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Article

Social Determinants, Urban Planning, and Covid-19 Response: Evidence From Quito, Ecuador

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Abstract
Covid-19 has put all urban planning systems around the world to the test. Cities' design and how these are managed are being observed, analyzed, and even questioned from the perspective of the pandemic. Density and poverty have been two fundamental aspects to manage in the pandemic scenario in cities of the Global South, which face this challenge along with other pre-pandemic planning problems. In the city of Quito, Ecuador, the response to the pandemic has been coordinated through regulations issued by the emergency operations center at the national level, and the information (number of cases) has been recorded per parish. The objective of this research is to determine if there is a relationship between Covid-19, poverty, and population density at the parish level for the canton of Quito. The results have shown that there is no correlation. What they did show is that due both to the difficulties of responding to the pandemic and the city's planning structure, another type of characterization, or characterizations, of the territory (for example, by scenarios or by situations) is needed, which can respond to the needs of the most vulnerable groups. Another observable result was that the gap between urban planning and management instruments and the complexity of territorial needs contributes to the polarization of local government approaches, which compromises urban planning with minimum continuity and coherence.

Keywords
Covid-19; pandemic scenario; Quito; social determinants; urban planning

Issue
This article is part of the issue "Planning Around Polarization: Learning With and From Controversy and Diversity" edited by Oswald Devisch (Hasselt University), Liesbeth Huybrechts (Hasselt University), Anna Seravalli (Malmö University), and Seppe De Blust (ETH Zürich).

1. Introduction

SARS-Cov-2 is one of the seven types of coronaviruses that infect humans and the cause of the Covid-19 disease (Turner-Musa et al., 2020). The "transmission of the virus occurs through the air via coughing and sneezing, close personal contact with someone infected with the virus, and touching an object or surface contaminated with the virus" (Turner-Musa et al., 2020). It was considered a major global public health emergency—like the world had never seen before—for three main reasons: (a) never has the world been more populated, (b) never has it been more urban than rural, and (c) never has it been so interconnected.

In a populated, urbanized, and interconnecting world, the differences between health equity and social determinants of health make it particularly difficult to address: a global pandemic that requires a local approach, especially when we understand that a social determinant for health refers to "conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes" (World Health Organization [WHO], 2020). Covid-19 is highly transmissible, and mitigation strategies were and remain key to the

containment of the pandemic. However, many of these strategies (physical distancing, accessing testing when symptomatic, maintaining hygiene measures, restricting mobility, etc.) are not accessible or sustainable for people with lower incomes or living in areas distant from health centers.

In March 2020, Covid-19 was declared a "public health emergency of international concern" by WHO. Since then, entities such as UNESCO (2020) have recognized that all cities in the world are affected by the Covid-19 pandemic. In response to the impact of the pandemic, the WHO (2020) created the "guide for strengthening preparedness for Covid-19 in cities and urban settings: interim guidance for local authorities." The WHO recognizes that by the nature of cities (high population density relative to rural settings), the risk of spreading infectious diseases is often high. The global entity shows special attention to congested areas and to the situation of people who often depend on extensive, crowded, public transport networks to get from one place to another. Density and precariousness, or poverty, are two factors that combine to make some populations more vulnerable than others.

The disparities in the incidence, prevalence, and mortality associated with Covid-19 are not always evident, even though "the conditions leading to these disparities may be a function of social determinants of health and stigma linked to the disease" (Turner-Musa et al., 2020). The WHO (2020) also recognizes that one of the greatest challenges for cities, particularly in the Global South, are slums, as a substantial proportion of their inhabitants are often unemployed or dependent on the informal economy for survival. The organization has indicated that the groups vulnerable to outbreaks of Covid-19 in urban settings are informal settlements; the urban poor; the homeless; people living in inadequate housing conditions; refugees and migrants; the elderly, especially those at risk of isolation; people with underlying medical problems; socially marginalized groups; and people at risk of interpersonal harm, violence, or self-harm due to physical distancing measures. Many of these groups considered vulnerable are found in slums on the outskirts of cities.

In the specific case of the Latin American urban reality, the Inter-American Development Bank, with the support of regional experts such as Alejandro Aravena (Pritzker Prize 2016, the most important prize in Architecture worldwide), built a guide of recommendations called *What Can We Do to Respond to the Covid-19 in the Informal City?* (Vera, 2020). This document states that the inhabitants of informal neighborhoods face Covid-19, although with greater vulnerability to risk, and for this reason proposed recommendations to improve public policy response, considering key social determinants. These recommendations also included urgent response, mitigation, and prevention measures. Identify, protect, connect, and control, are the four working axes to address the pandemic. Reactivate, train, reconfigure, mitigate, and reconditioning are the five axes of recovery proposed to address the pandemic's long-term impacts (Vera, 2020).

2. Key Social Determinants in the Pandemic

Due to advances in science and information and communication technology, the pandemic has been monitored and studied as it impacts the population, and as the authorities in each country design and implement policies to help mitigate or contain it. Researchers from different areas of knowledge and different countries have worked to make visible the link between Covid-19 and other variables related to social determinants, helping to identify human groups vulnerable to the pandemic. Chang et al. (2022), for example, identified 21 predetermined country-level factors that explain variations in weekly Covid-19 morbidity and mortality in 91 countries between January 2020 and the end of that year. Although the study used only reported data, poverty and density were identified as key determinants. Looking at the United States, Burton et al. (2020) identified the variables education, economic status, and overall environment, while Abrams and Szefler (2020) identified poverty, physical environment (e.g., smoke exposure, homelessness), and race or ethnicity. Still in the United States, the percentage of non-English-speaking households, uninsured individuals under the age of 65, and that of individuals living at or below the poverty line also proved important variables (Fielding-Miller et al., 2020); finally, Rollston and Galea (2020) identified spending on health care and health outcomes.

Murgante et al. (2020) identified Covid-19 and geographical correlations in Italy: Their study analyzed spatial autocorrelations among area units (province level) and the effect of the interaction among (a) geographical, (b) environmental, and (c) socio-economic characteristics. Ataguba and Ataguba (2020) and Shammi et al. (2020) identified demographic risk groups in a Covid-19-ridden Bangladesh based on the public perception of a socioeconomic crisis and human stress levels in a resource-limited setting. Looking at the fatality rates in major urban agglomerations in India, authors linked Covid-19 to variables such as districts with international airports, population density, health indexes, human development indexes, expenditure on health per-capita (Suryawanshi et al., 2020), dilapidated buildings, housing conditions, shared precarious housing, main sources of drinking water, numbers of households not having latrine facilities within the premises, and drinking water from untreated sources (Mishra et al., 2020).

Exploring the effects of Covid-19 in Nairobi slums, Nyadera and Onditi (2020) insist on the historical marginalization of people who live in this kind of settlement—who are often excluded from economic and health policies—and focus on many variables grouped as basic habitability. For Latin American slums, Vera (2020) asked what could we do to respond to Covid-19 in the

"informal city" and showed that slums are still the areas of greatest concern in Latin America due to the accumulated social debt in health, education, and employment, all key social determinants in this situation. In Colombia, Varela et al. (2021) pointed to a lack of affiliation to the health system and low socioeconomic levels as key social determinants considered risk factors that could be monitored thanks to the early surveillance process established in the country.

In Chile, Cerda and García (2021) study the willingness to pay for the vaccine; their sample demographics included 71.3% of medium- to high-income individuals between 30 and 59 years of age, explaining why, in their results, more than 70% were willing to pay for the vaccine. The correlation of these results according to economic level shows that even *social inequality* is a key social determinant for Chile in the fight against Covid-19. Finally, in the Ecuadorian context, willingness to pay for the Covid-19 vaccine was associated with income and employment status—once again, social inequality is identified as a social determinant (Sarasty et al., 2020).

If the WHO and the Inter-American Development Bank recognize that slums contain social determinants that make them more vulnerable to facing Covid-19 and its socioeconomic consequences, if researchers around the world have been working on identifying variables to determine the most vulnerable human groups facing the pandemic; then it is logical to expect that the data to monitoring the Covid-19 infections responds to the previous distinction of the vulnerable human groups in each context. As this is only an assumption, we will check if this has been considered or not in the case of Quito, the most populated city in Ecuador.

3. Case Study: Quito

In the emergency scenario derived from the pandemic, the Emergency Operations Committee (COE, following the Spanish name) is the Ecuadorian inter-institutional body responsible for coordinating the actions necessary to reduce risk, as well as the response to, and recovery from, an emergency and disaster situation (República del Ecuador, 2010). In the event of an emergency, like Covid-19, COEs are activated at three levels of the state: national, provincial, and cantonal. Due to this management model, the national level emits resolutions, protocols, and inter-ministerial agreements throughout the country (COE Nacional del Ecuador, 2021). The provincial level can emit its own resolutions if it does not contradict or reduce the binding nature of the dispositions issued at the national level (COE Provincial de Pichincha, 2021). In the case of the cantonal level (a part of a province), it does not issue resolutions, which makes visible, in a territorialized way, the cases of contagion, recovery, or mortality of the pandemic at the provincial level, even though the Quito canton has its own city hall.

