

# ANKER SUB-NATIONAL LIVING WAGE ESTIMATE FOR BOGOTÁ, COLOMBIA

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## ABSTRACT

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Starting with two previous Anker Methodology Living Wage Benchmark studies carried out in Colombia (for banana-producing and coffee-producing regions, respectively), this report uses secondary data to extrapolate

living costs and living wages to the capital city of Bogotá. The gross living wage for the city of Bogotá was found to be COP 3,144,579 (USD 764) for 2022, which is around 2.4 times the minimum wage.

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**KEYWORDS:** Living costs, Living wage, Anker Methodology, Bogotá, Colombia.

**JEL CODES:** I30, J30, J50, J80.

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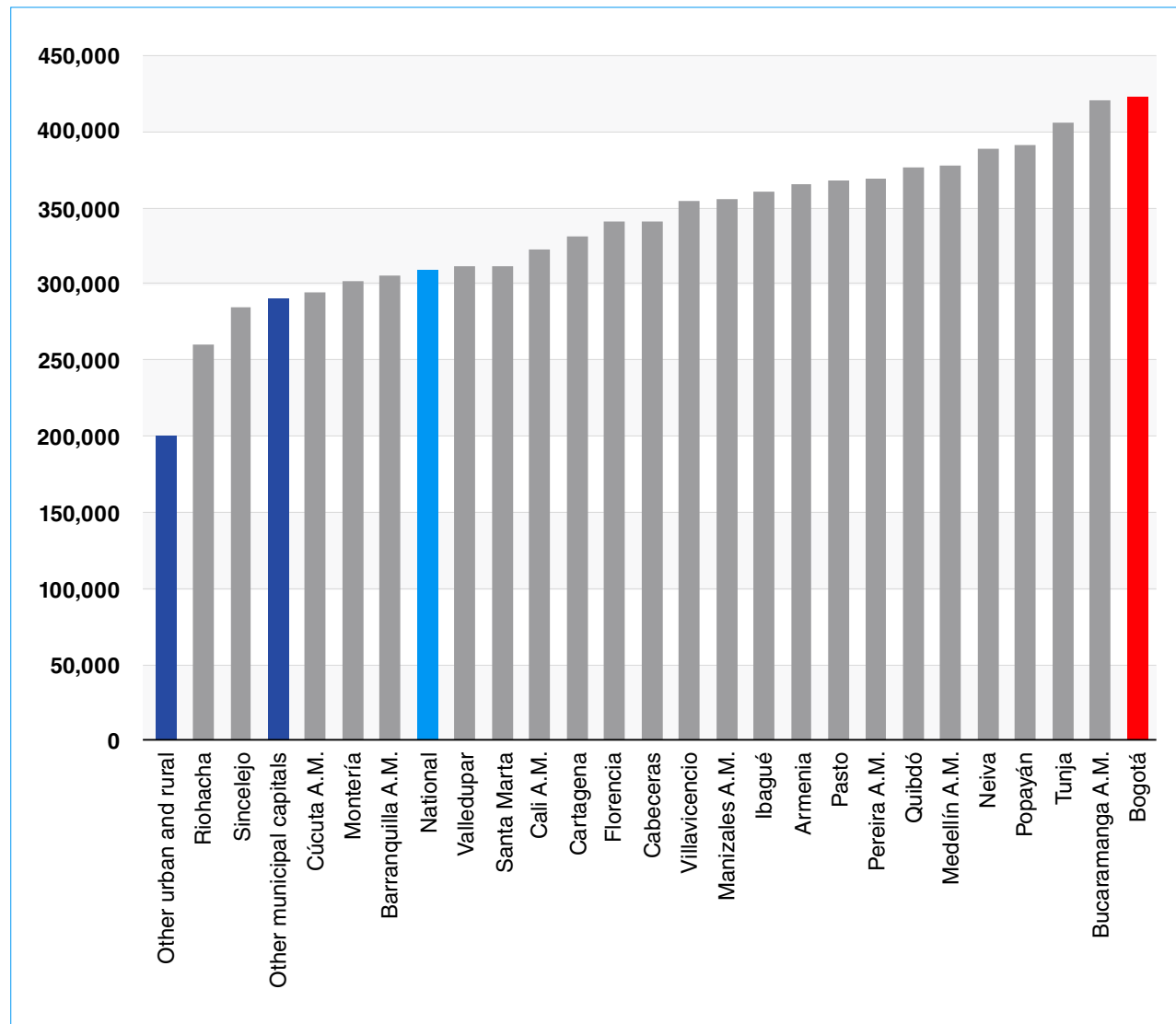




