

Environmental Racism – A French (Hi)story: Class, Race, and Air Quality in Paris

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Thesis submitted for assessment with a view to obtaining the degree of Master of Arts in
Transnational Governance of the European University Institute

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Pour mes parents, qui ont toujours soutenus mes projets les plus fous, même sans toujours les comprendre. Pour mes grands-parents, qui ont nourri ma curiosité depuis l'enfance. Pour ma sœur et mon frère, qui sont les premiers que j'essaie de rendre fières. Pour mes amis, qui sont toujours là dans les moments de doute.

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Abstract

Despite growing in recognition as a topic of academic research and of grassroots activism, environmental justice remains under-studied in Europe. This paper will explore the unequal distribution of environmental goods (clean air and water, access to nature) and wrongs (pollution, biodiversity loss), as well as the structures that allow for the overburdening of certain communities in France. First, a cartographic study analysing the relationship between class, race, and air pollution in the Greater Paris area will highlight the fact that the most polluted neighbourhoods in the north and northeast of Paris, host a population that is relatively impoverished and more racially diverse. It will be concluded that the French social hierarchy, largely rooted in the country's colonial past, shaped housing policies, urban planning, and environmental regulations into disproportionately impacting the poor and racialized communities. Addressing the state's colour-blindness and colonial heritage is, therefore, essential to redressing environmental injustice in France.

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Introduction

From Greenpeace to the United Nations, passing by the European Environment Agency, Environmental Justice (EJ) is now in every mouth, or rather every green paper.¹ On the way to a prosperous, socially just, and inclusive green transition, the interconnection of environmental issues and social inequalities is gaining salience in public and academic debates across the world.² Environmental justice refers to the fair distribution of natural resources among people.³ It also refers to the differentiated impacts of environmental problems depending on geographical area and socio-economic attributes such as class, gender, age or race.⁴ Since its emergence in the 1980s, environmental justice, originally framed as Environmental Racism, has driven social movements across the world and a considerable amount of scholarly research. In the United States (US), much evidence has been produced showing the overlap of environmental hazards and social vulnerabilities as well as the role played by systems of discrimination, especially systemic racism.⁵ There, a plethora of studies have found that non-white individuals suffer from higher exposure to pollution, therefore uncovering a pattern of victimisation and an important health justice issue.⁶ While the concept of environmental justice is starting to spread in Europe, very little academic attention has been given to it. The study of environmental justice on this side of the Atlantic could shed light on important patterns of discrimination, substantial health inequities and policy failures, as well as complement the so far American-centric theoretical construction of the EJ framework. Indeed, remaining blind to the sociocultural structures that distribute environmental harm - whether it be air, water, noise pollution or constrained access to nature – hinders our ability to tackle the environmental crisis

¹ United Nations Development Programme, ‘Five Steps to Environmental Justice’; Greenpeace UK, ‘Why We Can’t Tackle the Environmental Emergency without Tackling Racism’; European Environment Agency, ‘Environmental Justice, Environmental Hazards and the Vulnerable in European Society’.

² Greenpeace UK, ‘Why We Can’t Tackle the Environmental Emergency without Tackling Racism’; Keucheyan, *La Nature Est Un Champ de Bataille*; Masood, ‘COP Architects Furious at Lack of Climate Justice at Pivotal Summit’.

³ Benford, ‘The Half-Life of the Environmental Justice Frame’; Keucheyan, *La Nature Est Un Champ de Bataille*; Gonzalez, ‘Environmental Justice, Human Rights, and the Global South Symposium’; Pulido, ‘Geographies of Race and Ethnicity 1’.

⁴ Benford, ‘The Half-Life of the Environmental Justice Frame’; Keucheyan, *La Nature Est Un Champ de Bataille*; Pulido, ‘Geographies of Race and Ethnicity 1’; Gonzalez, ‘Environmental Justice, Human Rights, and the Global South Symposium’; White, *Environmental Harm an Eco-Justice Perspective*.

⁵ Alvarez, ‘Structural Racism as an Environmental Justice Issue’; Roberts et al., “‘I Can’t Breathe’”; Tibuakuu et al., ‘Air Pollution and Cardiovascular Disease’; Rubio, Grineski, and Collins, ‘Carcinogenic Air Pollution along the United States’ Southern Border’.

⁶ Rubio, Grineski, and Collins, ‘Carcinogenic Air Pollution along the United States’ Southern Border’, 2.

effectively. As a first step towards filling this gap, this paper will examine how and why environmental injustice is manifested in the Greater Paris Metropolitan region. It will investigate the ways in which the French capitalist and colonial heritage shape the spatial distribution of environmental harm, showing that colour-blindness in policymaking and coloniality lead to the overburdening of poor and racialized communities.

Waves of immigration, processes of urbanisation, and deindustrialisation have made Paris a true mosaic of socioeconomic and racial diversity suffering from overall poor air quality, making it an excellent case for the study of environmental (in)justice. Using a Geographic Information System (GIS) mapping tool, the relationship between race, class, and air quality in Paris will be analysed. The purpose of this study is to observe if, and how, certain communities are disproportionately impacted by air pollution, and to interrogate the sociocultural and historical constructions that have enabled the emergence – and maintenance - of this pattern of discrimination in France.

The first chapter will reflect on the evolution, successes, and limitations of the EJ framework as a field of academic research and grassroots activism, as well as investigate the social constructions that have allowed for the unequal distribution of environmental harm. After reflecting on the historical role of capitalism and colonialism in constructing race, space, and nature, it will assess the state of EJ academic literature and outline the research gap this paper aims to - partially - fill. In the second chapter, the rising importance of cartographic studies for social sciences, especially for EJ research, will be highlighted. Our research design will be presented, detailing the features of the four variables that will be mapped using ArcGIS, namely: racial diversity, socioeconomic status, air quality (based on nitrogen dioxide), and proximity to industrial zones and natural amenities. Finally, the results of the cartographic study will be analysed, showing that air quality is consistently worse in neighbourhoods predominantly inhabited by lower classes and with more racial diversity. This last chapter will explore the historical construction of the French social hierarchy and the way it is translated into housing policies, urban planning, and environmental regulations. It will be concluded that the state's mandated colour-blindness and colonial heritage lead to the unequal distribution of air pollution in Paris, thus, overburdening poor and racialized communities.

Chapter 1. Theoretical Framework and Literature Review

'When it comes to measuring the value of human life some people count more than others and, in some circumstances, the health and wellbeing of certain people will be sacrificed on the altar of profit.'
Rob White⁷

1.1 From the US Civil Rights Movement to the Environmental Justice Framework

In 1987, the United Church of Christ, an organization led by Reverend Benjamin Chavis, published the *Toxic Waste and Race* report, a study that highlighted the American government's tendency to place hazardous waste closer to non-white communities, therefore disproportionately impacting their health and wellbeing.⁸ A few years later, the reverend and former figurehead of the US civil rights movement coined the term *Environmental Racism* which he defined as:

Racial discrimination in environmental policymaking and the enforcement of regulations and laws, the deliberate targeting of people of colour's communities for toxic waste facilities, the official sanctioning of the life-threatening presence of poisons and pollutants in our communities, and the history of excluding people of colour from leadership in the environmental movement.⁹

The report inscribed itself in a long-standing American tradition of non-white individuals fighting against radioactive waste, rural waste dumping, and other government-sanctioned polluting practices, but the environmental facet of systemic racism only gained public recognition at this point.¹⁰ Systemic racism is characterized by the pervasive ways in which it operates, through structurally enforced patterns of oppression, rather than outright racial animosity.¹¹ Thus, environmental racism is very effective in highlighting the ways in which

⁷ White, *Environmental Harm an Eco-Justice Perspective*, 73.

⁸ Berndt, 'A Spirit Unbroken'.

⁹ Zimring, *Clean and White*, 2.

¹⁰ Benford, 'The Half-Life of the Environmental Justice Frame'.

¹¹ Pulido, 'Geographies of Race and Ethnicity II'; Alvarez, 'Structural Racism as an Environmental Justice Issue'; Keucheyan, *La Nature Est Un Champ de Bataille*.

subconscious or internalized beliefs can harm certain populations, not always actively, but also through a lack of action.¹²

Nevertheless, after reaching its momentum, the concept of environmental racism was quickly reformulated under the umbrella of the *Environmental Justice (EJ) Framework*.¹³ Environmental justice reflects on environmental degradation, pollution, waste management, access to nature and amenities, as well as the patterns that distribute environmental harm.¹⁴ Moreover, EJ scholars have gradually extended the socio-demographic variables studied in relation to these patterns beyond race or ethnicity.¹⁵ This theoretical reconceptualization has allowed for more inclusivity and the integration of an action-oriented strategy.¹⁶ Indeed, while environmental racism represented an innovative and provocative concept, highlighting longstanding patterns of discrimination in environmental policymaking – or lack thereof –, it failed to formulate goals and involve non-racialised individuals in the fight towards equality.¹⁷

Over the past 30 years, the grassroots movement and research field which emerged from the problem of environmental racism have gained importance, although its most innovative and powerful academic developments have tended to be limited to the United States.¹⁸ Nonetheless, grievances have increasingly been expressed by the non-Western world as the EJ framework was effectively adapted to different sociocultural contexts.¹⁹ EJ scholars have successfully shown that the adverse impacts of environmental degradation are borne disproportionately by vulnerable communities, such as the poor, racial and ethnic minorities, women, and indigenous people, both at the global and local scale.²⁰ In this context, environmental justice claims have been increasingly framed with the language of human rights, a conceptualisation that has resonated easily among populations.²¹ Several regional and local courts have even ruled that a

¹² Alvarez, 'Structural Racism as an Environmental Justice Issue'.

¹³ Benford, 'The Half-Life of the Environmental Justice Frame'.

¹⁴ Keucheyan, *La Nature Est Un Champ de Bataille*, 20; Benford, 'The Half-Life of the Environmental Justice Frame'; Rubio, Grineski, and Collins, 'Carcinogenic Air Pollution along the United States' Southern Border'.

¹⁵ Rubio, Grineski, and Collins, 'Carcinogenic Air Pollution along the United States' Southern Border'.

¹⁶ Benford, 'The Half-Life of the Environmental Justice Frame'.

¹⁷ Gauna, 'Environmental Law, Civil Rights and Sustainability'; Benford, 'The Half-Life of the Environmental Justice Frame'.

¹⁸ Benford, 'The Half-Life of the Environmental Justice Frame'; Keucheyan, *La Nature Est Un Champ de Bataille*; Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'.

¹⁹ Benford, 'The Half-Life of the Environmental Justice Frame'.

²⁰ Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'; Schlosberg and Carruthers, 'Indigenous Struggles, Environmental Justice, and Community Capabilities'.