On the other hand, the smallest unit of the political-administrative division of the Quito canton is the parish. In fact, Quito canton (also called the Metropolitan District of Quito) divides its management into eight zonal administrations (municipal management offices) that administer several parishes (32 urban parishes and 33 rural and suburban ones, 65 in total). The city of Quito is still governed by management and planning units that were delimited in the Territorial Division Law of 1861 (followed by several others, until the last update of the Organic Law of Territorial Planning, Use and Management of Land of 2016 carried out in 2022). The inhabitants of Quito represent 86.9% of the population of the province of Pichincha, more than 70% of which lives in the 32 urban parishes, some 2,414.585 people as estimated by the National Institute of Statistics and Census (INEC; see also Municipio del Distrito Metropolitano de Quito, 2012, 2014).

In Ecuador, previous studies about poverty showed its multidimensional aspects. The multidimensional poverty index (MPI) was a significant effort to determine human groups in poverty, considering the elements that promote and/or perpetuate it. The increase in the growth of slums is one of the most complex challenges facing Ecuadorian cities. Housing depends not only on the construction of a space to live in but also on the accessibility conditions to the areas that concentrate the supply of employment and services in the city. This is one of the many reasons why the urban periphery in the city of Quito is growing. These neighborhoods, which are already part of the urban structure of the city, are included in an administrative macro-zoning of parishes (which integrates several neighborhoods of diverse typologies and economic conditions). However, this type of territorial planning organization has important limitations in identifying the most vulnerable citizens in the face of the pandemic situation.

According to the Ministry of Health of Ecuador, the first case of coronavirus was confirmed on February 29, 2020. On March 13, 2020, the COE was activated for the coordination of the emergency. This will henceforth be the only official channel of information on pandemic management. By April 2020, Ecuador had one of the highest Covid-19 mortality rates in all of Latin America (Torres & Sacoto, 2020). The city of Quito led, along with the city of Guayaquil, in infections and mortality rates (Carrión & Cepeda, 2021). This research identifies, among the causes of the high levels of mortality in the city of Quito, the impossibility of applying public policy measures focused on the needs of each group due to the lack of territorial information available.

The ability to identify the most vulnerable groups was especially important in Quito, not only because the capital was one of the main sources of infection, but because of its high inequality and high mobility (from one district to another) of its population. As for inequality in the city of Quito, the population in quintile 1 received 13% of the income of the highest quintile and could cover 19% of the cost of the basic basket (Instituto Metropolitano de Planificación Urbana [IMPU], 2018).

These high levels of inequality result in groups excluded from access to opportunities which would improve their quality of life (Olarte, 2021). In Quito, according to the multidimensional approach, 7.1% of the population was living in poverty. The figure is similar considering the poverty line. 3.35% of children work more than 25 hours a week (Planificación del Distrito Metropolitano de Quito, 2013). Quito also has a special capacity as a capital city to attract external migration, especially from Venezuela due to the country's context, as well as from rural Ecuador (Herrero-Olarte, 2018). In Quito, 13.1% of the population are migrants, 84% of whom have come from another province in the country (INEC, 2018). Having these groups monitored is essential for any improvement that you want to implement in the city, but it is especially important to manage a pandemic.

In practice, the territorial information available is erroneous because it is treated by parishes. As they are so large, in the same parish, different social classes coexist in neighborhoods which show an average income and access to basic services that are not representative of the reality that is lived in each parish. As a result, the vulnerable population did not receive the most attention to prevent infection within the territory because the territorial information is erroneous. This explains the results of this research, which concludes that the parishes with greater population density and poverty are not the ones that experienced the greatest contagions.

As of April 6, 2020, Ecuador had one of the highest Covid-19 mortality rates in Latin America, a country with a very asymmetrical context (Andean Cordillera, Amazon, coastal zone, and Galapagos Islands) that shows very different local capacities, communication, and geographical and ethnic factors (Torres & Sacoto, 2020). At the beginning of June 2020, the Covid-19 mortality rate in Ecuador was 8.5% (Alava & Guevara, 2021); the city of Quito has possibly the greatest amount of resources and installed capacity compared to other cities in the country. It was observed that coastal regions had higher rates than the highlands, and that living above 2,500 meters, as the city of Quito is located, was associated with a lower risk of mortality compared to populations living at lower altitudes (Ortiz-Prado et al., 2021); an advantage, if one does not take into account variables such as the governmental assignment of resources versus the levels and dimension of urban poverty.

Attending to the related literature, the parishes most affected by Covid-19 in Quito would be the poorest ones; the lower the incomes, the more difficult the access to private sanitation and Covid-19 tests. In addition, the poorest parishes have the highest rates of self-employment, defined by less accumulated capital and fewer opportunities to work from home. In addition, density rate would be a fundamental main factor to be considered. Parishes with higher residential density could not avoid physical contact or maintain the recommended social distancing. Consequently, these parishes would have undergone the most significant infection levels. In this research, we try to identify the link between COVID-19, poverty, and density by parish, attending the available data. To compare the data, we use the confirmed cases of COVID-19, the MPI, and the population density index, all by parish.

4. Methodology

The objective of this research is to determine if there is a relationship between COVID-19, poverty, and population density at the parish level for the canton of Quito. Based on the 2010 Population and Housing Census conducted by INEC, Quito had 2,239,191 inhabitants (INEC, 2010). Based on projections estimated by INEC, in 2018, Quito had 2,781,641 inhabitants (INEC, 2018). Quito has 33 rural parishes and 32 urban parishes. We have only considered urban parishes. The data concerning the confirmed cases of COVID-19 is from the reports generated by the Provincial COE of Pichincha; its source is the Ministry of Public Health of Ecuador (COE Provincial de Pichincha, 2021). The information regarding confirmed cases corresponds to PCR tests done on the 4th of August.

To measure poverty, we used the MPI by household. As the MPI is not calculated at the parish level in Ecuador, we calculated it using the 2010 Population and Housing Census prepared by INEC (2011). It is the latest survey that considers the data by parish. The official calculation of the MPI takes into consideration 12 variables that try to capture the fulfillment of minimum standards concerning human rights. In this case, 10 indicators are available to calculate the MPI by parish in Quito. In Table 1, we detailed the 12 variables generally considered to calculate the MPI and the 10 that we take into account in this case. The multidimensional poverty rate (MPR) and the poverty intensity (IP) were first calculated. The MPI is defined as the product between MPR and IP. The MPR is the percentage of people who are deprived in one-third or more of the weighted indicators. The IP is the weight that the Ecuadorian State gives to the different indicators to give greater importance to some than to others (Castillo & Jácome, 2015).

To estimate population density, the 2010 Population and Housing Census was again used to obtain the number of persons, households, and dwellings for each parish. In this case, the data regarding the area of each parish were provided by the Municipality of the Metropolitan District of Quito. In this way, the population density is estimated by dividing the number of people in the parish by their respective area. Similarly, the density of households and dwellings is calculated. The data on the number of COVID-19 cases, the MPI, and the population density by parish are presented in three maps. In two dispersion diagrams, the data is related. In the first one, we link the COVID-19 cases and the MPI; in the second one, the COVID-19 cases and density.

Table 1. Variables used to calculate the MPI at the national and parish levels.

Dimension		Shortcomings	Criteria	Weighting INEC (National)	Weighting from CENSUS (Parishes)
Education	25%	Failure to attend basic education and high school	Children between 5 to 14 years old who do not attend a basic education center and teenagers between 15 to 17 who do not attend school.	33%	50%
		Non-access to higher education for economic reasons	Teens between 18 to 29 years old, having completed high school, who cannot access tertiary education due to a lack of financial resources.	33%	—
		Incomplete educational attainment	People between 18 to 64 years old who have not completed basic education, that is, with less than 10 years of schooling and who do not attend a formal education center.	33%	50%
Labor and Social Security	25%	Child and teen employment	Children between 5 and 14 years old who are employed in the reference week, are identified as private of the right to work, to be considered prohibited child labor. For adolescents between 15 to 17 years old, they are considered deprived of the right to work if, while they are employed in the reference week, fulfill one of the following conditions: received less than the Unified Basic Salary remuneration, do not attend school, or work over 30 hours.	33%	33%
		Unemployment or inadequate employment	People 18 years old or older who in the reference period were unemployed. In addition, are considered deprived, employ people who have inadequate employment.	33%	33%
		No contribution to the pension system	Employed people 15 years old or older who do not contribute to any form of social security; excluding deprivation of employed people aged 65 or more who do not contribute, but receive retirement pension. People who are unemployed or economically inactive, aged 65 years or more, are considered in deprivation if they do not receive retirement pension, BDH, or Bond Joaquin Gallegos Lara.	33%	33%
Health, Water, and Food	25%	No public water service network	Members of households that obtain water that is not sourced from the public network.	50%	100%
		Extreme poverty by income	People whose family per capita income is below the extreme poverty line.	50%	—
Habitat, Housing, and Healthy Environment	25%	Overcrowding	Members of households that have more than three people per bedroom exclusively for sleeping.	25%	25%
		Housing shortage	People whose housing, due to materials or the state of the walls, floor, and ceiling are considered in qualitative or quantitative deficit.	25%	25%
		Without excreta sanitation	People from urban areas whose house has no toilet connected to sewerage. In rural areas, deprived people are those whose housing does not have a sewer or septic tank.	25%	25%
		Without garbage collection service	People who live in homes that do not have access to municipal waste management services are classified as deprived in this indicator.	25%	25%

Source: INEC (2011).