According to DANE, living expenses vary across the country, and it has therefore calculated location-specific poverty lines. Figure 2 shows the official poverty lines for each of the 24 main cities, as well as all other municipal capitals grouped together, and the rest of the country

grouped together (other urban and rural) in 2017. The poverty line income per person is around 2 times higher in Bogotá as in Other small towns and rural areas and around 1.5 times higher as in Other municipal capitals (i.e., excluding the 24 big cities).

**Figure 2: Official poverty lines for major cities and other types of locations (COP/person), 2017**



Source: <https://www.dane.gov.co/index.php/estadisticas-por-tema/pobreza-y-condiciones-de-vida/pobreza-monetaria>

Although the basket of goods and services needed for decency (our living wage basket) is at a higher standard than the poverty line basket, we expect the differences between areas in living costs to follow a similar pattern as shown in Figure 2. This means that we expect the living

wage in Bogotá to be much higher than the living wage and living income for other urban and rural areas (such as the living wage and living income we earlier estimated for coffee-growing regions and banana-growing regions).

## 3. SIZE AND COMPOSITION OF THE REFERENCE FAMILY

Households in Colombia tend to be small, and in Bogotá they are particularly small. According to DANE's calculations based on the 2018 population census, the average number of members per households is only 2.84 in Bogotá.<sup>3</sup> However, this average is influenced by a substantial proportion of single-person households (about 18.5%). Since the living wage is a family concept, we concentrate on households with 2 to 7 members (thus excluding single person households that are definitely without children and very large households that are often have more than two earners), and for this sample the average household size in Bogotá is 3.2.

The total fertility rate for Bogotá is estimated at 1.75 children per woman,<sup>4</sup> which is below replacement level. Both of these methods for determining typical family size (total fertility rate and adjusted average household size) imply a typical family size of slightly less than four. However, to secure population reproduction for locations and countries and therefore sustainability over time, the Anker Methodology recommends a minimum family size of 2 adults and 2 children. This minimum family size was used in the benchmark reports for both the banana- and coffee-growing regions of Colombia, and in this report we will also use a reference family of 2 adults and 2 children for calculating our family living income for Bogotá.

## 4. NUMBER OF FULL-TIME EQUIVALENT WORKERS PER FAMILY

Full-time work in Colombia is considered to require 48 hours of activity per week. The Anker Methodology assumes that one of the adults in the family works full-time, while the other works part-time to allow time for childcare, household work, unemployment, etc. The part-time fraction is calculated based on the average number of hours worked for men and women of prime working age (25-59 years old) living in 2-7 person households. The average includes people who are working full-time (but not overtime<sup>5</sup>), people who work part-time, people who have decided not to work for whatever

reason (such as for family care, childcare, household work, or study), and people who are temporarily unemployed or otherwise unable to work at the time of the survey.

According to the 2019 ENCV survey, men in Bogotá worked on average 37.6 hours per week while women worked on average 29.0 hours per week in their main occupation (excluding working time greater than 48 hours per week). The simple average of the two is 33.3 hours per week.<sup>6</sup>

3 <https://dane.maps.arcgis.com/apps/MapSeries/index.html?appid=e53e1178fb1f497cac9b241dbafb1690>.

4 <https://globaldatalab.org/areadata/table/tfr/COL/>

5 For individuals working more than 48 hours per week, the number was reduced to 48, so as to be consistent with the Anker and Anker (2017) living wage Methodology, which assumes that a living wage should be earned within normal working hours, without the need for overtime.

