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# Urban furniture and the COVID-19 pandemic: when the access to drinking water for vulnerable populations becomes even more crucial

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**SUMMARY**

This paper regards the relationship between urban furniture, the access to drinking water, and the COVID-19 pandemic. Fundamentally, the coronavirus widespread has highlighted all kinds of social inequalities, including the poor access to potable water in some nations. Given that, one can ask how urban furniture may possibly make a difference regarding this specific matter. Hence, the present study aims to mind the manufacturing of specific urban furniture for the COVID-19 pandemic in countries where urban planning is inadequate and potable water is exclusive for some. In order to analyze these concerns, this paper adopted a qualitative approach and it is both a bibliographic and documental research. Additionally, reports produced by Brazilian Department of Health and official government data on sanitation and urbanization were extensively examined. In conclusion, urban furniture is a relevant mean for fighting the Sars-CoV-2 pandemic and its consequences to vulnerable populations.

**KEYWORDS:** Urban furniture. COVID-19. Water.

## 1 INTRODUCTION

The COVID-19 pandemic has highlighted the way we are planning and building our cities. Until this day, according to data from Brazilian Department of Health (2020), humanity has surpassed 33 million people infected with Sars-CoV-2. In Brazil, almost 5 million people were already contaminated and there were sadly more than 144.767 deaths.

This viral widespread is unequal around urban territories, though. The number of cases and deaths by COVID-19 is usually higher in impoverished regions, which already struggled with urban planning issues before the crisis: lack of dignified housing, poor access to drinking water, faulty sanitation, high indices of air pollution, and substantive soil contamination. Ideally, all the populations affected by the pandemic should have access to potable water to prevent, treat, and control the disease's dissemination according to World Health Organization (WHO) guidelines (2020). Besides, access to basic hygiene supplies and medical assistance should be imperative.

In Brazil, 39,1% of the urban population does not have sewage collection and only 46,3% of all sewage is actually treated according to data from Brazilian governmental information system "Sistema Nacional de Informações sobre Saneamento – SNIS." Data from Brazilian Institute of Geography and Statistics (2015) also show that 14,6% of the population does not have piped water at home. Paradoxically, on the 28$^{th}$ of July of 2010, the United Nations Organization (UN) recognized "the importance of equitable access to safe and clean drinking water and sanitation as an integral component of the realization of all human rights" (UNITED NATIONS, 2010, p. 2).

With regard to these data, one can easily recognize that COVID-19 is exposing our social injustices. Although the virus infects individuals indiscriminately, the impacts of this pandemic on society are not the same, specially when considering the lack of urban planning in some regions. Therefore, it is fair to assume that the propagation of the coronavirus is intimately related to public sanitation since hands hygiene is the core of all orientations from health authorities to prevent COVID-19.

Henceforth, in order to minimize the sanitation issues faced by vulnerable populations, the public administration and people from all around the world are manufacturing and installing countless urban furniture to provide minimal access to clean water to the street population and local passers-by.

## 2 OBJECTIVES

The present article aims to analyze the importance of urban furniture as elements of public spaces during pandemic times. Specific objectives are: (1) examining the relevance of the access to drinking water in the COVID-19 pandemic context; (2) investigating the different urban furniture that were developed in response to the COVID-19 pandemic.

## 3 METHODOLOGY

In order to achieve these scientific goals, the present work uses multiple documental sources. Data are mainly from Brazilian official organs: Brazilian Department of Health (Ministério da Saúde), Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística), the National Agency of Water and Basic Sanitation (Agência Nacional de Águas e Saneamento Básico), the Brazilian Association of Technical Standards (Associação Brasileira de Normas Técnicas) and the Brazilian Institute of Applied Economics (Instituto de Pesquisa Econômica Aplicada). In addition, this study also considers the reports on COVID-19 by WHO and multiple scientific papers on urban furniture, such as the ones by Montenegro (2005) and Ferreira (2010).