5. Results

The first map shows the number of COVID-19 cases per 1,000 dwellings per urban parish in Quito (Figure 1).

The urban parishes in the south and downtown have the highest level of COVID-19 cases. The urban parish with the highest number of cases is Chillogallo, with approximately 72.2 cases per 1,000 dwellings, and the lowest number of cases is 1.6, in Ponceano, in the north. This graph answers the question of where the largest number of COVID-19 cases in the city of Quito is.

The second map shows the MPI by household (Figure 2). The urban parishes with the highest levels of poverty are on the borders of the city, in the north and the south, and in the downtown area. The urban parish with the highest MPI is Guamaní, with 0.182, and the lowest value is 0.031 in La Concepción. We should remember that this is one of the most important social determinants considered worldwide as key in pandemics. This graph answers the question: Where is the largest number of people living in poverty in the city of Quito?

The third map shows the population density by urban parish (Figure 3). The urban parishes with the lowest levels of density are on the borders of the city, in the north and the south. The urban parish with the lowest density is El Condado, with approximately 1,569.7 inhabitants per km^2, and the highest value is 17,564 inhabitants per km^2, in Solanda. This graph answers the question: Where is the highest concentration of people in the city of Quito?

The union of the three questions answered by the graphs is "Where is the population most vulnerable to COVID-19 in the city of Quito?" to design effective and territorialized contingency strategies such as availability of more medical resources if needed, availability of detection brigades, availability of additional biosecurity measures, etc.

Figure 4 shows the relationship between COVID-19 cases and the MPI by parish. We would expect a positive correlation, which means that in the parishes with the highest MPI, the cases of COVID-19 would be most elevated. We could not find the awaited relationship. The correlation coefficient is 17% and the R2 correlation coefficient is 29%.

Figure 5 shows the relationship between COVID-19 cases and density by parish. We also expected a positive correlation, meaning that in the parishes with the highest density, the cases of COVID-19 would be most elevated. We could not find the expected relationship. The correlation coefficient is 15% and the R2 correlation coefficient is 2%.

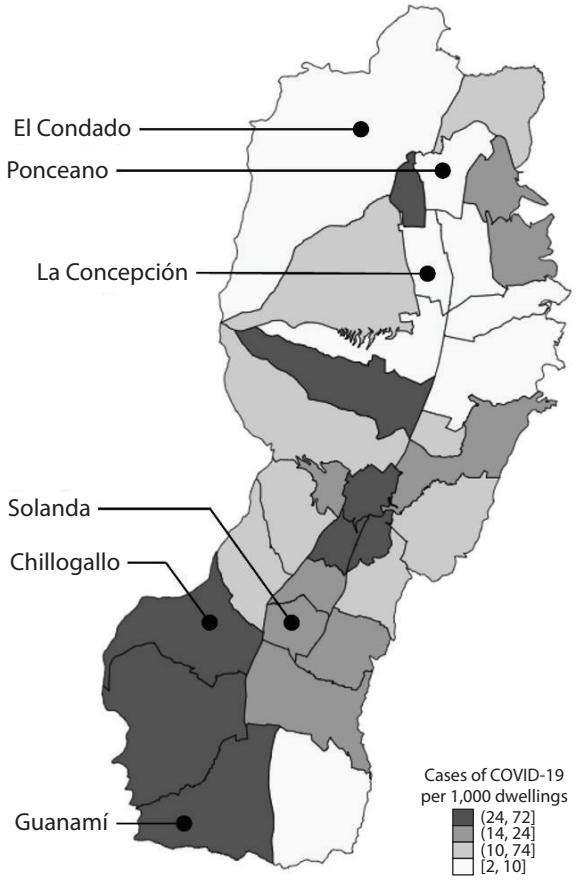

Figure 1. COVID-19 in urban parishes. Source: Authors based on data from INEC (2018).

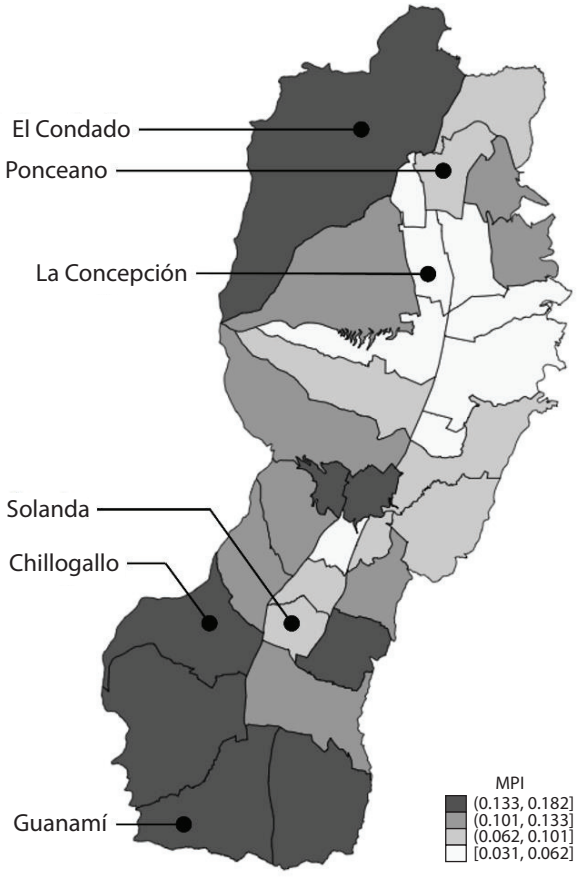

Figure 2. MPI. Source: Authors based on data from INEC (2018).

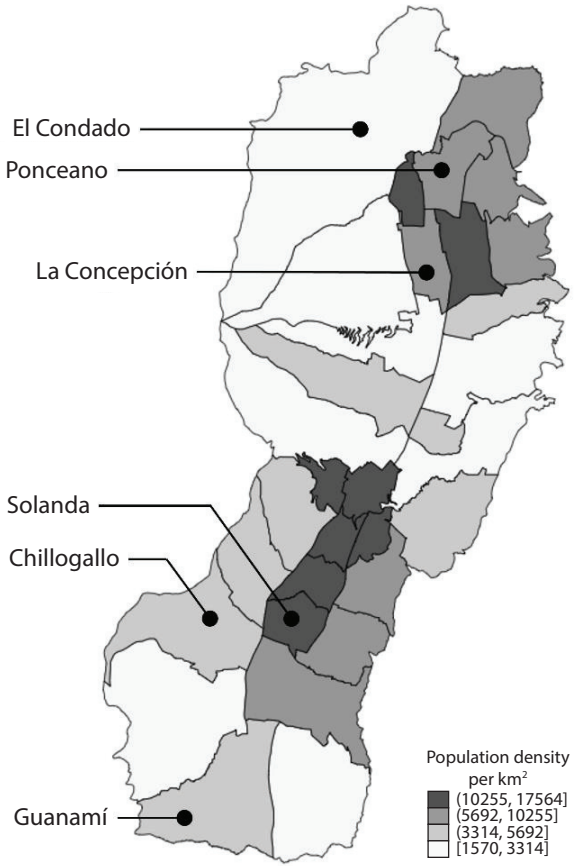

Figure 3. Population density per km^2. Source: Authors based on data from INEC (2018).

6. Discussion

If poverty and population density have been identified as key social determinants in the contagion of COVID-19, and in some studies with mortality, in Quito, the lack of correlation is due, among other factors, to an urban planning structure that does not correspond to the current needs of the territory, and which is of little use in the event of such an emergency.

To implement targeted public policy strategies, it would be necessary to work through smaller territorial units, such as neighborhoods. The development of public policy through parishes makes it difficult to implement strategies differentiated according to density and poverty not only because of the pandemic but also in many other areas related to the quality of life of citizens. As a result of the difficulty in territorial planning, a commitment to mass vaccination was made through public

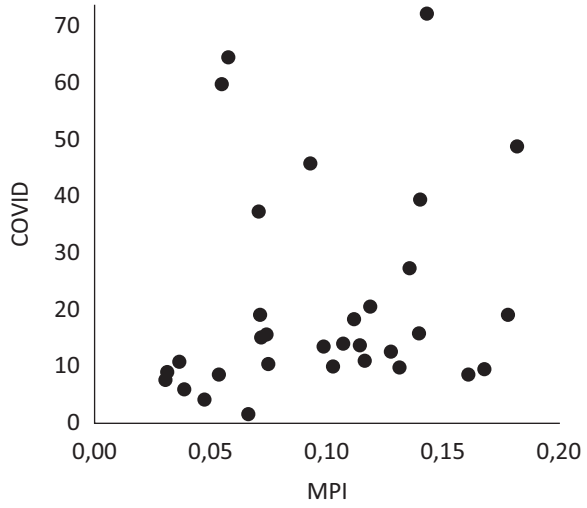

Figure 4. COVID-19 and MPI.