6 This refers to hours normally worked in primary occupation.

Based on this information we can estimate the number of full-time equivalent workers per family in Bogotá as follows:

$$1 + \frac{33.3}{48} = 1.69$$

This number is higher than the ones found for the banana-growing regions (1.61) and for the coffee-growing regions (1.54), and so consistent with a general tendency of higher labor-force participation rates-especially for women in more urbanized areas.

## 5. FOOD COSTS FOR A LOW-COST NUTRITIOUS DIET

A model diet developed according to the Anker Methodology needs to meet WHO/FAO recommendations on nutrition in the most economical way possible, while at the same time being palatable and consistent with local food preferences and possibilities. Two such model diets have already been developed for Colombia, one for the urban areas of the banana-growing regions along the Caribbean coast (see Andersen, Anker & Anker, 2018), and one for rural and small towns of the coffee-growing regions in the central mountains of Colombia (see Andersen et al., 2021). Either of these two model diets (which are very similar) would be adequate and considered decent for Bogotá.

The cost of the model diet in the banana-growing regions in May 2018 was estimated at COP 5,900 (USD 2.09) per person per day, while the cost of the model diet in the coffee-growing regions in December 2021 was calculated at

COP 8,512 (USD 2.16). The higher cost of the model diet in the latter region can be attributed mainly to the increase in food prices between May 2018 and December 2021 rather than to differences in the composition of the model diet. Indeed, according to IPC national data from DANE<sup>7</sup> total food price inflation in Colombia between May 2018 and December 2021 was 34%, which is 2.5 times the overall inflation rate during that period. Once taking into account inflation, the prices are very similar between the two regions, as indicated by the similar cost of these model diets in USD.

According to price data collected by DANE, food prices are uniform across the country for the same product.<sup>8</sup> Therefore, there is no indication that food prices in Bogotá are systematically different from the rest of the country. We thus decided to use the model diet from the latest Anker Benchmark study in Colombia (December 2021) and update its cost by observed food price inflation between December 2021 and June

7 [https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo\\_ipc\\_dic21.xlsx](https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo_ipc_dic21.xlsx),  
[https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo\\_ipc\\_dic20.xlsx](https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo_ipc_dic20.xlsx),  
[https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo\\_ipc\\_dic19.xlsx](https://www.dane.gov.co/files/investigaciones/boletines/ipc/anexo_ipc_dic19.xlsx)

8 <https://www.dane.gov.co/index.php/estadisticas-por-tema/precios-y-costos/precios-de-venta-al-publico-de-articulos-de-primera-necesidad-pvpapn>



2022 (14%) for Colombia. This calculation yields a cost for the model diet cost of COP 9,700 per person per day, equivalent to COP 1,180,167 per month for a family of 4. The exchange rate

by end-June 2022 was 4,118 COP/USD, which means that the cost of the model diet was USD 2.36 per person per day by mid-2022.

## 6. HOUSING COSTS FOR A HEALTHY HOUSING STANDARD

Whereas food costs are similar across regions in Colombia, housing costs are known to vary substantially across regions, and to be particularly high in Bogotá. Using 2019 ECV survey data, we were able to determine the monthly rent for a decent, but modest, home for a family of four in Bogotá. We used the same decent housing standard as in the two Colombian Anker Benchmark studies.<sup>9</sup> Monthly rent was COP 550,000 (USD 168) for Bogotá, while it was only COP 150,000 (USD 45) for the coffee-growing regions of Colombia. Similarly, utility costs in Bogotá were found to be COP

135,400 per month in 2019, while in the coffee-growing regions they were only 56,000 in 2019.

Since housing costs for Bogotá were estimated using data from 2019, we updated this by housing cost inflation between mid-2019 and mid-2022. According to DANE, housing cost inflation was slightly lower than general inflation during that period, adding up to about 11% over the three-year period. This means that by mid-2022 the total cost of modest but decent housing for a family of four in Bogotá amounted to COP 761,822 (USD 185).

