002 (Cabral et al., 2010).

In 2018, the average monthly salary was 3.2 times the minimum wage. The proportion of employed persons in relation to the total population was 26.2%. Compared to the other municipalities in the state, it ranked 12th out of 853 and 80th out of 853, respectively. Compared to cities across the country, it ranked 134th out of 5,570 and 728 out of 5,570, respectively. Considering households with monthly incomes of up to half the minimum wage per person, 35.1% of the population had these conditions, which placed it in position 521 out of 853 among the cities of the state and in position 3547 out of 5570 among the cities of Brazil (IBGE,2021).

Most of the intense tourist flow is focused on the architecture of the city and its historical importance. The historic center of the city was declared Cultural Heritage of Humanity by UNESCO in 1980, with the name of Historic City of Ouro Preto. In addition, the municipality of Ouro Preto has a rich and varied ecosystem in its environment, with waterfalls, trails and a huge area of native forest that is protected by the Brazilian system of national parks. Finally, the city also stands out for its cultural activity. Every year there are festivals and carnivals that include the Winter Festival and the Ouro Preto Carnival, known for being the largest University Carnival in Brazil and the most traditional in Minas Gerais.

3. Vulnerable Populations

Overcoming multidimensional poverty is still a great challenge for Brazilians, especially in the state of Minas Gerais where the city of Ouro Preto is located. From the limited perspective of per capita income, poverty rates have decreased since the 2000s. Other dimensions of poverty such

as the Human Development Index (MHDI) show that people in the municipality of Ouro Preto enjoy relative prosperity economical. According to UNDP data (2010), the municipality's MHDI was 0.741 in 2010, which places it in the Human Development range considered high (MHDI between 0.700 and 0.799). The dimension that contributes the most to the MHDI of the municipality is Longevity, with an index equivalent to 0.834, followed by Income, with an index 0.721, and Education, with an index 0.677.

According to Neri (2011), some public policies that were adopted in the last decades help to explain the reduction of poverty in this area of Brazil. In the first place, the Bolsa Família social program, created in 2003, with the aim of combating poverty in the short term, helping families overcome the problems derived from poverty and, in the long term, investing in human capital. Second, another aspect that contributed to the increase in family income was investment in education. Especially among the poorest, the level of education made it possible for low-income families to experience an improvement in family monetary income. According to this author, education was the main cause of the increase in income of poor Brazilians. In the Southeast region, this increase was of the order of 15.8%.

4. Project Focus

As with Cusco and Galapagos, this proposal seeks to understand how the collapse of the tourism industry increases crime and intra-family violence, within the city, and how the community adapted to it. In this case, focused on areas of the city that are devoted to tourism operations. Also, here the project seeks to understand the relationship with mining industry and commerce, as possible alternatives.

5. C2M2 Metrics

The following table provides an overview of the metrics that are collected for the city:

Table 10: C2M2 metrics for Ouro Preto

Focus priority	Objectives	Variable	Data obtained Ouro Preto
Pandemic	Analyze the current state of the pandemic	Report Coronavirus cases	
		Mobility due to COVID-19	
		Hospital Infrastructure	✔
		Public investment in health	
		Hospitalized patients	✔
		Emergency Calls during the COVID-19 Pandemic	✔
		The List of Designated Hotels - Coronavirus	
		Donations Received During the COVID Pandemic	
		Delivery Apps in time of COVID-19	
Economy	Understand the current state of the economy before and after the pandemic.	Employment and Unemployment	✔
		Poverty and unsatisfied basic needs	✔
		Working Age Population (PET)	
		Economic indicators	✔
		Electricity consumption	

Category	Description	Indicator	
		Quality of household materials	
		Access to basic services	
		Internet access and consumption	
Social	Assess poverty, migration, violence, and education before and after the pandemic	Well-being index	
		Population Location (urban or rural)	
		Domestic violence	
		Crime	✔
		Gender-based violence	
		Human Rights Violations	
		Waste generation	
		Air quality index (AQI)	
		School Attendance	
Tourism	Know the state of the tourism sector pre and post pandemic	Hotels and rooms available	✔
		Number of tourists that enter annually	
		Arrivals and departures data	✔
		Migration movements	
		Income received from tourism	

References of Ouro Preto

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Technology Assessment and Data Plan

Partner and Hub Assessment

There is a wide variety of strengths and weakness, in terms of technology, within the members of the Latin America Hub. In this list we present the main "strengths" across different cities' teams. This strengths are being shared with other members for optimal development of the project.

Ouro Preto, UFMG:

Methodologies for sensitive data collection (e.g, intra-family violence)

Crime analysis software

GIS data analysis

Santiago, UC-Chile

Mobile technology data collection (socioeconomic data)

Advanced data analysis methods (e.g., neural networks)

GIS data analysis

Lima, UPCH

Epidemiology Software

Statistical data analysis

Public health analytics

Quito, Santa Cruz & Cusco, USFQ

Remote Sensing

GIS

Statistical data analysis

Spatial explicit modeling

Data collection

With this technological context, but also in light of the COVID19 pandemics, which is hitting hard the cities involved. All cities will be collecting data on-line. There are several options to use, including Qualtrics software for data collection. Quito and Santiago will, in addition, use as a pilot, an app for mobile data collection developed by Universidad Católica de Chile.

In Cusco, Galapagos and Ouro Preto there will be "paper" questionnaires to be placed in restaurants to collect information about intra-family violence, in areas devoted to tourism. This method will need digitalization and will be anonymous.

In addition, Galapagos and Cusco, where levels of Covid19 are relatively low, there will be open ended interviews with key personnel and people.

Data Management

- Initially, all data will be obtained and maintained using ESRI platforms, including ArcMap and ArcGIS online, for temporary and internal data repository. The use of ESRI will centered in the HUB and will transition to collect, systematize and distribute information at the city level and place it in open access data hubs, including the Humanitarian Data Exchange (HDX) and MapGive. The LA-HUB will also create ESRI based storymaps and dashboards

- As each of the universities have strict protocols for ethics of data collection. Each of the cities teams will be in charge of obtained an ethics review board "permit" in the context of each of the countries regulations and obeying the highest ethical local and international protocols.

- Each of the cities team will work in initial QA/QC processes, before submitting data to the HUB. Later, HUB staff will review, edit and correct metadata to later upload in repositories. QA/QC will follow the same standards as in the Secondary Cities Project.

- The GIS software used will be mainly ArcGIS and Qgis, for GIS. But will rely in a wide range of options for remote sensing, statistics, modeling, etc.