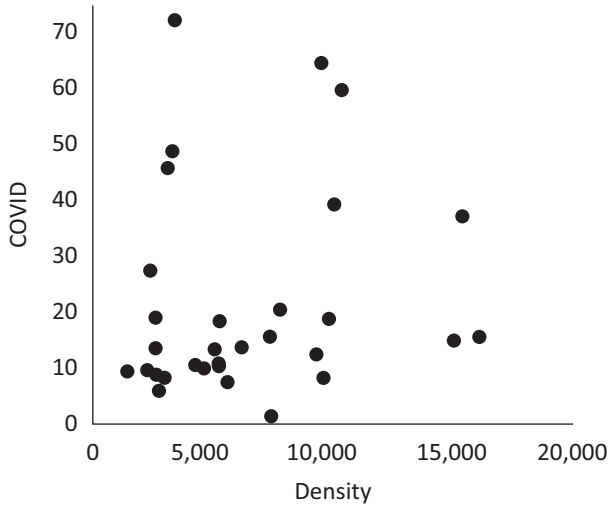

Figure 5. COVID-19 and density.

policy. On the one hand, there was the challenge of sending key messages with the least risk of interpretation, but on the other hand, this need to standardize the message did not respond to the diversity of territorial needs, which should have considered the social determinants of health (WHO, 2020) indicated by several studies from the health area.

The lack of territorialized information at the neighborhood level is an example of the limited importance traditionally given to urban planning in Quito, as in other Latin American cities, and that has defined its form. The ruling class moved to different neighborhoods when the ones they were occupying were not equipped by public policy with the inputs needed to maintain their quality of life. The upper classes have moved on several occasions, in turn moving the economic center of the city; currently they have ended up moving to the gated communities on the outskirts of the city, where they do not need public intervention, pursuing the idea of a garden city.The result is a dispersed city with several centralities that merit differentiated strategic interventions that in practice do not take place because there is no budget for it (Bustamante-Patiño & Herrero-Olarte, 2017).

The city of Quito has not had obligatory urban planning, just as it has not had the necessary resources to cover the basic needs of citizens. Despite this, significant efforts have been made to rethink the city from a perspective that more adequately considers its current dynamics, such as the proposals for the dynamization of centralities, to balance the territory; but with the changes brought about by municipal authorities, these efforts have been dismissed (Herrero-Olarte & Díaz-Márquez, 2019). The lack of a public budget responds to the economic model followed by the country, which has sought minimum participation of the State in the economy. The developmental model in the South, as it evolves from the neoclassical model in the North, questions the effectiveness of a State, which would absorb resources that could be used by the market more efficiently (Friedman et al., 1983). Proof of this is the lost Latin American decade, which has among its causes the misuse of the public debt of governments contracted in the seventies (Serbin et al., 2012).

Although this economic model has failed to improve the quality of life of citizens in Latin America (Rodrik, 2006), developmentalism continues to be understood as the way forward (Lander, 2000). Its mystification responds to the unidirectional and linear vision proposed by the model, which can only aspire to improvement. Since there is no self-image in relation to improving the quality of life, it cannot be seen as possible (Latouche, 2007). Without alternative referents, wanting a way of life that does not pursue the objectives previously defined by the model is not understood as something exceptional. Its uniqueness in practice validates the model. The capture of the State by the elite, always with the premise of avoiding that it grows and can inefficiently use these resources when it does not devote them to corruption, is what has limited the public policy, and therefore, urban planning (Zacatula et al., 2019).

It will then be necessary to rethink the economic model to generate more public resources for urban planification and thus achieve a micro-territorialization of the information of the city of Quito, able to overcome the parish and reach the neighborhood level. Only in this way will it be possible to offer differentiated treatment according to the needs of the different collectives and to identify some fundamental social determinants in terms of health, such as housing and neighborhood density, access to healthcare, incomes, cultural beliefs and belonging to a minority race, even in legal status (Harlem, 2020; Tai et al., 2021; Turner-Musa et al., 2020). At this point, it is important to remember the situation of displaced Venezuelans who arrive on foot at reception centers in various cities in the region.

Finally, evidence of these trends can be seen in the radical difference between the two management models of the last two periods of Quito's local governments. The vision of Quito 2040 (IMPU, 2018), whose documents were written by the local 2014–2019 administration (before the pandemic), was totally discarded, even though its construction was highly participatory. Instead, the next local government (2019–2023) started a completely different planning model that, among other things, eliminated the IMPU. In contrast, it implemented a public investment model that prioritized the number of specific projects carried out and not the impact of these actions.

This lack of integration of the previous urban visions or instruments causes the loss of options or alternatives in the management and/or planning of the city. For example, if the structure of urban centers described in Vision Quito 2040 had been used to address the COVID crisis, the authorities would have better understood the need for urban mobility, especially the reactivation of public transport, according to the levels of poverty described more precisely in this instrument, as well as the need for public space to address the need for physical distancing. These planning deficiencies, as well as not helping to obtain an adequate correlation between the data compiled on COVID and the location of poverty, also do not help the subsequent post-pandemic urban processes.

7. Conclusion

Poverty and density have been identified as key factors common to many countries around the world (Chang et al., 2022); how urban planning tools estimate these social determinants within the planning system drives how the response is prepared, or at least with what baseline information the response actions are prepared. In the case of Quito, as in other Latin American cities, the political alternation has not contributed with minimum common standards—baseline—in urban planning. In the end, this has led to a gap between the different technical approaches to planning.

In Quito's slums, reducing the social determinants (poverty and high density combined) that generate vulnerability in the face of an emergency (as was COVID-19) is a gradual task that struggles between addressing the accumulated socio-spatial debt and the urban problems of the present. The complication comes when we have to talk about "multivulnerable" people (for example women, single mothers, people with a low income, low education levels, and migrants from an ethnic minority) facing overlapping events (this same woman, just recently migrated from her hometown in Venezuela to Quito and is in a refugee shelter, but in a pandemic situation). How can these other variables be contemplated, when the city's planning structure does not yet have such a baseline in a binding way in the city's management?

This study only looked at one aspect of urban planning in the city of Quito and how it responded to the COVID-19 pandemic emergency. Other studies should contrast other issues, such as access to housing, the concentration of opportunities for entrepreneurship, and safety in public space, among others, with the current planning system to highlight opportunities for its improvement. It is recommended that this study be carried out in other Latin American capitals to observe the particularities of each case, so that shared challenges and unique territorial characteristics that conditioned the response to COVID-19 can be identified.

Finally, there is a gap between urban planning and management models and instruments, which is not aggravated by the polarization of traditional political-economic approaches only: Every time local administrations disregard the efforts of past administrations, they contribute to this polarization. It will therefore be crucial to observe how self-management processes (bottom-up processes) are creating other ways of approaching the territory, even if they are not yet strong enough (in the case of Quito) to create a baseline or minimum agreements in the management and planning model of the city.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Experiential Evaluation to Create Risky Situations and Address Tensions in a Participatory Planning Process

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Abstract
Planning processes often cause tensions between institutions and citizens because the local knowledge and values of the citizens are not included in the decision-making process, which can cause mistrust. This article builds on an ongoing PhD research that explores the potential of experiential evaluation as an alternative and experimental approach to "hybrid forums": an approach to open the participatory planning process for diverse actors and values. In order to render tensions visible and constructive in the participatory planning process, experiential evaluation creates "risky situations" in these hybrid forums. To discuss this approach of experiential evaluation, we use a methodological and analytical framework based on the four steps of strategic navigation techniques: tracing, mapping, diagramming, and agencying. We use these techniques to analyse two risky situations that were created through experiential evaluation within the participatory planning process of the neighbourhood spatial plan (NSP) of Zwijnaarde (Ghent, Belgium). Based on the analysis of the case, we observed that experiential evaluation was able to render tensions visible, but did not yet make them constructive. However, as a framework for a dialogue between institutions and citizens, the NSP leaves room to continue the experiential evaluation process that was initiated and to take further care of tensions on a smaller scale.

Keywords
democratic decision-making; hybrid forums; more-than-human actors; participatory design; staging; values

Issue
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1. The Problem With Hybrid Forums

Participatory planning processes often cause tensions between institutions and citizens because it is difficult for all the involved actors to imagine the impact that these processes may have on their daily comings and goings. More often than not, these planning processes leave little room to include local knowledge and are not very transparent about whose values are considered, which can lead to mistrust between citizens and institutions (Custers et al., 2022).

In this article, we experiment with an alternative approach to participatory planning processes to better include local knowledge and values of engaged citizens in the decision-making process. The approach is based on the concept of "hybrid forums" as defined by Callon et al. (2009) in their essay *Acting in an Uncertain World*. This approach is not about creating situations to discuss whether an urban plan is a good or a bad plan, but how to open up the decision-making process to diverse actors in order to integrate other values into the discussion. In these situations, institutions and citizens together can arrive at other, more situated and embedded plans. The approach enables tensions to be redirected by exploring alternative futures that articulate shared values, and which enable a mutual learning process (Callon et al., 2009). By making this learning process collective, citizens can enter the planning process and

can co-create alternative futures and thus new ways of thinking about, seeing, and acting in space (Callon et al., 2009). Such hybrid forums bring actors (city experts, politicians, designers, researchers, and concerned citizens) together and thus simultaneously address different spatial scales. Also, the political, ethical, technical, and scientific questions that are handled are diverse (Yaneva, 2022). The tensions that planning processes trigger are thus not handled as externalities, invisible forces that come from outside and that can be governed in a top-down way. The tensions are handled as "matters of concern," as something we care for (Latour, 2004a, 2004b). They are uncertain because of the (human and more-than-human) actors that assemble around them, not because they agree with each other but because these matters of concern bring them together as much as they divide them (Latour, 2004a; Yaneva, 2022).