## 7. OTHER NON-FOOD NON-HOUSING COSTS

While food and housing costs account for a major part of expenditures for a typical worker household earning a living wage, there are other essential expenses that are also needed. Health and education are considered human rights by the Anker Methodology, and people also need to spend money on clothing, personal hygiene, transportation, communications, and certain durable goods to lead a basic but decent life.

Whereas food and housing costs are estimated based on normative standards for a nutritious diet and healthy housing standards, Non-Food and Non-Housing (NFNH) costs in the Anker Methodology are estimated as a mark-up based on an estimated ratio of NFNH costs to food costs according to secondary data.

<sup>9</sup> Almost all homes in Bogotá are decent according to both national and international standards (see previous footnote for our living wage standard). To obtain the estimated cost for a decent “modest” home, we excluded homes meeting our decency standard with: (i) especially high rental values (more than COP 1,000,000 per month, approximately USD 300) or (ii) unrealistically low rental values (less than COP 50,000/month), as those likely indicate houses in poor condition, or in bad neighborhoods, or due to subsidies from friends or family.

The NFNH/food ratio can differ between locations, due to differences in expenditure patterns. For the Anker Methodology Benchmark study in 2021 for rural areas and small towns of central Colombia, a NFNH/food ratio of 1.14 was estimated (see Andersen et al., 2021), while for the more urbanized banana-growing regions along the Caribbean coast, a NFNH/food ratio of 1.60 was estimated (Andersen, Anker and Anker, 2018).

For Bogotá, we calculated the NFNH/food ratio for the 4<sup>th</sup> income decile (which is the decile, which includes the estimated living income) from DANE household expenditure data, to be 2.30. Using this ratio and the cost of our model diet for Bogota (see previous section on food costs), we obtain total Non-Food and Non-Housing costs of COP 2,714,383 per month.

## 8. PAYROLL DEDUCTIONS AND INCOME TAXES

Mandatory deductions from wages reduce the amount of take-home pay workers receive. These need to be taken into account when calculating a living wage, to ensure that workers have sufficient net income to cover their living costs.

In the case of Colombia, the mandatory payroll deductions are 4% for the contributory health system and 4% for the pension system. Although

not all workers are formal, for the purpose of calculating living wages, we assume that all workers contribute 8% of their gross salary in social security contributions.

The limit in 2022 above which an income tax of 18% should be paid is COP 3,297,977 (see Andersen et al., 2021). As discussed in the next section, no income tax would need to be paid on a living wage for Bogotá.

## 9. THE ESTIMATED LIVING WAGE FOR BOGOTÁ

The living wage developed in this report is relevant for workers in all sectors of the Bogotá economy. Table 1 shows the calculations, summarizing the main components discussed in the previous sections.

Total monthly expenses to allow a reference family of 4 (2 adults and 2 children) to have a modest but decent standard of living in Bogotá in 2022 is COP 4,889,191 (USD 1,187). If we divide that amount by the typical number of full-time equivalent workers per couple in Bogotá

(1.69), we obtain the net living wage. To that, we add social security contributions corresponding to 8% of the gross living wage. This brings the gross living wage just below the limit to the second income tax bracket, which means that workers earning the living wage do not have to pay income tax. The gross living wage for Bogotá for 2022 adds up to COP 3,144,579 (USD 764) per month.