²¹ Benford, 'The Half-Life of the Environmental Justice Frame'; Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'.

failure to protect the environment may violate a variety of human rights such as the right to life, health, property, privacy and Indigenous peoples' right to their ancestral land.²² Within this framing, environmental rights are tied directly to social justice issues and having access to a healthy environment is seen as an extension of human rights.²³ This conceptualisation also implies that change should be pursued through legal instruments and institutions.²⁴

Despite its past successes in involving populations and formulating claims, the EJ framework's very rights-centric conceptualisation, and *modus operandi*, constitute its first limitation. Indeed, the power of environmental justice, as well as the concept of environmental racism, lies in the disruptive and anti-conformist quality of their argument. As it will be discussed at greater length below, challenging the unjust patterns that distribute environmental harm, means challenging the entire system of exploitation and domination. Scholars have time and again affirmed that a heavy reliance on existing legal and institutional tools will never uproot that system.²⁵ Or to restate Audre Lorde's words: 'The master's tools will never dismantle the master's house'.²⁶ Thus, a transformative and disruptive strategy should replace the EJ framework's reformist one. Secondly, the emphasis on rights, and particularly human rights, put clear constraints on who - or what - should be at the heart of concerns. By consistently putting human beings as the core of its claims, and exclusively framing nature as a good that can be commodified for the enhancement of human life, the EJ framework's understanding of the world becomes greatly limited by its anthropocentrism.²⁷ In turn, this perspective can obscure our judgment when seeking - sustainable - solutions and lead the EJ framework to reproduce the power dynamics towards nature that have led to the planetary environmental crisis. An eco-centric standpoint could, therefore, be paired with the existing environmental justice concept to offset its anthropocentrism.

²² Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'; Schlosberg and Carruthers, 'Indigenous Struggles, Environmental Justice, and Community Capabilities'.

²³ White, *Environmental Harm an Eco-Justice Perspective*; Pedersen, 'Human Rights in a Changing Environment'; Atapattu, *Human Rights Approaches to Climate Change*.

²⁴ Benford, 'The Half-Life of the Environmental Justice Frame'.

²⁵ Pedersen, 'Human Rights in a Changing Environment'; Gauna, 'Environmental Law, Civil Rights and Sustainability'; Benford, 'The Half-Life of the Environmental Justice Frame'.

²⁶ Lorde, 'The Master's Tools Will Never Dismantle the Master's House. 1984'.

²⁷ Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'; Charbonnier, 'Le rendement et le butin. Regard écologique sur l'histoire du capitalisme'; Kotzé and Villavicencio Calzadilla, 'Somewhere between Rhetoric and Reality'.

1.2 An Eco-Socialist Perspective: The Capitalist Construction of Race, Space and Nature

As Laura Pulido, a leader in the environmental justice field, relentlessly emphasises, environmental racism underscores the *spatiality* of racism.²⁸ She rightfully argues that space is divided along long-standing racial lines which - in great parts - explain housing conditions, socio-economic disparities, and pollution levels.²⁹ Thus, it would be impossible, or at the very least incorrect, to provide a study of environmental racism without taking into consideration the systems that have rendered these divisions possible. Indeed, in the societies of the Western world, where free market and capitalist logics are fully embraced, it is important to note that the processes that have birthed and maintained these systems are inherently unequal, based on strategies of differentiation and devaluation.³⁰ Capitalism is an economic model which uses profit accumulation and infinite growth as its primary strategies, and it is this very model that has shaped the way we perceive racialized (and non-racialized) bodies, space and nature.³¹

First, the commodification of racialized bodies and the white supremacist logic that justified colonialism and slavery still underpin a lot of our societies' dynamics, rendering these populations expendable or worth less than their white counterparts.³² By framing them as 'uncivilized' and 'savages', racialized individuals were stripped of their humanity, thus justifying their exploitation for their labour.³³ Overall, the production of social inequalities whether it be by race, class, or gender for the sake of profit is inherent to the capitalist *modus operandi*.³⁴ This rationale, through systemic discrimination and capital accumulation, still largely shapes modern societies, including their urban geographies. In fact, the market has internalized racist ideologies and price formation now reflect historical processes and systems of domination.³⁵ For instance, housing prices will depend on the socio-demographic status of the inhabitants as well as pollution levels in the area, creating a vicious cycle where the poorer (historically racialized populations) live in more polluted areas.³⁶ To this inequality cycle are

²⁸ Keucheyan, *La Nature Est Un Champ de Bataille*; Pulido, 'Geographies of Race and Ethnicity II'.

²⁹ Pulido, 'Geographies of Race and Ethnicity II'.

³⁰ Pulido, 'Geographies of Race and Ethnicity I'.

³¹ Löwy, 'What Is Ecosocialism?'; Pulido, 'Geographies of Race and Ethnicity II'; Keucheyan, *La Nature Est Un Champ de Bataille*.

³² Keucheyan, *La Nature Est Un Champ de Bataille*, 57.

³³ Pulido, 'Geographies of Race and Ethnicity II'; Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'.

³⁴ Pulido, 'Geographies of Race and Ethnicity II'.

³⁵ Keucheyan, *La Nature Est Un Champ de Bataille*.

³⁶ Pulido, 'Geographies of Race and Ethnicity II'; Keucheyan, *La Nature Est Un Champ de Bataille*; Hebllich, Trew, and Zylberberg, 'East-Side Story'.

added stereotypes which have - sometimes explicitly - shaped environmental policies, such as the long-held belief that non-white individuals are dirty.³⁷

Secondly, the capitalist conception of space has turned geographical areas into terrains for power struggles, which can be fought over, without long-term considerations, and for the sake of economic development.³⁸ This trend has been observed across urban areas of the Western world, where polluting industries were consistently located in impoverished zones, a strategy perpetuated today as multinationals move their factories to low-wage countries of the non-Western world, where production is the cheapest.³⁹ Colonialism has had a key role in the capitalist conception of space. Because non-white individuals were considered as ‘savages’ and available for ownership for the exploitation of their labour, their land was also up for grabs.⁴⁰ This rationale is directly tied to the capitalist commodification of nature and the Eurocentric perception of the ‘wilderness’. The civilized/uncivilized dichotomy that justified colonialism and slavery was underpinned by the belief that civilization and humanity are measured by a society’s distance from nature, as well as its willingness to control it to serve human ends.⁴¹ Thus, the commodification of nature and space, and their intensive exploitation, which is leading to the collapse of ecosystems globally, are directly tied to the same Eurocentric philosophies that have justified the exploitation of non-white bodies.⁴²

Acknowledging these existing processes of inequality production enables us to clearly perceive the interconnection of these value systems and patterns of discrimination. It is also essential to note that inequalities are often overlapping and cumulative.⁴³ This realization underscores the need to adopt several critical lenses to challenge environmental injustice, systemic racism, and the wider system of exploitation that has produced them. Pulido has gone as far as to argue that the reason for which the ‘environmental racism gap’ persists, and even increases, is the inability of the EJ framework to integrate environmental capitalism into its understanding.⁴⁴ Thus, when

³⁷ Zimring, *Clean and White*.

³⁸ Albritton, ‘Rethinking Time and Space’; Leonardi, ‘Bringing Class Analysis Back In’.

³⁹ Hebllich, Trew, and Zylberberg, ‘East-Side Story’; Keucheyan, *La Nature Est Un Champ de Bataille*; Chertkovskaya and Paulsson, ‘Countering Corporate Violence’.

⁴⁰ Gonzalez, ‘Environmental Justice, Human Rights, and the Global South Symposium’.

⁴¹ Gonzalez, Keucheyan, *La Nature Est Un Champ de Bataille*.

⁴² Albritton, ‘Rethinking Time and Space’; Charbonnier, ‘Le rendement et le butin. Regard écologique sur l’histoire du capitalisme’; Gonzalez, ‘Environmental Justice, Human Rights, and the Global South Symposium’.

⁴³ Keucheyan, *La Nature Est Un Champ de Bataille*, 47; Alvarez, ‘Structural Racism as an Environmental Justice Issue’.

⁴⁴ Pulido, ‘Geographies of Race and Ethnicity II’.

paired with an environmental justice lens, eco-socialism can enable us to untangle the overlapping systems of domination.

Eco-socialism is at the juncture of socialist and eco-centric thought and denounces the role of capitalism in the exploitation, domination and oppression of both the working class and nature.⁴⁵ The working class, is the social class which sells its labour power for a wage and does not own the means of production.⁴⁶ Eco-socialists argue that through its exploitation for profit, capitalist violence is deployed against nature in the same way that it is against the workforce.⁴⁷ This violence, which is motivated or caused by material interests, operates both in direct and systemic ways, having short and long-term impacts leading to the destruction of ecosystems, and, of course, human beings' livelihoods.⁴⁸ Within capitalist societies, work or the surplus value that can be produced through one's labour is what defines the worth of individuals.⁴⁹ Simultaneously, the division of labour unjustly gives the hardest and least valued work to working-class people, women and racialized individuals, therefore, playing a key role in the (re)production of the social hierarchy.⁵⁰ In addition to discrimination based on socioeconomic status, race and gender still produce levels of privilege within a class, ensuring, for instance, that the non-white working class remains subordinated to the white working class.⁵¹ This phenomenon can be observed across the rich nations of the Western world where the latter has often moved from polluted industrial areas towards suburbs, leaving the non-white working-class to bear the burden of industrial pollution.⁵²

Thus, eco-socialism argues that breaking from productivism and the pursuit of infinite growth is the only way to transcend class, produce true equality, and avoid environmental collapse.⁵³ Since discrimination based on race and socioeconomic status both shape environmental injustice⁵⁴, an analysis of the geographies of air quality would not be complete without an assessment of the socio-economic level of the population at hand. Indeed, environmental problems are complex and multi-layered, and disparities in terms of race and class tend to be

⁴⁵ Löwy, 'What Is Ecosocialism?'; Chertkovskaya and Paulsson, 'Countering Corporate Violence'; Albritton, 'Rethinking Time and Space'.

⁴⁶ Löwy, 'What Is Ecosocialism?'

⁴⁷ Chertkovskaya and Paulsson, 'Countering Corporate Violence'.

⁴⁸ Chertkovskaya and Paulsson, 407.

⁴⁹ Löwy, 'What Is Ecosocialism?'; Chertkovskaya and Paulsson, 'Countering Corporate Violence'.

⁵⁰ Chertkovskaya and Paulsson, 'Countering Corporate Violence', 416.

⁵¹ Pulido, 'Geographies of Race and Ethnicity 1'.

⁵² Keucheyan, *La Nature Est Un Champ de Bataille*.

⁵³ Albritton, 'Rethinking Time and Space'; Löwy, 'What Is Ecosocialism?'

⁵⁴ Löwy, 'What Is Ecosocialism?'; Leonardi, 'Bringing Class Analysis Back In'.

closely tied. Thus, in an attempt to build a nuanced argument, and because it is expected that the conclusions drawn on environmental racism will be intertwined with those of eco-socialism, both class and race will be under scrutiny.

1.3 Filling the - European - Gap

In 2007, the United Church of Christ published a follow-up report entitled *Toxic Wastes and Race at Twenty, 1987-2007* showing that race was still an independent predictor of where hazardous wastes are located, and a stronger variable than income, education, or other socioeconomic indicators.⁵⁵ Over the past 15 years, academic research on environmental justice has developed exponentially, especially in the United States. There, research has found that populations with a low socio-economic level and non-white communities were disproportionately impacted by environmental degradation.⁵⁶ A study found that in the US, white people are exposed to 17% less pollution than they produce while Black and Latinx people are exposed to 50% more air pollution than they produce.⁵⁷ In a context where the World Health Organisation (WHO) estimates that 7 million people die each year due to exposure to fine particles in polluted air, the striking disparities among different populations' exposure to air pollution constitute a substantial health justice crisis.⁵⁸ It must be noted that these disparities, both in contributing to environmental degradation and in the impact of environmental harm have also been found at the global scale, where the poor populations of the non-Western world suffer disproportionately from the pervasive effects of climate change through desertification, crop failures, and floods for instance.⁵⁹ These patterns further highlight the coloniality and role of capitalist exploitation in the distributive patterns of environmental harm.