We thus investigate hybrid forums because they offer a way to develop a more democratic approach towards handling tensions in participatory planning processes (Callon et al., 2009). However, Metzger (2016) criticises this approach because it fails to acknowledge how these forums are also exclusive by only including human actors in a deliberative way. This critique is related to how Callon et al. (2009, p. 33) describe citizens entering the decision-making process within these hybrid forums: "Everyone is asked to listen to other people, to respond clearly to their arguments, and to formulate counter-proposals." Metzger (2016) links this to communicative planning. This form of planning is related to the model of communicative action of Habermas, which conceived a notion of deliberative democracy based on the idea of domination-free discourses and of seeking to reach a consensus via rational argumentation (Kühn, 2021). Metzger (2016) agrees with Callon and colleagues that this approach can work under certain conditions; however, it is important to be reflective of how these conditions work and for whom they work. Therefore, he calls for approaches that are not about inviting everybody into one "forum," but which "generate 'risky situations' that open up its participants to surprising insights and unpredicted collective becomings by staging events that offer a potential for learning in new ways" (Metzger, 2016, p. 591). As we have also underlined in previous work (Dreessen et al., 2014), these risky situations rely on experimental methods to invite actors to perform and experience together, rather than mere rational deliberation (Metzger, 2016).

"Experiential evaluation" is defined in this research process as a relational approach based on the actor-network theory (Latour, 2005). It looks at the specific context of tensions and, more specifically, the power relations of the actors that are involved in the planning and the decision-making process to focus on the experiences and performances of these tensions. The power and politics that drive tensions are contextual and become obscured when these tensions are handled as an externality. Thus, a participatory planning process can benefit from a more contextualised, relational and experiential understanding of tensions (Latour, 2004b; Yaneva, 2022). The research that is the subject of this article was conducted as anthropological research in collaboration and joint activity with the actors embedded in their environment to get a grip on these relations and tensions (Ingold, 2008).

The next section introduces the approach of experiential evaluation. Section 3 introduces the case and how we engage in risky situations. Section 4 is the analysis of the case, specifically of two risky situations and the extent to which they helped, on the one hand, open up the participatory process to other actors and values, and, on the other hand, supported these other values become part of the decision-making process. Section 5 reflects on the process before concluding on how experiential evaluation can be an alternative and experimental approach to organising hybrid forums by creating risky situations that open up the participatory planning process for other actors and values to render tensions visible and constructive.

2. Experiential Evaluation

Experiential evaluation is a methodology developed within the PhD research of the main author (Custers et al., 2019, 2020, 2021, 2022) as an alternative and experimental approach to the concept of hybrid forums in order to create "risky situations" within participatory planning processes. These risky situations are created by "staging" (see Section 2.1) the dialogue in the real-life context of the planning process (Metzger, 2014) and combining this staging with "democratic design experiments" (explained in Section 2.2; see also Binder et al., 2015). Combining staging and democratic design experiments makes experience and evaluation part of the same participatory planning process and renders the doubt and disagreement about the matters of concern visible. The design researcher takes up the role of a "stage director" (Pedersen, 2020) who strategically navigates (see Section 2.3) the participatory planning process by setting up new experiments in order to involve new actors on different scales, thus creating risky situations to deal with the complexity and diversity of the matters of concern that are inherent to planning processes.

2.1. The Staging of a Dialogue in a Place

The first element of the experiential evaluation is "staging" the dialogue in a place. The place is then defined as the context of the planning process and the everyday life of the citizens. The place of the staging defined in the relational-materialist position of Metzger (2014, p. 94) is neither subjective nor objective but is, as the author outlined:

> The full gamut of spatially positioned interrelated subject/object becomings in which intra-acting elements are endowed with identity and integrity…becomes

> joined together as an articulate place through the integrative, synthesising function of an instantiation of subjectivity-objectivity which senses the world in situated ways and generates specific images of the world.

When the dialogue is situated in a place, the place becomes part of the experiential evaluation and thus opens the dialogue for other values also related to the "more-than-human" actors present in the place, such as the water or the trees, because actors relate in different ways to the places they experience.

2.2. Democratic Design Experiments

Binder et al. (2015) translated the concept of Callon et al. (2009) of hybrid forums into what they call "democratic design experiments." These democratic design experiments open a new role for design that is "about staging socio-material conditions for controversial issues in ways that facilitate contradictions, oppositions, and disagreement through direct engagement" (Binder et al., 2015, p. 153). A "socio-material condition" is an assemblage of human and more-than-human actors, which can change the space of interaction and performance and by doing so, open up the process for new ways of thinking and behaving (Binder et al., 2011). Applied to participatory planning, it is the assemblage of maps, prototypes, actors, and the place within which they interact that defines the room for action (Pedersen, 2020).

Binder et al. (2015) argue how democratic design experiments engage collectives in another kind of "decision-making," a more "designerly" way beyond the mere discursive. It is about real-life experiments and engagements with possible worlds, and thus literally drawing (or building) things together (Binder et al., 2015). They define the essence of democracy as the ability to disagree and explore other options. Democratic design experiments do this in a "more-than-human" way by engaging humans and more-than-humans such as trees, buildings, etc., and make issues and tensions experientially available in a way that possible futures become tangible, formable, or within reach of engaged (diverse) citizens (Binder et al., 2011).

2.3. Experiential Evaluation as Strategic Navigation

Pedersen (2020) argues that the staging of a participatory process, a hybrid forum, requires a stage director. Staging does not require an objective facilitator, but someone who—instead of steering—navigates towards matters of concern. Staging thus implies political or strategic navigation (Devos, 2021; Hillier, 2011; Munthe-Kaas & Hoffmann, 2017; Yoshinaka & Clausen, 2020) of moving through an uncertain, complex, and dynamic network of actors on multiple scales, which requires constant management of tensions and thus looking for room to negotiate about the matters of concerns in an experimental way. This navigation requires skills to cope with a multitude of existing and emerging interests that do not enter the stage in an orderly fashion and are often competing or at least entwined, and shift across scales throughout the process (Yoshinaka & Clausen, 2020). These skills can be developed by engaging in diverse environments of ever-changing conditions of development and as such—by rehearsal—design experiments, and ongoing negotiations in diverse articulations (Yoshinaka & Clausen, 2020).

Hillier (2011) developed four strategic navigation techniques based on the multiplanar theory of Deleuze and Guattari (1987, as cited in Hillier, 2011): tracing, mapping, diagramming, and agencying.

1. Tracing entails the collaborative exploration of the potential of a particular planning challenge. The joint (re)definition of the research question. It is also about understanding how a certain issue came into being, by untangling and interpreting the processes and relations between actants.
2. Mapping builds on the insight of the tracing and is about matching the identified challenges with promising and affected actor networks. Therefore, mapping identifies new relational opportunities, values, and tensions.
3. Diagramming entails collective future-making, thus making alternative futures tangible and, by doing so, supporting new socio-material assemblages to be formed.
4. Agencying is aimed at strategically developing the necessary agencies to ensure the new dynamics that are formed around the planning issue are sustained, institutionalising these dynamics.

These navigation techniques can be applied as an analytical framework to analyse complex and dynamic participatory processes and as an alternative and experimental approach to participatory planning processes (Hillier, 2011). In a recent article, Devos (2021) uses Hillier's techniques as an analytical framework to deconstruct the interplay of multiple tactics deployed in two complex participatory processes. We will deploy these techniques in a similar way; however, the interplay between the actors (institutions and planning practitioners versus institutions and citizens) and the research questions differs.

In this article, we will reflect on the potential of experiential evaluation as an approach to introducing risky situations in participatory planning processes to make room for other actors and values and render tensions visible and constructive.

3. Engaging in Risky Situations

In order to illustrate the potential of the experiential evaluation approach, we will use the four navigation techniques to deconstruct the participatory planning process in which the main author and the second author were involved. This process took place in Zwijnaarde, a

neighbourhood on the south side of Ghent, the second largest city of Flanders (Belgium), with around 263,000 inhabitants. Over two years, both authors set up a process of experiential evaluation by initiating situated experiments in close collaboration with key stakeholders. We use the framework to evaluate the impact of this approach of experiential evaluation by answering the following three questions, for each of the four stages put forward by the framework (see Table 1):

1. To which extent did the risky situations help open up the process to new actors?
2. To which extent did the risky situations help make tensions and dependencies between values visible?
3. To which extent did the risky situations help translate these other values into the decision-making process?

3.1. The Case of Zwijnaarde

Zwijnaarde was an autonomous municipality until it became a part of the city of Ghent in 1977. It is a large neighbourhood (1,206 hectares) with only around 8,000 inhabitants. The distance to the city centre of Ghent is approximately six to seven kilometres. It is feasible by bike, and there is a light rail connection to the main train station and the city centre. The morphology of Zwijnaarde is diverse: low-density residential subdivisions, villas—but also a higher density around the historical centre, former working-class houses, and several business parks in the north part. These living environments are surrounded and divided from each other by open space (nature but also agricultural land).