**Table 1: Family living expenses and living wage calculations for Bogotá, mid-2022**

<b>PART I. FAMILY EXPENSES</b>	<b>COP</b>	<b>USD</b>
<b>Food cost per month for reference family of four (1)</b>	<b>1,180,167</b>	<b>287</b>
Cost of model diet per person per day	9,700	2.36
<b>Housing costs per month (2)</b>	<b>761,822</b>	<b>185</b>
Rent per month for acceptable housing	611,325	148
Utility costs per month	150,497	37
<b>Non-food non-housing costs per month (3)</b>	<b>2,714,383</b>	<b>659</b>
<b>Additional amount (5%) for sustainability and emergencies (4)</b>	<b>232,819</b>	<b>57</b>
<b>Total living costs per month for basic but decent living standard for reference family (5) [(5) = (1) + (2) + (3) + (4)]</b>	<b>4,889,191</b>	<b>1,187</b>
<b>PART II. LIVING WAGE PER MONTH</b>		
<b>Net living wage per month based on 1.69 full-time equivalent workers in reference family (6) [(6) = (5)/1.69]</b>	<b>2,893,012</b>	<b>703</b>
<b>Statutory deductions from pay (7)</b>	<b>251,566</b>	<b>61</b>
Social security contributions are 8% of pay (7A)	251,566	61
Income tax (7B)	-	-
<b>Gross living wage per month (8) [(8) = (6) + (7A)+(7B)]</b>	<b>3,144,579</b>	<b>764</b>

Note: The exchange rate used for mid-2022 was 4,118 COP/USD. USD values are indicative only, because exchange rates are volatile.

## 10. WAGE LADDER

Figure 3 puts the estimated gross living wage for Bogotá in 2022 in context. The first bar shows the World Bank international poverty line wage for upper-middle income countries. This poverty line was updated in the fall of 2022 from USD 5.50 per person per day to USD 6.85 (using 2017 PPP),<sup>10</sup> but it is still far too low for decency for Colombia. It is less than half of what is needed for decency in agricultural regions (bars 5 and 6) and less than a quarter of what is needed for decency in the capital city of Bogotá (bar 7).

The second bar shows the Bogotá poverty line wage. The Bogotá poverty line was set at COP 477,221 per person per month in 2021, which means that the wage needs to be COP 1,129,517 for 1.69 workers to provide for a family of four. The Bogotá poverty line is higher than the international poverty line, but still far below what is needed for decency.

The third bar shows the legal minimum wage in Colombia in 2022 (COP 1,000,000 + transport

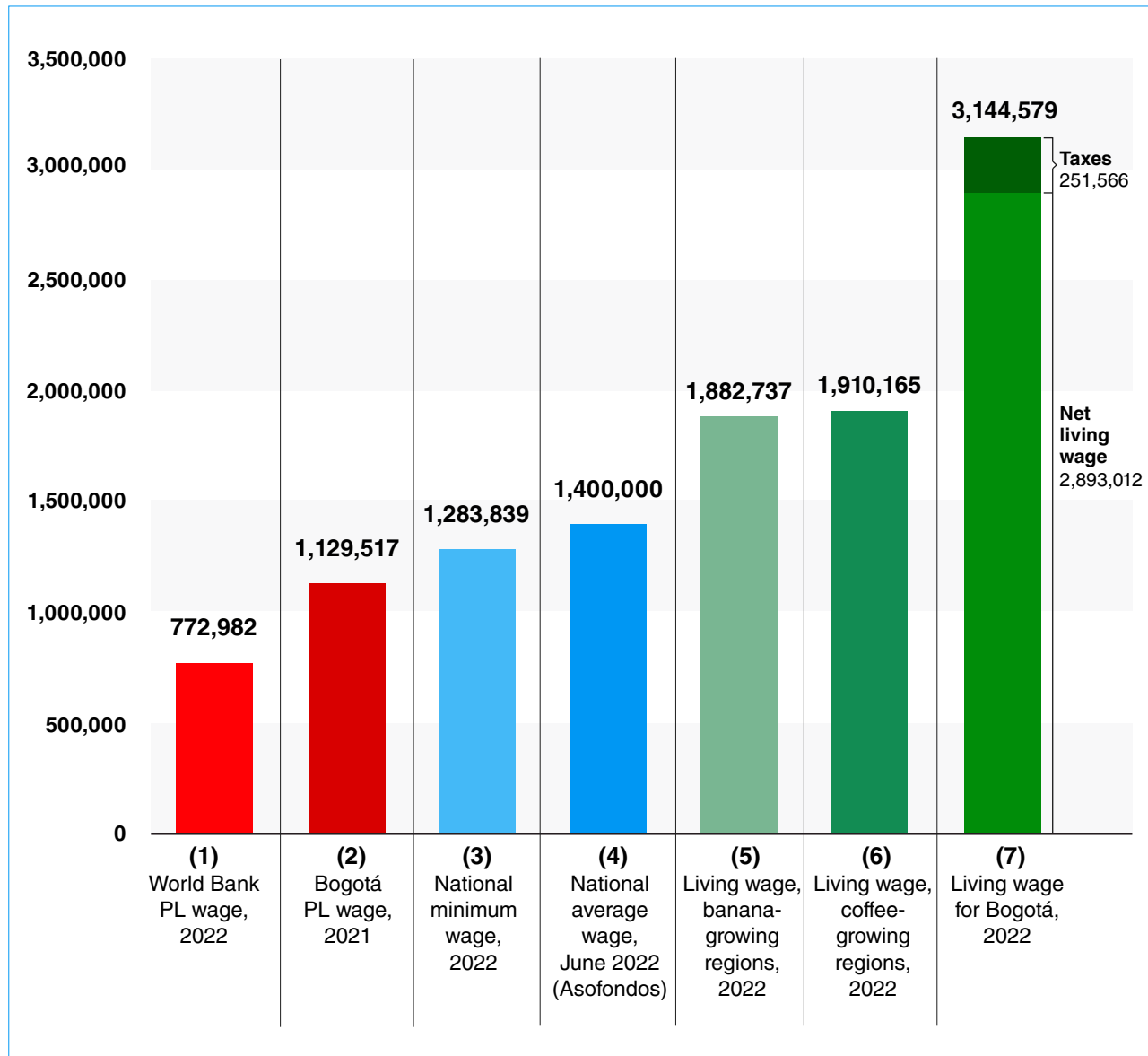
<sup>10</sup> <https://blogs.worldbank.org/opendata/updating-international-poverty-line-2017-ppps>