In the US, environmental racism can be directly linked to identifiable historical events that have shaped urban and rural geographies such as the country's reconstruction after the civil war or the Great Migration.⁶⁰ Indeed, these events have systematically left racialized individuals,

⁵⁵ Zimring, *Clean and White*, 221.

⁵⁶ Roberts et al., "I Can't Breathe".

⁵⁷ Tessum et al., 'Inequity in Consumption of Goods and Services Adds to Racial-Ethnic Disparities in Air Pollution Exposure'.

⁵⁸ Tibuakuu et al., 'Air Pollution and Cardiovascular Disease'.

⁵⁹ Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'; Benford, 'The Half-Life of the Environmental Justice Frame'; Keucheyan, *La Nature Est Un Champ de Bataille*.

⁶⁰ Roberts et al., "I Can't Breathe".

particularly African Americans, impoverished and disenfranchised, left to live in overcrowded and unsanitary housing at the edges of cities.⁶¹ For instance, the 85-mile stretch of land between Baton Rouge and New Orleans in Louisiana now known as ‘Cancer Valley’, was formerly known as ‘Plantation country’.⁶² Research has found that in this heavily industrial area predominantly inhabited by Black people, 46 individuals per 1 million were at risk of developing cancer over a lifetime of exposure to air pollution, as opposed to the national average of 30 individuals per 1 million.⁶³ In Europe, a recent study of former industrial cities in the United Kingdom has found, through modelling historical coal chimneys and wind patterns since the industrial revolution, that the air quality in the north-eastern area of cities was systematically worse.⁶⁴ The authors concluded that the unequal distribution of air pollution induced a sorting process leaving lower classes in the polluted neighbourhoods.⁶⁵ An urban segregation that can still be observed today as the eastern area of former industrial cities, such as London, New York, Helsinki, or Paris, are home to poorer populations.⁶⁶

EJ scholars have time and again underscored the structural aspect of these distributive patterns. Indeed, the production of disparities through environmental policymaking is rarely intentional. In racialized societies, individuals do not necessarily require racial hostility to produce discrimination, rather, societal structures will reproduce racial inequalities on their own.⁶⁷ Moreover, research has found that environmental injustice is tied to other systemic forms of oppression such as residential segregation, urban poverty and mass incarceration, putting racialized communities and populations with a lower socioeconomic status more at risk for pollution exposure.⁶⁸ Being mindful of these structural patterns of oppression allows us to uncover alleys for more just policymaking. To put it in a nutshell, discriminating past policies and urban planning, as well as the supposedly ‘race-blindness’ of the new ones, have maintained geographic disparities and patterns of environmental injustice.⁶⁹ Thus, a good understanding of the systems of domination and historical processes that have created – and keep on maintaining – disparities in access to nature and the impact of environmental harm, is essential to the analysis of environmental racism. As EJ scholarship sheds light on important patterns of

⁶¹ Roberts et al.

⁶² Roberts et al.

⁶³ Roberts et al., 221.

⁶⁴ Heblich, Trew, and Zylberberg, ‘East-Side Story’.

⁶⁵ Heblich, Trew, and Zylberberg.

⁶⁶ Heblich, Trew, and Zylberberg.

⁶⁷ Pulido, ‘Geographies of Race and Ethnicity 1’, 810.

⁶⁸ Alvarez, ‘Structural Racism as an Environmental Justice Issue’, 2.

⁶⁹ Roberts et al., “‘I Can’t Breathe’”, 216.

systemic discrimination, substantial health and justice issues, and policy failures, the concentration of this research in the US can make us wonder in which ways the European context may differ. Indeed, apart from the historical modelling of chimney pollution and its impact on urban sorting⁷⁰, and a study of the allocation of Romani people to landfills and polluted campsites⁷¹, environmental justice remains greatly overlooked in Europe. This is a surprising phenomenon considering that racial and classist tensions are at the heart of European crises and political cultures. Hence, the development of EJ research in Europe could uncover similar justice concerns and alleys for policy improvement, as well as bring in new elements for the theoretical conception of environmental justice.

⁷⁰ Hebllich, Trew, and Zylberberg, 'East-Side Story'.

⁷¹ Dunajeva and Kostka, 'Racialized Politics of Garbage'.

Chapter 2. Research Design

2.1 Geographic Information Systems (GIS) for Social Sciences

Geographic Information Systems - sometimes called Geographic Information Science - (GIS) encompass all the tools, programmes, and methods used to work with geospatial data.⁷² Over the past decades, GIS technologies have infused several aspects of our daily lives, from real-time bus or train information to traffic light timing, and are now proving to be effective mapping tools for social science research.⁷³ Their great flexibility allows us to answer a wide range of questions working with both quantitative and qualitative variables.⁷⁴ Indeed, GIS tools enable us to visualize patterns between social and environmental variables, using almost any kind of data as long as it can be related to a geographical point.⁷⁵ They are notably used in the United Nation's Sustainable Development Goals (SDGs) storytelling project to convey data on the evolution of SDGs visually.⁷⁶ However, when using spatial analysis methods, one must be aware of common analytical shortcomings, especially ecological fallacy, or the assumption that everyone in one geographic unit has the same characteristics.⁷⁷ A nuanced approach is needed to build strong arguments as, in the same way that the average of a group of statistics will not tell us anything about the statistical outliers, the average defining of a geographical unit (such as class) cannot be generalized to every single member of this unit.

Charles Lee, one of the authors of the *Toxic Waste Report* and head of the Office of Environmental Justice at the Environmental Protection Agency, argues that using GIS technologies is the most efficient way of observing the distribution of pollution burdens.⁷⁸ He convincingly explains that EJ activists and researchers should aim at measuring 'disproportionate impacts' and that, by allying quantitative information about environmental risks and qualitative data explaining how and why systemic inequities operate, cartographic

⁷² Bearman, *GIS*.

⁷³ Bearman, 3.

⁷⁴ Steinberg and Steinberg, *Geographic Information Systems for the Social Sciences*.

⁷⁵ Steinberg and Steinberg.

⁷⁶ UN, 'SDGs Today'.

⁷⁷ Bearman, *GIS*, 55.

⁷⁸ Lee, 'Confronting Disproportionate Impacts and Systemic Racism in Environmental Policy'.

studies come closest to producing the necessary evidence for EJ policymaking.⁷⁹ Moreover, as Pulido suggests, spatiality is a key feature of environmental racism. Thus, the patterns that distribute environmental injustice should be studied through geographic visualisation.⁸⁰ Additionally, since race, class, space, and environmental degradation have all been constructed by the same structures of exploitation and domination, using GIS tools enables us to visualize the interaction of these patterns of discrimination.⁸¹

2.2 Case Study Selection: The Greater Paris Metropolitan Area

France's socio-demographic composition has been shaped by generations of immigrants coming from all parts of the world, especially its former colonies, making it an excellent candidate for studying the link between pollution and race.⁸² Being the biggest city and main economic hub of the country, Paris and its surroundings have consistently absorbed a great part of these immigration waves.⁸³ While housing segregation is not as marked as in other countries, the processes of immigration, de-industrialisation and urbanization have led to a cleavage between the western well-off neighbourhoods and the working-class eastern and north-eastern areas.⁸⁴ Today, the Greater Paris is a patchwork of ethnicity and class, with socio-demographics varying greatly based on location.⁸⁵ Furthermore, the city infamously has the worst air quality in the country.⁸⁶ The latest annual review of the greater Parisian area's air quality stated that, while air pollution is decreasing, levels of nitrogen dioxide, ozone, and microparticles PM₁₀ and PM_{2.5} still largely exceeded the World Health Organization's (WHO) recommendations, putting 1.3 million inhabitants at risk.⁸⁷ In sum, the Parisian area is a rich terrain for studying patterns between race, socio-economic disparities, and pollution in the form of air quality.

Since 2016, the Greater Paris Metropolitan region, encompassing Paris and 131 neighbouring communes, has officially started operating, taking responsibility for the zone's housing,

⁷⁹ Lee, 10216.

⁸⁰ Pulido, 'Geographies of Race and Ethnicity II'.

⁸¹ RightsGonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'; Löwy, 'What Is Ecosocialism?'; Pulido, 'Geographies of Race and Ethnicity II'.

⁸² Keucheyan, *La Nature Est Un Champ de Bataille*.

⁸³ Mairie de Paris, 'Agir Pour l'intégration - Ville de Paris'.

⁸⁴ Fijalkow and Oberti, 'Urbanisme, embourgeoisement et mixité sociale à Paris'.

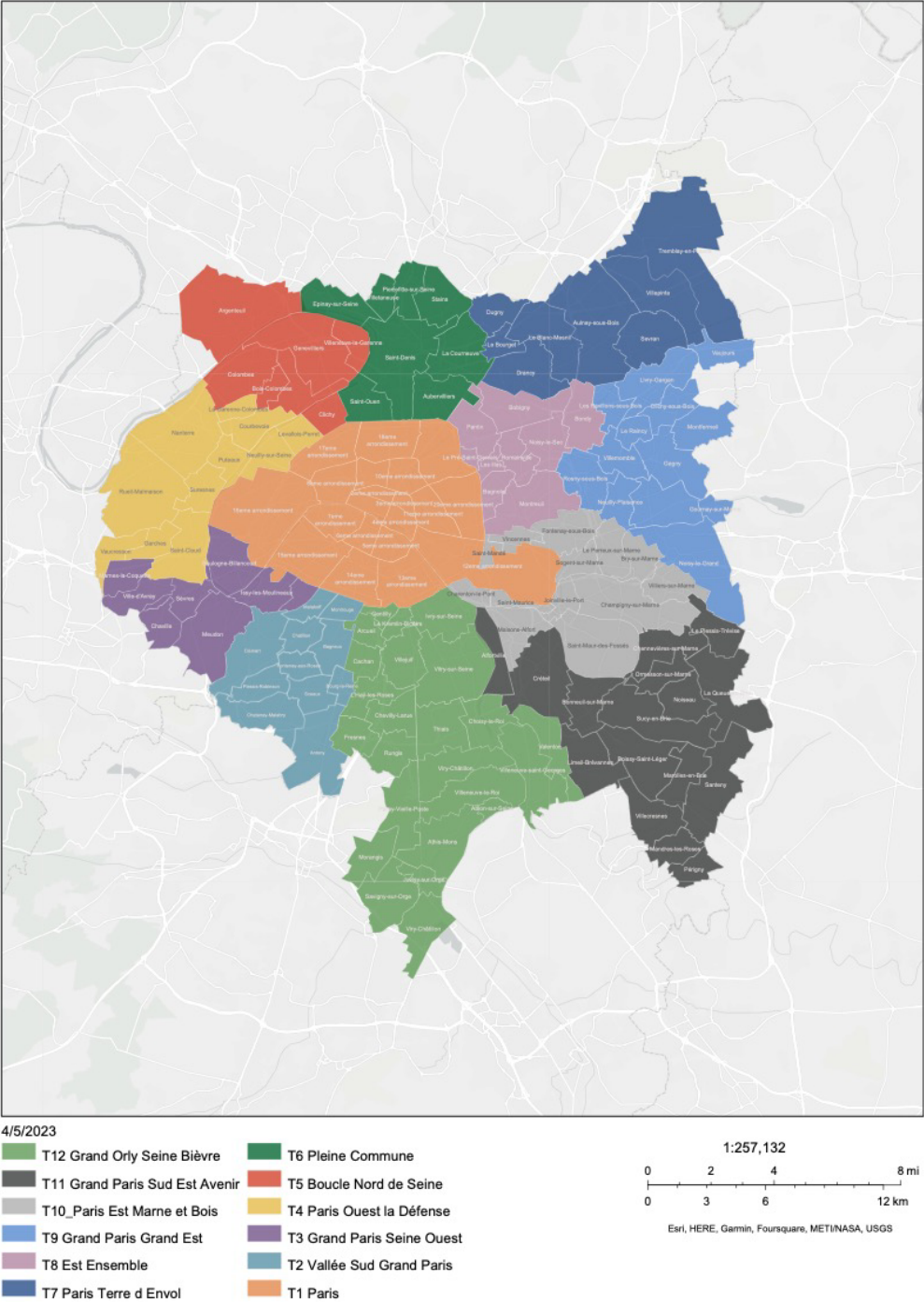
⁸⁵ Mairie de Paris, 'Agir Pour l'intégration - Ville de Paris'.