The neighbourhood is heavily impacted (air quality and sound nuisance) by the large infrastructure (highways) on the north and east side, and a busy regional state road divides the neighbourhood into two parts. The business parks function as islands within the neighbourhood, which causes tensions with the more residential character of the neighbourhood. The river Scheldt forms the east border, although it is cut off from the neighbourhood by one of the highways.

There is an active neighbourhood committee. They are well-informed about the urban planning of Zwijnaarde and create a place for citizens to discuss issues with the city policy or other institutions during their meetings. Additionally, they communicate and inform the citizens about their actions via their Facebook page Toekomst van Zwijnaarde (Dutch for Future of Zwijnaarde). This "concerned group" (Callon et al., 2009, p. 82) is an important partner in the participatory process to create a local network.

3.2. The Neighbourhood Spatial Plan

In 2018, the strategic policy Ruimte voor Gent (Dutch for "space for Ghent") was implemented (Stad Gent, 2018). This vision defines the spatial ambitions of the city's policy until 2030 and beyond. With this vision came also the engagement to develop neighborhood spatial plans (NSPs) for a number of neighbourhoods, including Zwijnaarde. The proximity to the city centre and connection with qualitative public transportation, together with the foreseen growth of citizens in the city, makes Zwijnaarde a strategic location for densification.

This NSP is a new spatial planning instrument that approaches the densification of the neighbourhood as an opportunity to define an alternative scenario for the sustainable transformation of the neighbourhood in the short, medium, and long term. The NSP contains sufficient degrees of flexibility towards changes in the future and focuses on the structural elements in the neighbourhood, which are spatial entities that are fundamental for future transformation. It is a new planning instrument with no predefined process and thus the assignment also explores what an NSP can or should be (Stad Gent, 2018).

3.3. The Participatory Planning Process

The case that is the subject of this article is part of the PhD research of the main author, engaging in an anthropological way with a commissioned assignment by the policy of the city of Ghent in Belgium. The main author became part of the design team that developed the NSP for Zwijnaarde. This also allowed her to emerge in the world of the institution and the everyday life of the citizen. The second author and the supervisor of the first author worked as project leader of the participatory process in Ghent. The PhD research was not funded by—nor dependent on—this assignment, which enabled the design researchers to take the liberty to add extra research activities to the participatory process, which were always made transparent to the city expert in charge of the project. We conducted the assignment in collaboration with a design office. This office was in charge of the design of the NSP and the organisation of the co-creation sessions. We—as design researchers—were in charge of the participatory process and the translation of the contribution of the citizens to the design process.

The participatory planning process started in February 2020, just before the outbreak of the Covid-19 pandemic. This forced us to rethink the process and made us experiment with online tools and develop new tools. This resulted in a new process where we had an online and offline version ready for all the activities, in order to shift if the situation (and thus the health measures) changed.

3.4. Creating Risky Situations

The assignment stated specifically that the process had to include a "people-oriented approach to planning." This meant that the process had to consider the everyday life of the citizens (the specific and everyday use of the

Table 1. Analytical framework based on the four strategic navigation techniques.

	Opening the process to actors and values	Making values visible	Translating values into decision-making process
Tracing	• Introduction tour together with design office to experience neighbourhood from outsiders' perspective. • Online neighbourhood market 1 with members of neighbourhood committee to map challenges. • Interview members of the project team to know their perspective on the assignment.	• Introduction tour added on the website once it was launched. • Report of the interviews handed over the city expert in charge of the NSP.	• Challenges reframed as nine ambitions which became the foundation of the NSP.
Mapping Step 1: Include local knowledge	• Exploratory walks to engage inhabitants in another way with their neighbourhood and include other values. • Home visits to expand the network of engaged inhabitants. • Workshop with pupils to include other values. • Neighbourhood committee made a collective online walk with their values.	• Walk-app and website to visualise the physical maps of the exploratory walks and the pupils workshop. • Audio fragments of pupils posted as stories on the website. • Neighbourhood committee used the walk-app to make their values visible.	• Co-creation sessions organised with engaged inhabitants on preliminary design of the NSP. • Collectively evaluate if the value were translated correctly in the ambitions and further in the preliminary design. • Include local knowledge and other values in the refinement of the design of the NSP.
Step 2: Evaluate alternatives	• Support the city experts with organising focus groups with different stakeholders to evaluate the NSP. • Future walks to walk to strategic locations from the NSP and collectively evaluate in the place. • Online future walks via the walk-app for inhabitants to explore the NSP at a convenient time. • At the second neighbourhood market, participants could add feedback to a large-scale model with the NSP presented on.	• Feedback from the participants of the future walks and neighbourhood market were added to the website.	• The feedback of the inhabitants was translated into the final design of the NSP.
Diagramming	• Organise a Live Project on two strategic locations of the NSP in order to make alternative futures tangible and allowing new actors and values to enter the process.	• Show the potential of the place for the larger area as a meeting place. • Redirect the dialogue from individual challenges towards collective values.	• Results of the Live Project were handed over to the design office to be included in the pilot project (related to the NSP). • Co-creation session organised related to the pilot project with invited inhabitants to discuss the preconditions of densification in the neighbourhood.
Agencying	• Potential to involve inhabitants in monitoring of the NSP via the action plan part of the NSP. • Support actions of inhabitants to give them agency in the realisation of the NSP.		

Source: Adapted from Hillier (2011).

space) and give citizens an active role in the spatial policy (co-creation). The NSP process was designed to intertwine our participatory work with the work of the design office. We developed different types of walks to connect with other actors and collect other values, which we alternated with the co-creation sessions around a scale model to collect the findings and proposals and translate them into the design. By alternating the walks with the co-creation sessions, we would be able to bring the local knowledge of the citizens into the NSP and also bring the NSP into the everyday life of the citizens.

We developed four types of walks: the introduction tour to discover the neighbourhood from an outsider's perspective; the exploratory walks invite the citizens to show us their neighbourhood from their perspective; the thematic walks let us experience the different themes of the spatial plan from another perspective; and the future walks bring the design of the spatial plan literally back to the neighbourhood. However, we were not able to organise the thematic walks because at that moment there was not enough room to introduce a risky situation due to tensions in a parallel mobility transition process which affected the NSP process. Also, there was a lockdown due to the Covid-19 pandemic, which made it impossible to physically meet people. In this article, we focus on two risky situations: the exploratory walks and the live project. We chose these situations because they were introduced in the process at moments when there was room to experiment (see Figure 1).

3.4.1. Exploratory Walks

The exploratory walks are part of the second strategic navigation technique, the mapping: the joint seeking for new relations and the mapping of values and tensions. We divided this technique into two parts. The first part is to include the local knowledge into the NSP and thus engage with the everyday life of the citizens, and the second part is to collectively evaluate the alternative spatial scenario. The exploratory walks are the first part of the mapping technique to include the local knowledge in the NSP.

The exploratory walks supported the citizens to engage in an alternative way with their neighbourhood. We asked them to map different types of locations they felt a relation to in their neighbourhood and to organise them in a personal walk. We asked them to answer specific questions in relation to these places (see Figure 2). They had to answer the following questions: Which places were the start/end point of the walk? Which places do they visit often? Which places do they like to be and which are the places they do not like to be? Wich are the places that they miss in their neighbourhood and which are the places where they meet others? A walk-bag (see Figure 3) was developed to support the citizens to design individual exploratory walks in their neighbourhood. Often, they chose a route—well-known to them—through the neighbourhood. However, the mapping assignment stimulated them to pay closer attention to the experience of their daily routine, by taking more conscious stops, taking a picture, making a note…

We also consciously addressed particular groups in the neighbourhood to organise a walk. For instance, we had the opportunity to do a workshop with pupils (10 to 11 years old) of an elementary school at the end of October 2020, right before the second lockdown (see Figure 4). At the start of the workshop, we handed over a walk-bag which the pupils used to draw their map of the neighbourhood. It was not feasible to do an actual walk because schools could not easily organise outdoor events, but we assisted them in making a map of their neighbourhood and asked several of the pupils to tell us how they saw the future of Zwijnaarde.