## 4 RESULTS AND DISCUSSION

### 4.1 COVID-19

On the 11th of March of 2020, WHO declared the new coronavirus outbreak a pandemic. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was reported for the first time in Wuhan, China, in December 2019. Soon after, this new coronavirus strain quickly spread all around the world and the disease cause by it, COVID-19, then became a public health emergency.

Fever, dry cough, and fatigue are the main and most common symptoms of COVID-19. However, some patients may present runny nose, sore throat, diarrhea, and dyspnea. Patients may also suffer from the severe form of COVID-19, meaning severe acute respiratory syndrome, coagulation dysfunction, and septic shock (MINISTÉRIO DA SAÚDE, 2020).

Under those circumstances, the Brazilian Department of Health (2020) specified strategies for preventing and controlling this infectious disease: eliminating the source of infection, interrupting the way of transmission, and protecting most vulnerable populations. This particular virus is transmitted through respiratory droplets and physical contact, so social distancing and good hygiene practices are powerful methods to control the virus spread. More specific actions include washing the hands with clean water and soap, immediate laundering for clothes and shoes, and wiping food packages.

However, although these guidelines are pretty simple and straightforward, they are not actually doable by all individuals when considering that a substantial fraction of the world's population does not have access to drinking water.

### 4.2 VULNERABLE POPULATIONS IN BRAZIL

Theoretically, having a supply of drinking water is a basic right in Brazil. In order to ensure said right, Law nº 9.984/2000 created The National Agency of Water and Basic Sanitation, a regulatory agency dedicated to accomplish the objectives and guidelines of Brazil's Waters Law, "Lei nº 9.433/1997" (BRASIL, 1997).

According to the agency's data, more than 40 million Brazilians do not have access to public water supply systems although Brazil has the greatest concentration of superficial fresh water in the world. However, said water resources are currently at risk and the amount of available treated water is getting smaller by the day. Considering the broadest context, there are 2,6 billion people in the world with no basic sanitation and the sad outcome of that is the death of 5 million people per year due to diseases related to poor quality water (AGÊNCIA NACIONAL DE ÁGUAS, 2019). Most prevalent conditions are Hepatitis A, diarrhea, cholera and schistosomiasis. In ten years, Brazil itself registered over 700 thousand hospitalizations due to said diseases (AGÊNCIA NACIONAL DE ÁGUAS, 2019).

Besides the vulnerability related to water, the homeless population is also very vulnerable. It grew 140% since 2012 and today, in 2020, there are almost 222 thousand homeless Brazilians. The COVID-19 pandemic recession may worsen this scenario according to data from the Brazilian Institute of Applied Economics. Since homeless people do not have reliable access to drinking water or basic hygiene supplies, they become even more defenseless when facing SARS-CoV-2. Hence, governments must develop solid strategies for this population in specific (INSTITUTO DE PESQUISA ECONÔMICA APLICADA, 2020).

### 4.3 URBAN FURNITURE

As mentioned above, water deeply affects human's lives and conditions. It also has an extremely relevant role in developing of the great urban centers. Effective urban planning means comfort and essential services, such as a supply of drinking water and electricity.

According to Brazilian Association of Technical Standards, urban furniture means "all objects, elements, and small constructions that integrate the urban landscape, utilitarian nature or not, implanted upon the government's authorization, in public and private spaces" (ASSOCIAÇÃO BRASILEIRA DE NORMAS TÉCNICAS, 1986, p. 1).

Thus, together with the evolution of the cities and its public spaces, urban furniture is related to society's transformation. According to Ferreira (2010), the urban cores of the XVII century cities were organized around a central square, where there often was a Catholic Church. Cities were also circled around water, where fountains were strategically built.