subsidy (COP 117,172) + *prima* + *cesantía*). It is a bit higher than the Bogotá poverty line wage, but still far too low for decency.

The fourth bar shows the average wage for Colombia in June of 2022 according to a study

by the Association of pension fund managers in Colombia (Asofondos, 2022). At COP 1,400,000, it is higher than the minimum wage, but not enough for decency in any of the regions studied (bars 5, 6 and 7).

**Figure 3: Wage ladder for Bogotá, 2022 (Gross wages per worker, in COP per month)**



**Notes:** *Asofondos* is the Association of pension fund managers in Colombia.

(1) Wage needed to keep a family of four, with 1.69 full-time workers, at the World Bank’s international poverty line for upper-middle income countries (USD 6.85 at PPP).

(2) Wage needed to keep a family of four, with 1.69 full-time workers, just at the Bogotá poverty line (2021).

(3) Minimum wage 2022 (including transport subsidy, *prima* and *cesantía*).

**Source:** Authors’ elaboration.

# 11. CONCLUSIONS

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This study provides an Anker Sub-national Living Wage value for Bogotá, Colombia. It starts by relying on results from two previous detailed Anker Methodology Benchmark studies for Colombia for rural areas and small towns of coffee- and banana-producing regions to set reasonable and robust standards and cost estimates for parts of Colombia based on extensive fieldwork experience and calculations as well as stakeholder and worker consultations and discussions. It then goes on to take into account the substantially higher costs of living in Bogotá, the country's capital, as evidenced by secondary data from different official household surveys.

At COP 3,144,579 (USD 764), the living wage for the city of Bogotá for mid-2022 is found to be about 65% higher than the living wage for

both the coffee- and banana-growing regions of Colombia. Such a large difference in living wage is supported by the large differences in official government poverty lines between Bogotá and other regions of the country. For example, the poverty line for Bogotá is 72.5% higher than the average poverty line for rural areas and small towns (including coffee-growing regions), and municipal capitals that are not big cities (including banana regions).

The minimum wage in Colombia for 2022 was COP 1,000,000, plus *prima*, *cesantía*, and a COP 117,172 transport subsidy, so it adds up to COP 1,283,839 per month. This means that the living wage for Bogotá is around 2.4 times higher than the national minimum wage.

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