Additionally, we developed a walk-app, called De Andere Ruimte ("the other space"), designed to collect data while walking by making use of a mobile device with location services switched on. The basic development of the walk-app had already been started before the outbreak of the pandemic. The intention was to develop an online application to broaden the diversity of

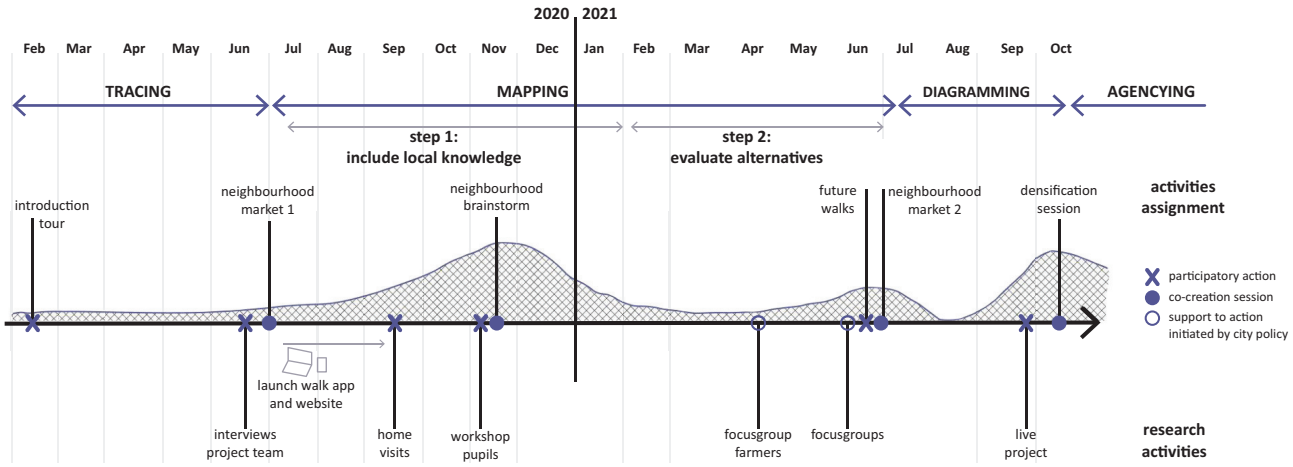

Figure 1. Overview of the process and the room to experiment.

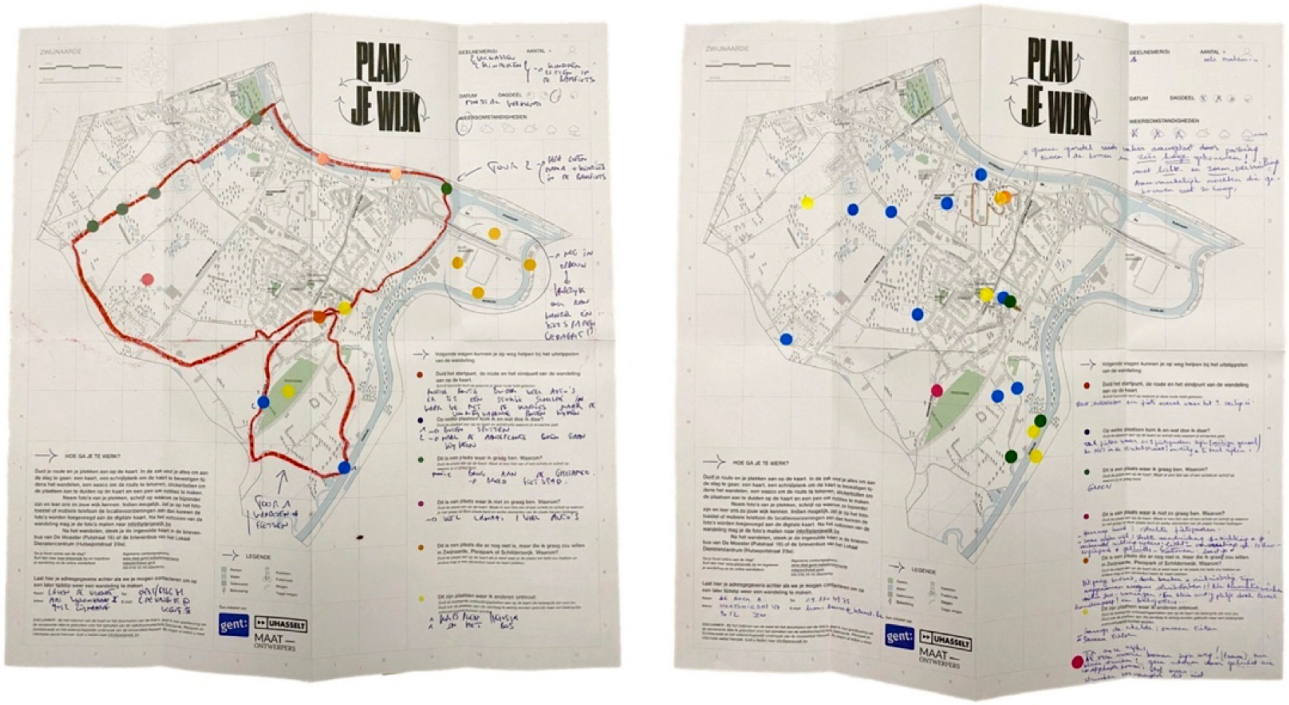

Figure 2. Example maps of the exploratory walks handed in by citizens. Picture by Maat Ontwerpers.

participants who could do the data input. However, with the outbreak of the pandemic, we decided to develop an application that goes beyond mere data input that could support us with ethnographic fieldwork during a time of social distancing (see Figure 5). The walk-app is linked to a website, which is called Plan Je Wijk ("map your neighbourhood"), which was used to visualise the collected data (see Figure 6). The online platform (and the walk-app) allowed people to share their spatial experience at any time, but also to discover the NSP at a moment convenient to them or make an autonomous choice in doing research into the places they were interested in.

3.4.2. Live Projects

The live project is part of the diagramming step, which is about making alternative futures tangible to support the formation of new socio-material assemblages. In the live project, students of the second master architecture and the first master interior architecture step into a design process together with citizens, policymakers, and local actors to think about the possible futures of a certain place or a certain spatial issue. A live project aims to support the dialogue about future developments using critical design research (Harriss & Widder, 2014).

Figure 3. The design of the walk-bag. Picture by Maat Ontwerpers.

Figure 4. Workshop with the pupils.

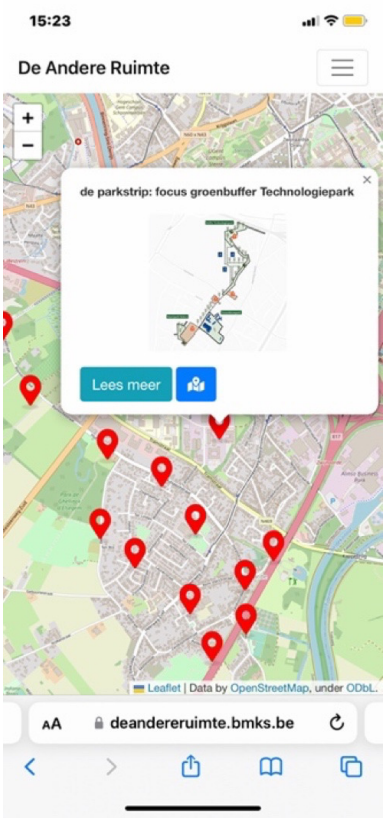

Figure 5. Screenshot of the walk-app on a mobile device.

The first group of students worked on an underused open space next to a care home for the elderly and separated from a bike path by a fence (see Figure 7). Their project resulted in partly removing the fence to show the potential of this underused open space. The other group of students developed two tools to engage citizens in a dialogue about densification and tested these on two different locations for two days in the second week (see Figure 8). On the third and final day, they showed the results and the tools at a neighbourhood park.

4. Case Analysis

In this part, we apply the analytical framework based on the four navigation techniques to the two risky situations: the exploratory walks and the live projects. For each risky situation, we analyse the extent to which the risky situation helped to open up the process to other actors; did it help make tensions and dependencies between values visible and did it support translating these other values into the decision-making process?

4.1. Exploratory Walks

We organised the exploratory walks to include the local knowledge of the citizens in the NSP process. The city experts had already mapped a part of this local

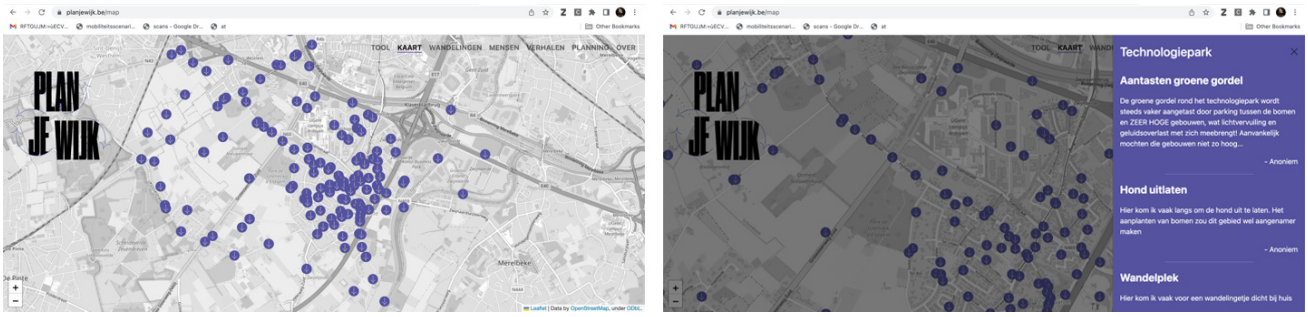

Figure 6. Screenshots of the website.

Figure 7. Live project 1: Underused open space at a care home for the elderly.

Figure 8. Live project 2: Dialogue about densification in the neighbourhood.

knowledge via focus groups with stakeholders before the start of the process and the neighbourhood committee. We wanted to extend this network with other engaged citizens via the exploratory walks because we believed that there were other actors that also cared about the neighbourhood but were not yet involved.