⁸⁶ Mairie de Paris, 'État de la qualité de l'air à Paris'.

⁸⁷ Mairie de Paris; Airparif, 'Bilans et Cartes Annuels de Pollution'.

economic and environmental strategies.⁸⁸ Our analysis of environmental racism in Paris will take into consideration this official urban agglomerate. Its politically explicit boundaries will facilitate the use of GIS methods. Moreover, studying a wider area than the city of Paris itself will allow for a more balanced study.

Map of the Greater Paris Metropolitan Region



⁸⁸ Métropole du Grand Paris, ‘Une Métropole Attractive et Équilibrée: Au Service de Ses 131 Communes’.

2.3 Research Design

The cartographic study of environmental (in)justice in Paris will answer the following question: What is the relationship between class, race, and air quality in the greater Paris metropolitan area?

To answer it, maps representing various variables will be created and compared using ArcGIS. To ensure transparency and reliability, the maps will be created using data made available by the *Institut National de la Statistique et des Etudes Economiques*⁸⁹ (INSEE), and urban planning agencies such as the *Atelier Parisien d'Urbanisme*⁹⁰ (Aur).

1. Racial diversity

Per French law, it is illegal to create data recording an individual's racial or ethnic profile or include race or religion in administrative files.⁹¹ Therefore, there is no official data on racial diversity within the French population. To overcome this limitation, the map recording racial diversity in each area will use data on immigration and inhabitants of foreign nationalities.⁹² The INSEE, which gathered this information, defines an immigrant as someone born of foreign nationality and residing in France, and a foreigner, as someone of foreign nationality residing in France.⁹³ An individual can be both an immigrant and a foreigner, however, immigrants who have obtained French nationality will still be counted in the immigration census. By using the share of foreign-born individuals within the population in each area, we can make a close estimation of racial diversity in the greater Paris metropolitan area. The data relied upon to map racial diversity comes from a census conducted by the INSEE in 2011 which stated that out of all the foreign-born people living in Paris and its surroundings, 46% came from Africa, 18% from Asia and the Middle East, 6% from America and 30% from Europe.⁹⁴ It is therefore reasonable to assume that a vast majority of these individuals are non-white and would suffer from racism. It must be noted that non-French white immigrants also

⁸⁹ Trad.: The National Institute for Statistics and Economic Studies

⁹⁰ Trad.: Parisian workshop for city-planning

⁹¹ INSEE, 'Statistiques Ethniques'.

⁹² Molinier and Roger, 'Chiffres Clés Des Communes de La Métropole Du Grand Paris'.

⁹³ INSEE, 'Statistiques Ethniques'.

⁹⁴ Molinier and Roger, 'Chiffres Clés Des Communes de La Métropole Du Grand Paris'.

suffer from discrimination within the French society, albeit in different ways than racialized populations.

2. *Socioeconomic status*

Since discriminatory patterns are often overlapping and mutually reinforcing, the population's socioeconomic status across the area will be analysed.⁹⁵ To do so a map will depict the dominating class in each sector. It will be created using the latest data depicting social diversity and socio-economic segregation gathered by the INSEE in 2019 and published in 2023.⁹⁶ In other words, the map will depict which class is overrepresented, compared to the national average, in each commune. One can, thus, assume that the zones in which lower classes are dominating are generally impoverished and vice versa.

3. *Air quality*

Exposure to air pollution will be analysed by mapping air quality levels over the year 2021.⁹⁷ The map will be created using the latest data published by the organisation AirParif which consistently records levels of all air pollutants across the greater Paris metropolitan area and compares them to national regulations and WHO recommendations.⁹⁸ The map on air quality will reflect on nitrogen dioxide levels across the year 2021 in Paris and its surroundings. Nitrogen dioxide is one of the main air pollutants. It is produced by fossil fuel combustion, for instance through industrial production or car usage, and is, therefore, a great indicator of human activity and air quality levels.⁹⁹

4. *Polluting industries and access to nature*

Having access to natural amenities and being farther from noxious industrial areas are central to the claims of environmental justice.¹⁰⁰ Moreover, it is reasonable to assume that those closest to parks or forests would enjoy a better air quality. Hence, a map recording the location of the zones dedicated to industrial development (or *Zone d'activités économiques*)¹⁰¹, but also parks, forests and other green spaces will be analysed using the greater Paris metropolitan areas' land use plans.¹⁰²

⁹⁵ Löwy, 'What Is Ecosocialism?'; Albritton, 'Rethinking Time and Space'.

⁹⁶ Apur, 'Le Grand Paris, Une Métropole Cosmopolite'.

⁹⁷ Airparif, 'Bilan 2021 - Métropole Du Grand Paris'.

⁹⁸ Airparif, 'Bilans et Cartes Annuels de Pollution'.

⁹⁹ Airparif, 'Bilan 2021 - Métropole Du Grand Paris'.

¹⁰⁰ Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium', 155.

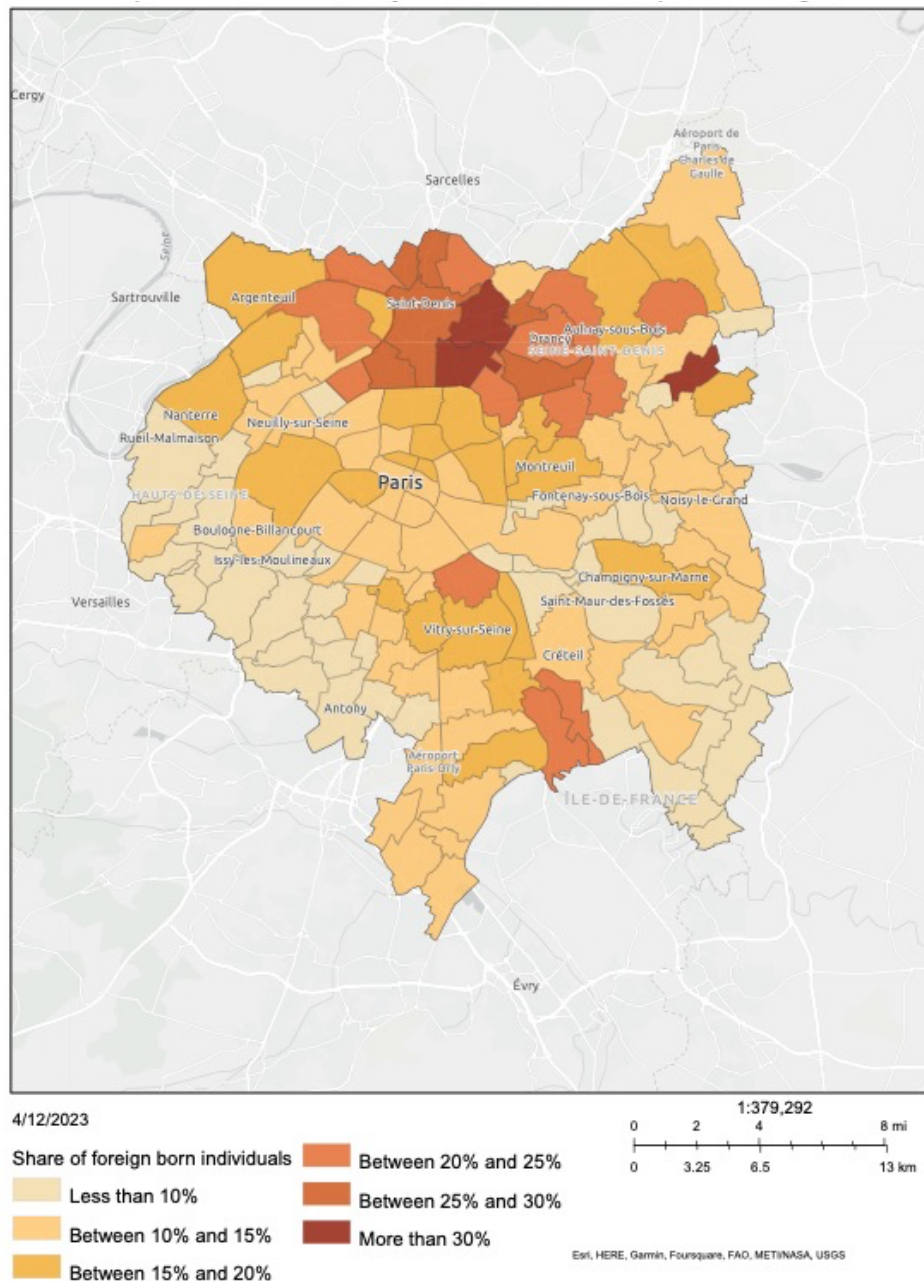
¹⁰¹ Trad. Zone of economic activity

¹⁰² Mairie de Paris, 'Le plan local d'urbanisme (PLU)'; Apur, 'Le Grand Paris, sa géographie'.

Chapter 3. Results and Discussion

3.1 Analysis of the Cartographic Study

Map 1: Racial Diversity



The first map depicts the share of foreign-born individuals residing in each commune of the greater Paris metropolitan area. Within the city of Paris, the share of foreign-born individuals among residents fluctuates between 10% and 20%. In most neighbourhoods, they make up

between 10% and 15% of residents with the notable exception of the 16th and 7th *arrondissements* in the west of the city and the 2nd, 3rd, 10th, 18th, 19th and 20th *arrondissements* which spread from the centre to the northeast of the city. In these neighbourhoods, foreign-born people represent 15% to 20% of the population.