These urban elements are special to the present article since they are intimately related to the supply of citizen's needs: they were used by entire populations and animals. Vivaldo Costa (1988) affirms that the city's water supplies were only viable because of said urban elements, a more general term (CREUS, 1996; COLCHETE FILHO, 2000). In this time, cholera and typhoid fever epidemics spread with the lack of hygiene, provoking multiple deaths and epidemic conditions. Thus, when observing the role of urban furniture throughout history, one is faced with its diverse social functions, as in health and social attractions.

Currently, the fountains lost their main function, that is, supplying water to urban centers. Other urban elements emerged with time, thus, the urban furniture acquired new characteristics, functions and typologies. Some appeared and other disappeared, as Montenegro (2005) points out.

### 4.4 URBAN FURNITURE AND COVID-19

The emergence of the COVID-19 pandemic is highlighting many concerns regarding the urban great centers. The drinking water distribution issue to the whole population gains a new and deeper meaning amid this pandemic.

WHO guidelines to control the SARS-CoV virus outbreak, that is, washing hands periodically and cleaning the food before consuming it, run into the panorama that almost 15% of the population has no access to drinking water.

Regarding this context, urban elements that enable access to drinking water are being developed and installed on the streets. There is even an international competition (Coronavirus Design Competition) that worries about this: promoted by Go Architect platform, this challenge asks students and professionals to create and design products, objects, and equipment that may help the population wellbeing during pandemic times. Brazilian architect Leonardo Dias came up with the creation of an urban totem that promotes hands hygiene, and informs citizens about COVID-19 data in a humanized way. The tool, "R.I.P – Requiescat in Pace (To Remember. To Inform. To Protect.)," has three functions: hands sanitization, remembering the victims, and recapitulating the most effective protection guidelines besides broadcasting updated data about the pandemic and other public relevant facts in big LED panels (ARCHDAILY BRASIL, 2020).

Other great example of a creative and useful urban furniture is the mobile sink, which is being installed on streets by residents themselves. In Rio de Janeiro, a project by Ana Paula Rios and Aline Pinheiro gained special attention: the "good sink" consists of a vertical recycled wooden box, equipped with a sink and a tap, besides accessories for detergent, paper towels, and a bucket which must be filled with clean water. This urban element relies on the help of residents for the maintenance of the process of replacing water, detergent, and paper towels. In 15 days, voluntaries built and distributed one hundred of those sinks (FOLHA DE SÃO PAULO, 2020).

Additionally, this paper also analyzes a project in the state of São Paulo, the epicenter of the COVID-19 in Brazil. Until the end of April, Sabesp installed over 170 washbasins in the interior of São Paulo. In the state's capital, a partnership between town hall and Sabesp promoted the installation of 39 washbasins. These urban furniture aim to provide better hand sanitization for the homeless population since they are loaded with clean water (SÃO PAULO, 2020).

These three urban furniture were conceived and produced due to the onset of the COVID-19 pandemic. They were manufactured for the sake of actual needs of the population and they bring to the table physical and conceptual characteristics from contemporaneity, whether using tech-elements or adapting usual elements.

One should note that the creation of new urban furniture during pandemic is a field of action for both designers, architects, engineers, and other professionals interested in rethinking the effectiveness and efficiency of public spaces.

## 5 CONCLUSION

Besides the usual set of social inequality, poor access to drinking water, and homelessness around the world, the COVID-19 pandemic brought other issues to attention and intensified these old concerns. Under those circumstances, this article aimed to identify some initiatives, promoted by the public administration and the general population itself, to minimize this chaotic scenario, specially in relation to the access to drinking water.

The creation of palliative urban furniture becomes relevant in fighting the spread of SARS-CoV-2 among vulnerable people. Now, it is necessary to verify if the new policies of access to drinking water will sill be there after the pandemic. Also, will there be other actions to minimize the lack of resources for homeless population?

In conclusion, the importance of urban furniture became even more evident during this pandemic. They are elements that can aid reducing the virus spread and reframe the public space for more vulnerable populations thus making them feel more protected from the problems which they go through daily, which were only exasperated by the sanitary crisis.

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