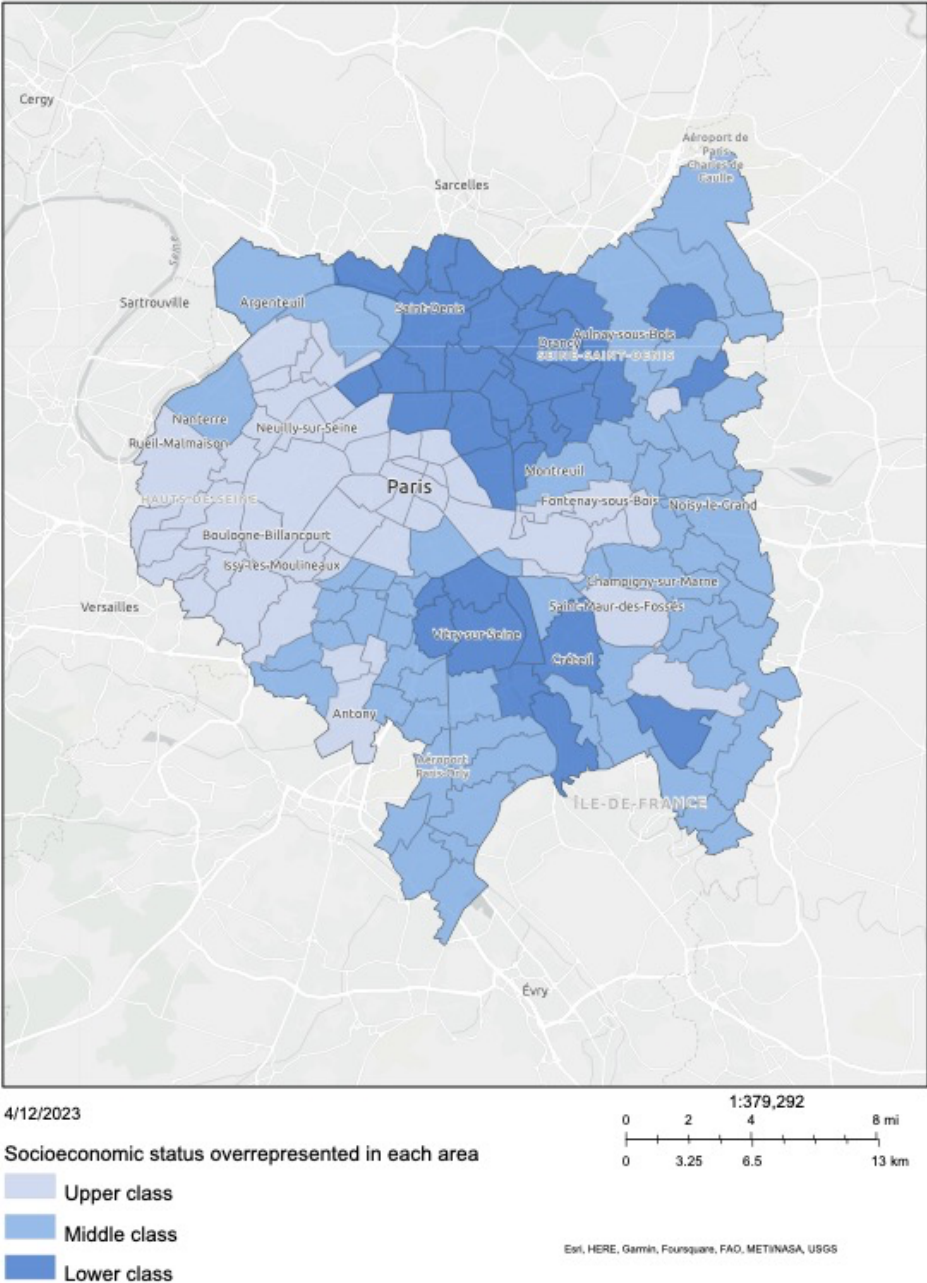
The north and north-eastern outskirts of Paris are the most racially diverse of the metropolitan region. Indeed, in the zones, T6 Plaine Commune, T7 Paris Terre d'Envole, and T8 Est Ensemble, the share of foreign-born individuals among residents does not go below 15%. In most communes in these areas, foreign-born people represent between 20% and 25% of the population such as in Gennevilliers, Clichy, Epinay-sur-Seine, Stains, Pantin, Noisy-le-Sec, Bondy, Drancy, Aulnay-sous-Bois, Les Pavillons-sous-Bois or Sevran. In communes like Saint-Denis, Saint Ouen, Villetaneuse, Pierrefitte-sur-Seine, le Bourget and Bobigny, they make up between 25% and 30% of the residents. And in a few communes, racial diversity reaches its peak, with the share of foreign-born individuals exceeding 30%, such as in la Courneuve, Aubervilliers and Livry Gargan.

In the south of the capital, in Ivry-sur-Seine, Valenton and Villeneuve-Saint-Georges, foreign-born individuals make up between 20% and 25% of the inhabitants. However, overall, the share of foreign-born people among residents oscillates between 10% and 20% in the southwest and southeast of the Paris metropolitan region. At the very edge of these suburbs, the share of foreign-born individuals among inhabitants goes below 10%.

The information on racial diversity is particularly informative when paired with the second map which depicts the dominating social class in each area. As expected, the areas where foreign-born individuals, and therefore, racialized individuals, are most present coincide with the areas where the lower classes are overrepresented. Inversely, the communes where foreign-born people make up less than 10% of the residents tend to be dominated by the middle class, or the upper class, especially in the western Parisian suburbs. A notable exception is the city of Paris, as well as the western communes of Neuilly-sur-Seine, Boulogne-Billancourt, Puteaux, Suresnes and Courbevoie, where upper classes are overrepresented. In these communes and *arrondissements*, the share of foreign-born individuals among residents fluctuates between 10% and 20%, although remaining below 15% for the most part. Nevertheless, more often than not, patterns between racial diversity and socioeconomic status are extremely consistent with the assumptions advanced by environmental racism. Indeed, the overlap of these two variables suggests that the concept of racial capitalism is right. Moreover, they seem to fit within the

common conception and ‘stereotypes’ of these areas, such as the notion that the 18th, 19th, and 20th arrondissement of Paris tends to be poorer and inhabited by more racialized inhabitants, to the extent that it is worth going shopping in these areas for cheaper and non-European ingredients.¹⁰³

Map 2: Socioeconomic Status of the Population

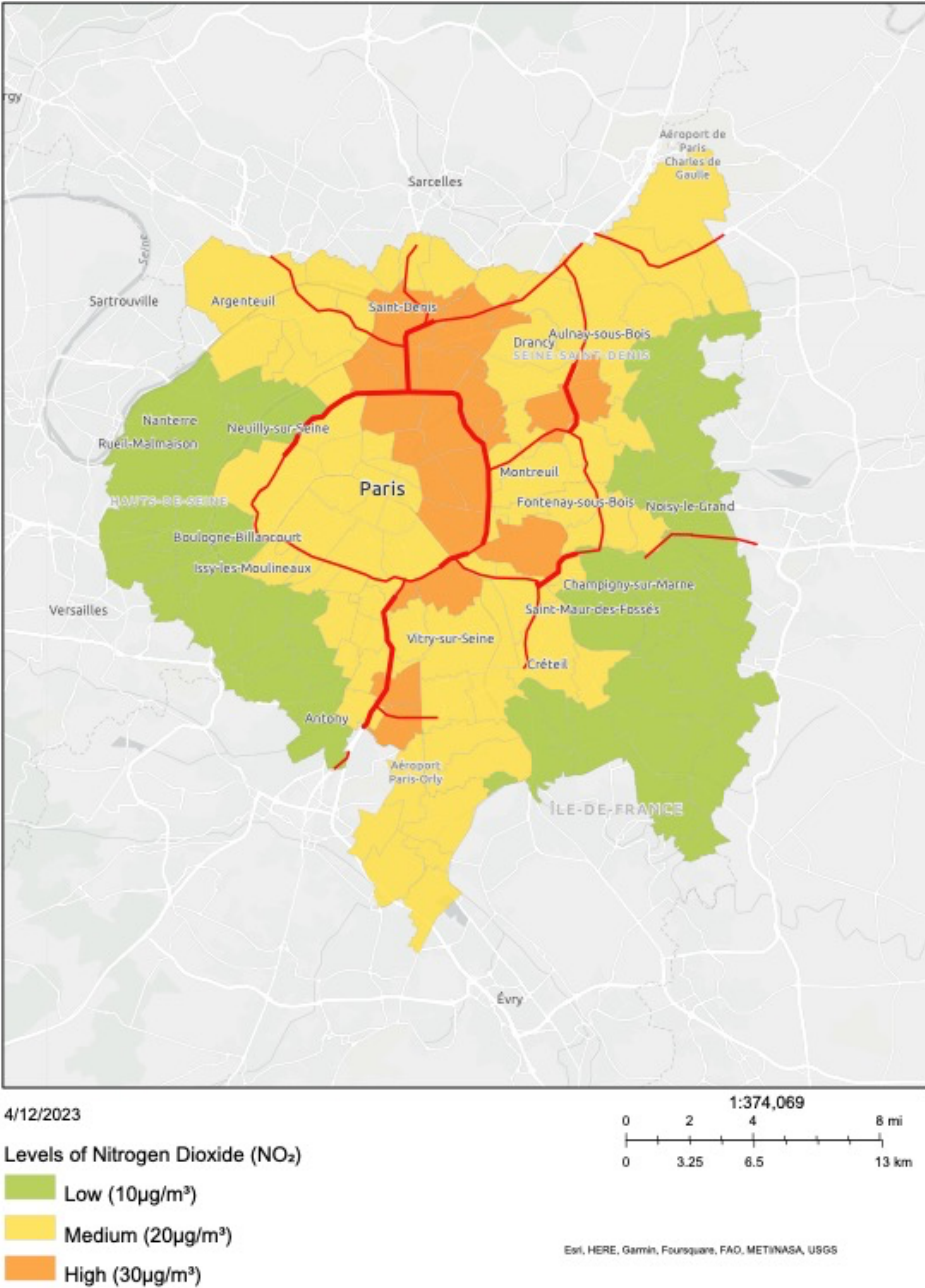


The greater Paris metropolitan area would have experienced changes in its composition since this data was gathered, particularly for racial diversity which is the least recent variable in this

¹⁰³ Fijalkow and Oberti, ‘Urbanisme, embourgeoisement et mixité sociale à Paris’.

study. However, the trend, as studied by the INSEE and academics in recent years, seems to be that these patterns, which are long-standing, now tend to be accentuated as inequalities rise and neighbourhoods become increasingly segregated socially.¹⁰⁴

Map 3: Air Quality in the Paris Metropolitan Region



¹⁰⁴ INSEE, ‘Mixité Sociale et Ségrégation Dans La Métropole Du Grand Paris : État Des Lieux et Tendances Sur 15 Ans - Insee Analyses Ile-de-France - 165’; Fijalkow and Oberti, ‘Urbanisme, embourgeoisement et mixité sociale à Paris’.

When added to the data presented by the third map, which depicts air quality across the region by showing nitrogen dioxide levels over the year 2021 in each commune, the relationship between low socioeconomic status, high racial diversity and poor air quality is clearly highlighted. Across most of the area, namely the city of Paris, all the northern and southern communes, and across some of the eastern close outskirts of the city, nitrogen dioxide levels are at least medium, averaging around 20 µg/m³ over the year. Air quality is better in the west and south-west area, spreading from Levallois-Perret to Antony and passing by towns such as Neuilly-sur Seine, Boulogne-Billancourt or Meudon, as well as in the eastern zone of the suburbs spreading from Vaujours to Périgny. In these areas, nitrogen dioxide levels average 10 µg/m³ yearly, therefore respecting the WHO's recommended levels.¹⁰⁵

Inversely, levels of nitrogen dioxide are high, on the eastern edge of Paris proper, such as in the 12th, 20th, 19th, and 18th arrondissements, as well as in the north of the city. Areas such as Aubervilliers, la Courneuve, Saint-Denis, Pantin and le Bourget, all have nitrogen dioxides levels averaging 30 µg/m³ over the year. Additionally, nitrogen dioxide levels are high on the southern edge of Paris in Ivry-sur-Seine and le Kremlin-Bicêtre, and further down in the T12 zone at l'Haÿ-les-Roses and Fresnes. Finally, nitrogen dioxide levels are very high around busy roads and highways. This includes areas around the *périphérique* (the highway outlining the city of Paris), the A6B road going southwards, and the A1 and A3 roads going northward and eastward respectively. There, nitrogen dioxide levels are consistently over 40 µg/m³, therefore exceeding French regulations, with peaks reaching over 1.5 times the legal limit.¹⁰⁶ These excesses concerned, in 2021, 50 000 residents across the Parisian metropolitan region. While air quality has been improving in the region over the past decade (2021 was the third year in a row where average nitrogen dioxides levels below the legal limit were recorded), a great share of inhabitants is exposed to much higher levels of air pollutants than what the WHO and European Union prescribe.¹⁰⁷ The French national health agency estimates that air pollution is responsible for 6 600 premature deaths annually in the country.¹⁰⁸

Finally, the fourth map shows the location of industrial zones (also known as economic activity zones) and natural amenities such as parks and forests in the greater Paris metropolitan region.

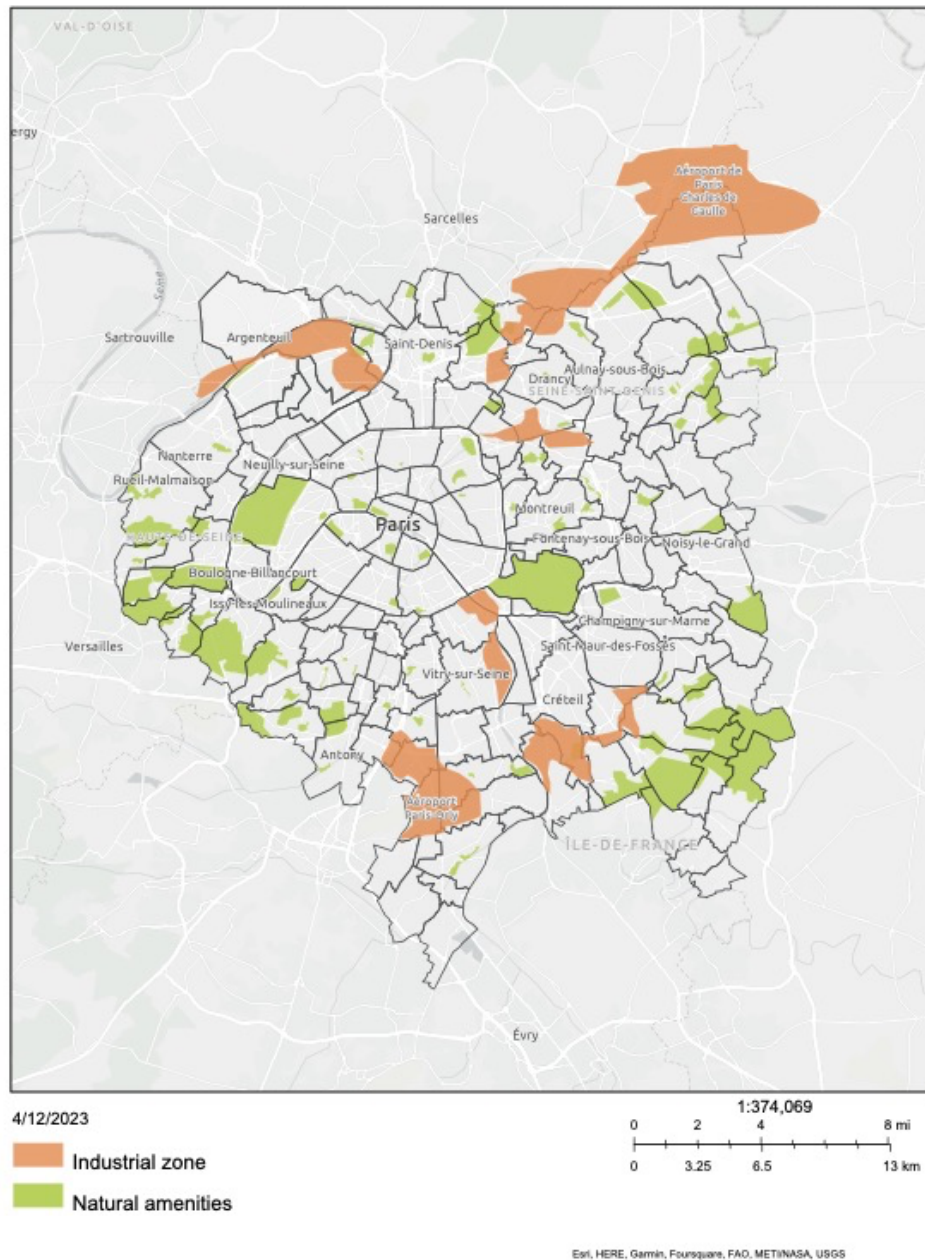
¹⁰⁵ WHO, 'What Are the WHO Air Quality Guidelines?'

¹⁰⁶ Airparif, 'Bilan 2021 - Métropole Du Grand Paris'.

¹⁰⁷ MGP, 'Zones de Faibles Emissions Métropolitaines'; Airparif, 'Bilan 2021 - Métropole Du Grand Paris'.

¹⁰⁸ MGP, 'Zones de Faibles Emissions Métropolitaines'.

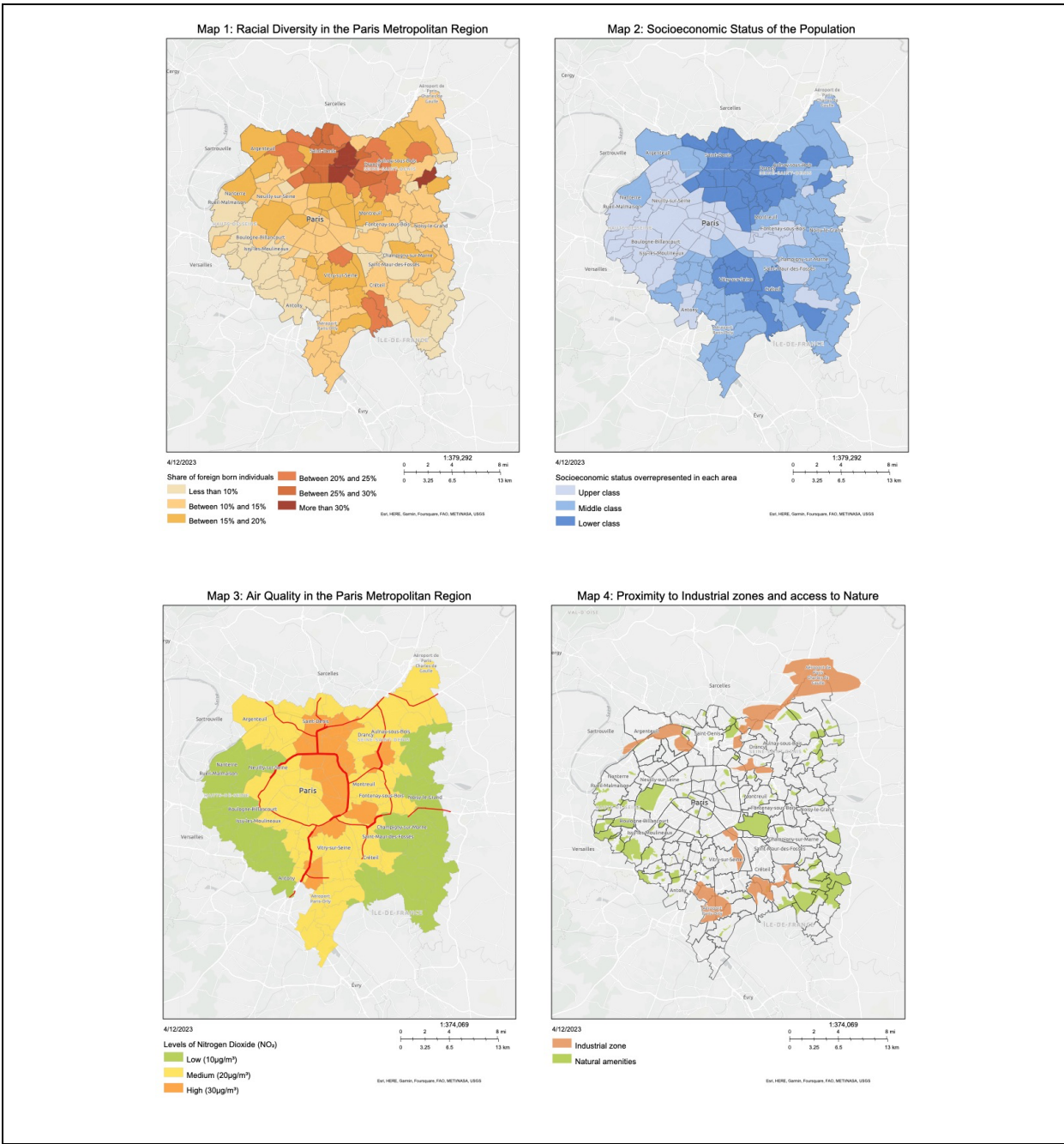
Map 4: Proximity to Industrial Zones and Natural Amenities



Large industrial zones are located in the south of the area. In the T12 Grand Orly Seine Bièvre zone, there is an industrial zone starting around Orly’s airport and spreading over to Fresnes. Towards the east, industrial areas are present in Ivry-sur-Seine, Vitry-sur-Seine, and Valenton. Unsurprisingly big industrial zones are also located in the north of Paris. Indeed, industries are located around Villeneuve-la-Garenne and Argenteuil in the northwest, while the biggest industrial zone in the region spreads from la Courneuve towards Tremblay-en-France in the northeast. Moreover, another industrial zone is located at the south of Bobigny, spreading

towards Pantin and Noisy-le-Sec. In light of this map, it is clear that nitrogen dioxide levels are consistently higher around industrial zones. Furthermore, these areas of intense economic activity are served by the highways mentioned above which register the highest levels of nitrogen dioxide.

It appears that natural amenities are mainly located on the outskirts of the metropolitan area, and the largest forests or parks are on the southeast and west, where the lowest nitrogen dioxide levels were recorded. Several natural amenities are also located in the north and northeast of Paris, albeit much sparser and smaller.



In sum, when put next to each other, the overlap of class and race and their interaction with air quality is undeniable. Not only are the areas with the highest share of foreign-born individuals also the most impoverished, but they have significantly poorer air quality than in other municipalities of the Paris metropolitan region. It must be noted that these places tend to be close to polluting industries, notably airports. Additionally, in these communes, especially in the north and northeast of Paris, natural amenities tend to be rarer, and the existing ones are often poorly maintained.¹⁰⁹ While this study of environmental racism focused on nitrogen dioxide as a main pollutant, the report from which the data was extracted states that levels of fine particles PM₁₀ and PM_{2.5} – which are important health hazards – follow the same patterns as nitrogen dioxide. This seems logical considering that air pollutants mostly come from fossil fuel combustion and that the worst air quality in the Parisian metropolitan area is recorded around well-travelled highways and industries.

This cartographic study demonstrates that environmental racism is not limited to the United States. Nevertheless, one may wonder what are the ‘French’ conditions that explain the overlapping of low socioeconomic status, high racial diversity, poor air quality, and constrained access to nature. Indeed, to challenge this pattern of injustice, one must reflect on the socio-cultural constructions and policies that have allowed its emergence in the first place.

3.2 France’s ‘Racial Gaslighting’ and Environmental Justice

This study of the Parisian metropolitan region provides evidence that similar patterns seem to distribute environmental harm in France than in the US. In fact, air pollution disproportionately impacts France’s ‘visible minorities’ and poorer populations. These two socio-demographic categories tend to overlap, as seen above. Thus, both environmental racism and eco-socialist dynamics operate in the Parisian metropolitan region. The differentiated impact of air pollution on these vulnerable populations seems to inscribe itself in the country’s history of white supremacy and capitalist construction of space. Indeed, scholars such as Beaman have argued that the unequal distribution of socioeconomic groups, urban disadvantage, and immigration have clear historical roots in France.¹¹⁰ For instance, the Parisian demographic composition has

¹⁰⁹ Keucheyan, *La Nature Est Un Champ de Bataille*.

¹¹⁰ Beaman, ‘Racial Gaslighting in a Non-Racial France’, 331.

been shaped by generations of immigrants, especially, from former French colonies in North and Sub-Saharan Africa.¹¹¹ As these new residents arrived, several dynamics came into play including the colonial logic of devaluing non-white bodies and the capitalist strategy of profit accumulation, leading to their concentration in the peri-urban areas of the city commonly known as *banlieues*.¹¹² As scholars have argued, environmental racism is merely a new spatial materialization of historical oppression.¹¹³ For instance, housing segregation - one of the systemic forms of discrimination that enables the manifestation of environmental racism - is not the result of market failures or an accident but rather the result of routine capitalism.¹¹⁴ In fact, as argued by Pulido, Roberts, and Zimring, the production of social inequalities, notably by race or class, is inherent to functioning capitalist economies.¹¹⁵ As France is a former colonial power and (current) capitalist state, its modern society reflects these deeply rooted ideologies whether it be through its narrative on race, urban policies, or wider socio-cultural norms.

One key feature of the French discourse on race is that it barely exists. Indeed, France is both ‘non-racial’ in its rejection of the reality of race, and ‘anti-racial’ in its rejection of racial language.¹¹⁶ Through a process of ‘racial gaslighting’, as Beaman puts it, racism and the country’s colonial history are consistently minimized, if not entirely silenced.¹¹⁷ Therefore, the relevance - and existence - of racial discrimination are continuously dismissed, notably through the use of a ‘Republican’ narrative which advocates for the indivisibility of the French population.¹¹⁸ This discourse argues that all French citizens are unified regardless of gender, class, or race.¹¹⁹ Behind these ideas is a vicious political instrumentalization which denies the very existence of discrimination and leads to the perpetual delegitimization of anti-racist struggles.¹²⁰ Indeed, the presumed colour-blindness of the French society, and the denial of racial discrimination or of its historical roots, render activists’ tasks extremely complex,

¹¹¹ Ware, ‘Color-Blind Racism in France’; Fijalkow and Oberti, ‘Urbanisme, embourgeoisement et mixité sociale à Paris’.

¹¹² Ware, ‘Color-Blind Racism in France’; Beaman, ‘Racial Gaslighting in a Non-Racial France’.

¹¹³ Roberts et al., “‘I Can’t Breathe’”; Pulido, ‘Geographies of Race and Ethnicity II’; Pulido, ‘Geographies of Race and Ethnicity I’.

¹¹⁴ Pulido, ‘Geographies of Race and Ethnicity II’, 530.

¹¹⁵ Pulido, ‘Geographies of Race and Ethnicity I’; Roberts et al., “‘I Can’t Breathe’”; Zimring, *Clean and White*.

¹¹⁶ Beaman, ‘Racial Gaslighting in a Non-Racial France’, 409.

¹¹⁷ Beaman, ‘Racial Gaslighting in a Non-Racial France’.

¹¹⁸ Beaman.

¹¹⁹ Beaman.

¹²⁰ Beaman.

especially when they attempt to denounce structural issues.¹²¹ In many instances, anti-racist activists and racialized minorities are even accused of being racist themselves, by, for instance, organizing ‘exclusionary’ or ‘communitarian’ events celebrating ‘Blackness’.¹²² Any denunciation of racism, especially systemic racism such as police brutality or housing segregation, is framed as an attack against the republican order, and therefore outside the realm of French politics.¹²³ As argued previously, environmental harm is distributed along historical patterns of systemic discrimination, whether it be based on race or class. Yet, when the denunciation of structural racism is silenced and even turned against the whistle-blowers, issues such as environmental racism can hardly be challenged. In fact, within a society which presents itself as equalitarian and non-racial, racism is often presented as a set of individual actions and biases.¹²⁴ However, this conception obscures our understanding of racism and ignores the overarching structure which leads to and reproduces social inequalities.¹²⁵

Unlike racism, the denunciation of discrimination based on class is allowed and made visible within the French socio-political context.¹²⁶ Unfortunately, these criticisms are often shaped in ways that conceal – sometimes deliberately – the importance of other systems of discrimination, even as they tend to overlap and reinforce each other. When it comes to urban geographies, it has been argued that housing segregation can be explained purely by people’s socioeconomic status.¹²⁷ Theorists have suggested that non-white individuals are simply poorer than their white counterparts and cannot afford to choose where to live, thus, leading to the concentration of racialized residents in specific neighbourhoods.¹²⁸ This understanding of the housing market, while it may reflect a portion of the truth, fails to interrogate why such trends in class and race can be observed. Once again, the structural patterns of discrimination which maintain certain groups in poverty are merely ignored.

This reductive understanding of housing segregation has been negated by researchers such as Ebermeyer who have found that, for an equal socio-professional status, the living conditions of foreign-born individuals were systematically worse than the ones of their French

¹²¹ Beaman.

¹²² Beaman.

¹²³ Ware, ‘Color-Blind Racism in France’; Beaman, ‘Racial Gaslighting in a Non-Racial France’.

¹²⁴ Pala, ‘Le racisme institutionnel dans la politique du logement social’.

¹²⁵ Pulido, ‘Geographies of Race and Ethnicity 1’.

¹²⁶ Kirszbaum, *Mixité sociale dans l’habitat. Revue de la littérature dans une perspective comparative*; Pala, ‘Le racisme institutionnel dans la politique du logement social’.

¹²⁷ Kirszbaum, *Mixité sociale dans l’habitat. Revue de la littérature dans une perspective comparative*.

¹²⁸ Kirszbaum, 60.

counterparts.¹²⁹ Despite the salience of the non-racial narrative in France, research on systemic forms of racism has started to emerge.¹³⁰ The rising acknowledgement that the French society is, indeed, racial, including within republican institutions such as education or housing, is in tension with the continuously non-racial discourse of the State¹³¹. Yet, the study of housing segregation and social housing allocation has shed light on the biases internalized by agents of the housing market and the institutions that regulate it.¹³² In fact, Pala found that institutions perpetuate racial discrimination through a process of categorization and differentiation between white and non-white bodies.¹³³ This statement echoes the argument that the white supremacist rationale is perpetuated by modern structures and is clearly illustrated by the mass construction of social housing in the north and north-eastern outskirts of Paris by the government from 1945 onwards dedicated to new-coming migrants.¹³⁴

In sum, institutions, such as housing, are subjected to internalized and deeply rooted structures of discrimination. Class and race have been highlighted here, but it is reasonable to assume that other patterns could be operating within the French social hierarchy. The disproportionate impact of air pollution on racialized individuals and lower classes appears to take root in the country's colonial and capitalist construction. However, the Republican discourse leads to the silencing of any denunciation of institutional forms of discrimination, especially systemic racism.¹³⁵

3.3 Policy Implications

To understand the intricacies of environmental racism in the greater Paris metropolitan region, one must comprehend the ways in which the French social hierarchy is translated into urban and social policies. Or more accurately, the ways in which the colour-blindness of these policies has allowed for the unequal distribution of environmental harm.

¹²⁹ Kirszbaum, 64.

¹³⁰ Pala, 'Le racisme institutionnel dans la politique du logement social'.

¹³¹ Pala.

¹³² Pala; Kirszbaum, *Mixité sociale dans l'habitat. Revue de la littérature dans une perspective comparative*.

¹³³ Pala, 'Le racisme institutionnel dans la politique du logement social', 5.

¹³⁴ Ware, 'Color-Blind Racism in France'; Keucheyan, *La Nature Est Un Champ de Bataille*; Pulido, 'Geographies of Race and Ethnicity II'; Pulido, 'Geographies of Race and Ethnicity I'.

¹³⁵ Beaman, 'Racial Gaslighting in a Non-Racial France'; Pala, 'Le racisme institutionnel dans la politique du logement social'.

From 1945 onwards, demographic changes and immigration have driven the construction of social housing in the Parisian suburbs.¹³⁶ The creation of low-rent government-owned or subsidized housing units has led to the concentration of foreign-born and lower-class populations in the outskirts of the city, notably in the north and northeast.¹³⁷ Gradually, these neighbourhoods have become synonymous with poverty, racial minorities, disadvantages in education, heightened criminality, and environmental degradation.¹³⁸ In an attempt to counter this concentration, laws promoting social diversity were passed as early as 1970.¹³⁹ While the new regulations capped the number of foreign-born residents in social housing at 20%, they were often overlooked and, therefore, failed to slow housing segregation.¹⁴⁰ More recently, the 2000 Urban Solidarity and Renewal Law, which made it mandatory for cities to have at least 20% of social housing, in order to allow impoverished populations to live in more affluent areas, also failed to stimulate social diversity.¹⁴¹ Indeed, the regulations stating which people are fit to receive social housing are so flexible that middle-class households have accessed these units.¹⁴²

As a result, the poorest residents continue to live in low-quality housing in poor areas (such as the northeast of Paris), while high and middle-class households live in better buildings located in more attractive neighbourhoods.¹⁴³ The rejection of any racial discourse in France means that this socio-economic segregation also tends to hide a racial concentration. Indeed, the attachment to race neutrality leads to inefficient policymaking. For instance, the national plan on social housing which promotes the right to housing and social diversity never refers to ‘immigrants’ or ‘ethnic minorities’.¹⁴⁴ These voluntary omissions render housing policies entirely colour-blind, which in turn, prevents them from avoiding biases and discrimination caused by structural racism. Public policies in housing, especially when they attempt to promote social diversity, are supposed to counter the marginalizing and exclusionary strategies that the market executes on its own.¹⁴⁵ Yet, through colour-blindness, they consistently fail to recognize the ideologies underpinning the markets’ – and wider society’s - biases.

¹³⁶ McAvay and Verdugo, ‘Income Inequality and Segregation in the Paris Metro Area (1990–2015)’.

¹³⁷ McAvay and Verdugo.

¹³⁸ Ware, ‘Color-Blind Racism in France’; Beaman, ‘Racial Gaslighting in a Non-Racial France’.

¹³⁹ Kirszbaum, *Mixité sociale dans l’habitat. Revue de la littérature dans une perspective comparative*, 63.

¹⁴⁰ Fijalkow and Oberti, ‘Urbanisme, embourgeoisement et mixité sociale à Paris’; Kirszbaum, *Mixité sociale dans l’habitat. Revue de la littérature dans une perspective comparative*.

¹⁴¹ McAvay and Verdugo, ‘Income Inequality and Segregation in the Paris Metro Area (1990–2015)’.

¹⁴² McAvay and Verdugo.

¹⁴³ McAvay and Verdugo.

¹⁴⁴ Pala, ‘Le racisme institutionnel dans la politique du logement social’.

¹⁴⁵ Kirszbaum, *Mixité sociale dans l’habitat. Revue de la littérature dans une perspective comparative*, 59.

In parallel, processes of urbanisation and deindustrialisation have pushed polluting industries away from the city centre and towards the south and north-eastern *banlieues*.¹⁴⁶ The choice of location for zones of intensive economic activities is constrained by several criteria such as the need for easily accessible transportation paths.¹⁴⁷ A quick look at the fourth map highlights that all industrial zones in the Paris metropolitan region are served by the main highways. The industries' efficiency constraints tend to be in contradiction with the logic of sustainable development.¹⁴⁸ The growing concentration of industries around Paris paired with their intensive models of production has led to several issues including environmental degradation and increased air pollution.¹⁴⁹ Additionally, the flexible environmental policies regulating industrial activities have failed to limit the production of environmental harm.¹⁵⁰ One could argue that the search for profit and infinite growth present in capitalist societies underpin the lack of strong regulations. Moreover, due to their location, the issues produced by zones of economic activity have disproportionately impacted areas predominantly inhabited by racialized and lower-class households. The economic explanation often advanced to explain the location of industrial zones is that because these areas are impoverished, housing prices are lower and low-skilled workers more concentrated, therefore facilitating the implantation of industries.¹⁵¹ However, it is reasonable to assume that the types of communities impacted by industries have also not encouraged stronger environmental regulations or relocation plans. Since those at the bottom of the social hierarchy are deemed more 'expendable' - even if only unconsciously or systemically -¹⁵², it provides no incentives for the state to improve the living conditions of these populations.

Since the patterns that distribute environmental harm, including air pollution, obey structures of domination and exploitation, the failure to recognize the systemic nature of this discrimination and the promotion of colour-blind policies only lead to the reproduction of deeply rooted racial and classist inequalities. As such, environmental racism in the Paris metropolitan region is only one of the spatial expressions of the French social hierarchy. Challenging this injustice entails rethinking housing policies, environmental regulations, and

¹⁴⁶ Fijalkow and Oberti, 'Urbanisme, embourgeoisement et mixité sociale à Paris', 10.

¹⁴⁷ Olszak, 'Localisation Des Activités et Développement Durable Des Territoires'.

¹⁴⁸ Olszak.

¹⁴⁹ Olszak.

¹⁵⁰ Olszak.

¹⁵¹ Olszak.

¹⁵² White, *Environmental Harm an Eco-Justice Perspective*.

urban planning. The latter can be a key tool in addressing the ‘environmental justice gap’ thanks to its connection to the community and smaller implementation scale.¹⁵³ In France, local urban plans’ colour-blindness needs to be addressed. In fact, the latest local urban plan for the city of Paris refers to its responsibility in terms of ‘social integration and diversity’ or its role in the ‘environmental’ realm but fails to refer to migration, minorities or spatial discrimination in any way.¹⁵⁴ As the Greater Paris Metropolitan Council is currently working on the 2023 edition of its urban plan, whether it will fall into the trap of colour-blindness remains to be seen. Identifying and naming an issue is essential but is still superficial if said problem is not efficiently measured. Thus, EJ assessment tools and screening methods could be consistently implemented into the formulation and monitoring of urban plans.¹⁵⁵ As such, the assessment of social injustices and planning issues at the local level could be addressed simultaneously.¹⁵⁶

Naturally, uprooting systemic racism requires deeply transformational changes in all aspects of the French society (and beyond). Nevertheless, clearly identifying structural forms of discrimination and placing them within a racially conscious discourse is an easily achievable step towards this change. The environmental justice framework only has 40 years of practice behind it, yet it struggles to produce long-lasting change and is often seen as ‘stagnating’.¹⁵⁷ The ability to define, articulate, visualize, and apply the concept of disproportionate environmental harm based on empirical data is key to the design of effective policies.¹⁵⁸ Therefore, environmental justice highlights - yet another - issue of the French anti-discrimination laws which prohibit the generation of data based on race or ethnicity. While studying injustice spatially, as this paper has done, can provide momentary relief from this lack of detailed data, the inability to accurately measure the impact of environmental hazards on different groups within the population will always prevent us from designing the most appropriate policies. The transformation needed to tackle environmental racism in France is, therefore, twofold: (1) it requires a sociocultural revolution to legitimize anti-racist claims and render racialized language visible and, (2) an institutional move away from colour-blindness to

¹⁵³ Kato-Huerta and Geneletti, ‘A Distributive Environmental Justice Index to Support Green Space Planning in Cities’.

¹⁵⁴ Mairie de Paris, ‘Le plan local d’urbanisme (PLU)’.

¹⁵⁵ Kato-Huerta and Geneletti, ‘A Distributive Environmental Justice Index to Support Green Space Planning in Cities’.

¹⁵⁶ Kato-Huerta and Geneletti.

¹⁵⁷ Lee, ‘Confronting Disproportionate Impacts and Systemic Racism in Environmental Policy’; Pulido, ‘Geographies of Race and Ethnicity I’.

¹⁵⁸ Lee, ‘Confronting Disproportionate Impacts and Systemic Racism in Environmental Policy’.

stop the reproduction of structural discrimination and systematize the search for equity in policymaking.

Conclusion

This thesis investigated the construction and distribution of environmental injustice in France by exploring the interaction of class, race, and air quality in the Paris metropolitan region. First, the concept of environmental justice and its theoretical construction were explored. Originally labelled as environmental racism, EJ reflects on the unequal patterns that distribute environmental goods (such as drinking water, clean air, or natural amenities) and environmental wrongs (such as pollution, climatic deregulations, or biodiversity loss).¹⁵⁹ Understanding these patterns necessitates understanding the social, economic, and cultural logic that have led to the environmental crisis.¹⁶⁰ Indeed, the mass-scale destruction of our environment, as well as our perception of race, space, and nature, are all underpinned by colonialist and capitalist thought.¹⁶¹ Across Western societies, social hierarchies are underpinned by the ideologies that have justified the commodification of non-white bodies (as well as women's and workers' bodies), space, and nature for the sake of profits.¹⁶² In other words, systems of discrimination such as racism, classism, or misogyny overlap and infuse every aspect of the social fabric, leading to the most vulnerable populations being disproportionately impacted by the environmental crisis. In the United States, EJ research has evidenced that the communities at the bottom of the social hierarchy were consistently - and historically - bearing the lion's share of the environmental burden.¹⁶³

To start filling the research gap of EJ in Europe, we analysed the overlap of class and race and their interaction with air quality in the Greater Paris, before exploring the sociocultural constructions that have allowed for such injustices to arise in France. Identifying, through empirical data, which communities are disproportionately impacted by environmental harm is a fundamental first step in redressing environmental injustice.¹⁶⁴ Thus, using the ArcGIS mapping tool, it was shown that neighbourhoods where lower classes are overrepresented and

¹⁵⁹ Benford, 'The Half-Life of the Environmental Justice Frame'; Keucheyan, *La Nature Est Un Champ de Bataille*; Gonzalez, 'Environmental Justice, Human Rights, and the Global South Symposium'.

¹⁶⁰ Keucheyan, *La Nature Est Un Champ de Bataille*.

¹⁶¹ Pulido, 'Geographies of Race and Ethnicity II'; Pulido, 'Geographies of Race and Ethnicity I'; Keucheyan, *La Nature Est Un Champ de Bataille*; Chertkovskaya and Paulsson, 'Countering Corporate Violence'; Charbonnier, 'Le rendement et le butin. Regard écologique sur l'histoire du capitalisme'; Albritton, 'Rethinking Time and Space'; Zimring, *Clean and White*.

¹⁶² Keucheyan, *La Nature Est Un Champ de Bataille*; Morrow, 'Ecosystem Services and Capitalism'; Löwy, 'What Is Ecosocialism?'; Pulido, 'Geographies of Race and Ethnicity II'.

¹⁶³ Tibuakuu et al., 'Air Pollution and Cardiovascular Disease'; Alvarez, 'Structural Racism as an Environmental Justice Issue'; Roberts et al., "'I Can't Breathe'"; Zimring, *Clean and White*; Pulido, 'Geographies of Race and Ethnicity I'.

¹⁶⁴ Lee, 'Confronting Disproportionate Impacts and Systemic Racism in Environmental Policy'.

racial diversity is the highest, tend to suffer from poorer air quality and constrained access to natural amenities. It was argued that the unequal distribution of environmental harm in France seems to be the result of past and current housing policies, environmental regulations, and urban planning.¹⁶⁵ In fact, the lack of recognition of the state's colonial heritage and structural racism hinder the formulation of effective policymaking to address environmental injustice.¹⁶⁶

While EJ has been labelled by some as the 'civil rights movement of the twenty-first century' in the United States, it appears that important efforts remain to be deployed to politicize the issue on this side of the Atlantic.¹⁶⁷ Undoubtedly, the information revealed by our cartographic study of environmental racism in the Parisian metropolitan region can constitute a first step in this direction. Indeed, identifying overburdened communities is key to directing the government's attention and resources towards them, as well as identifying and changing the policies that have led to these inequalities.¹⁶⁸ Nevertheless, to ensure efficient policymaking, the research presented here should be complemented by the study of other types of environmental wrongs. Unfortunately, the results of EJ academic research in France will lack accuracy for as long as the anti-discrimination laws forbidding the production of data based on ethnicity will be enforced.

In sum, systemic racism and classism are expressed spatially in the greater Paris through the unequal distribution of air pollution. This pattern of discrimination seems to be rooted in the country's colonial past, therefore, underlying the need to transcend this noxious heritage. Not only will deep sociocultural and institutional transformations be required to tackle this issue, but the EJ framework should also stay true to its disruptive origins, perhaps drawing inspiration from decolonial thought and other radical critical theories.¹⁶⁹ The study of environmental racism in France only further emphasizes the fact that the fight for social justice is inherently indivisible from the fight against the environmental crisis. Or, as Deohn Ferris once said, "we are all in a sinking ship, people of colour and the poor are just closer to the hole".¹⁷⁰ Luckily, much can still be done to ensure that no one drowns.

¹⁶⁵ Pala, 'Le racisme institutionnel dans la politique du logement social'; Ware, 'Color-Blind Racism in France'; Fijalkow and Oberti, 'Urbanisme, embourgeoisement et mixité sociale à Paris'; Kirszbaum, *Mixité sociale dans l'habitat. Revue de la littérature dans une perspective comparative*.

¹⁶⁶ Beaman, 'Racial Gaslighting in a Non-Racial France'; Pala, 'Le racisme institutionnel dans la politique du logement social'; Ware, 'Color-Blind Racism in France'.

¹⁶⁷ Lee, 'Confronting Disproportionate Impacts and Systemic Racism in Environmental Policy'.

¹⁶⁸ Lee.

¹⁶⁹ Pulido and De Lara, 'Reimagining "Justice" in Environmental Justice'.

¹⁷⁰ Cited in Gauna, 'Environmental Law, Civil Rights and Sustainability', 35.

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