We communicated to the citizens via different means (digital newsletter, brochure via mail, and social media) that they could pick up a bag at two locations in the neighbourhood, but the citizens did not spontaneously respond to this call. Also, due to the pandemic and the redirecting of the process, we were unable to meet citizens physically. That is why the lead researcher proposed conducting home visits in different parts of the neighbourhood, and we engaged in the workshop with the pupils.

4.1.1. Opening the Process to Other Actors

The home visits aimed to engage citizens to make an exploratory walk (gather local knowledge) and meet the citizens in order to build their own network in the neighbourhood in addition to the already existing network built by the city experts. We would also be able to send reminders to the people to engage with their fieldwork assignment and invite them to future activities because we collected their contact details when we handed over the walk-bag. The lead researcher had completed five rounds of visits by mid-September 2020, each in a different part of the neighbourhood. The doorbells that she rang and thus the people that she talked to were randomly chosen. We observed, together with the city experts, that these home visits contributed to a more diverse network of participants in future activities and that these "other participants" bring in new values and tensions.

The workshop with the pupils gave us the opportunity to connect with a group of actors that are not easily reached in a participatory process.

4.1.2. Making Tensions and Dependencies Between Values Visible

The maps that were handed in by the participants showed that their relationship with the place shifted as they were asked to think about how they valued these places while they were in the place itself. The mapping assignment helped to collect richer data and thus allowed other values to enter the process. The places are the same, but the perspective and thus the relation to the place shifted as they were asked to think about how they value these places:

> Wonderful silence! This path along the river near the business park is the only place where you can still walk without much noise. Now still unknown and undeveloped! [as a response to "a place where I like to be"]

> This has the potential to be a public place? Perhaps there is an opportunity here to give more attention to this unused open space and to make it public as a park or resting place for the neighbourhood? [as a response to "a place I miss in my neighbourhood"]

At the same time, the participants used their walks to make their values explicit. For example, a participant that is a member of a youth movement indicated this on the map: "Green spaces like this are very important for youth and the youth movement."

The interpretation of the exploratory walks as a workshop with pupils disconnected the group from the experience of being in space. During these "walks," the children connected their values and local knowledge to spaces on a physical map via their imagination. There was thus an imaginary connection to the space which departed from the spaces the persons were familiar with. The pupils sometimes took this exercise a step further and expressed their values via imaginary places, like the transformation of the neighbourhood into a park for

dinosaurs, which expressed the pupils' concern for more trees in the neighbourhood for their ecological value.

A few representatives of the neighbourhood committee used the walk-app just after it was launched to make a collective walk. In this walk, they added their knowledge about the spatial development of the neighbourhood, which includes opinions and information about larger urban developments, heritage buildings, and the history of certain places, and they thus directly made their values visible via the website.

We used the walk-app and the website to report and dynamically communicate about the process by digitalising and visualising the physical maps. This made the process more transparent and by doing so, it has the potential to open the process and invite others in (DiSalvo, 2022). For example, at the start of the focus group with the farmers (later in the process), they called upon their right to be heard in the process, because they saw the stories of the pupils: "Why were the pupils asked to participate and we were not?"

4.1.3. Translating Values to the Decision-Making Process

After the exploratory walks, the design office initiated co-creation sessions to discuss the preliminary design of the NSP with different stakeholders. Initially, there were no sessions planned with citizens, but after a discussion with the project team, we decided to organise three online neighbourhood brainstorming sessions with engaged citizens (Figures 9 and 10). In preparation for the sessions, the design office did a first exercise to translate the collected values and concerns from the previous steps into nine ambitions and then translated these ambitions into the preliminary design of the NSP. The aim of the neighbourhood brainstorm was twofold: first, we wanted to check if we had translated the values correctly into the ambitions and the preliminary design and second, we wanted to include local knowledge and other values in the further development of the NSP. The engaged citizens had to sign up as a "neighbourhood planner," which meant that they were interested to be more involved in the process of the NSP.

After the neighbourhood brainstorming session, the design team refined the design of the NSP based on the feedback from this session and the sessions with other stakeholders. During the session, there were also discussions about conflicting values between citizens. For example, about the implementation of a "school street." A young parent found that it was a priority to add it to the preliminary design because she wanted to cycle to school with her young children in a safe way. For an older person, it was something he did not see the use of.

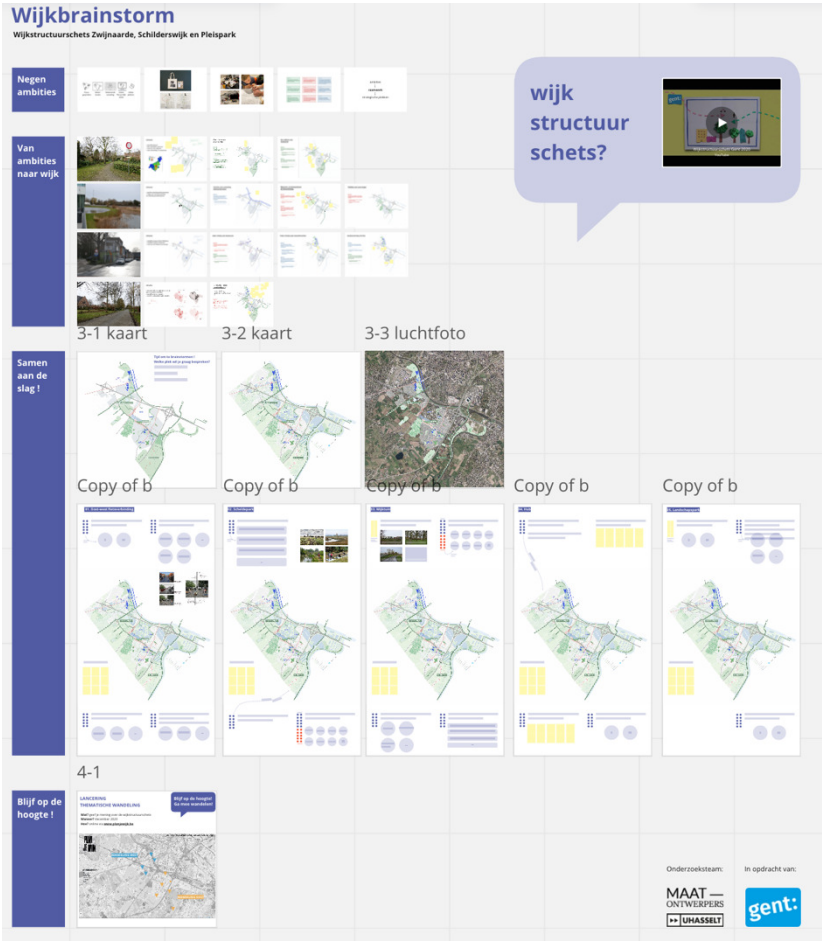

Figure 9. Overview online whiteboard neighbourhood brainstorm. Design by Maat Ontwerpers.

Figure 10. Zooms of an online whiteboard with feedback from participants. Design by Maat Ontwerpers.

4.2. Live Project

After the mapping, the design of the NSP was finalised. However, the future transformation of the neighbourhood as it was defined in the NSP remained abstract for most of the citizens, specifically on the part of densification. This created mistrust around the intentions of the city policy about the NSP, and thus about the future of their neighbourhood. Also, the area of the NSP is large, which makes it difficult for the participants to translate the NSP to the scale of their everyday life. Therefore, we decided to organise a live project in two locations in order to make it more tangible.

4.2.1. Opening the Process to Other Actors

The live project invited new actors into the process. At the first location, the students engaged with the elderly people, the children of a nearby school, the owner of a vegetable garden on the other side of the path, and the users of the path (pedestrians, a lot of them with dogs, and cyclists). Also at the second location, the prototyping allowed new actors to enter the dialogue, like the homeowners, visitors, people passing by, or contractors working in the neighbourhood.

The members of the project team were also involved and they met with the students on a regular basis during the two weeks. New experts participated in the live project to guide the students. For example, the coordinator of the local service centre participated in the pitch at the end of the first week to give feedback on the proposals of the students.

4.2.2. Making Tensions and Dependencies Between Values Visible

The re-opening of the fence at the first location showed the potential for the underused space for the larger area. The citizens could experience the reconnection of the space with the elderly care home, but also the nearby park with the school, the local service centre, the sports centre, and the library. The students installed a small bench along the bike path to emphasise the potential of a meeting place at a crossroads for future connections.

In the second location, the tools developed in the live project helped to redirect the dialogue with the citizens beyond pro or against densification. Specifically, the students started the discussion with the citizens from the perspective that the neighbourhood is already densifying and asked them under what preconditions a densification in Zwijnaarde would be acceptable, and also what the neighbourhood could "gain" from this densification, in a sense of what collective needs this densification should or could meet. This redirected the dialogue as a form of "meaningful bargaining" (Mäntysalo et al., 2011) from individual challenges towards collective values.

4.2.3. Translating Values to the Decision-Making Process

The live project was located in two strategic locations of the NSP, which means that multiple spatial concepts of the NSP came together in these locations. Also, the design office worked on one pilot project within the NSP and the live project was located within the area of this pilot project. Specifically, the pilot project focussed on a densification strategy for a certain part of the neighbourhood, the second location of the live project. The results of the second live project were handed over to the design office. Additionally, the design office initiated a co-creation session to define the preconditions for densification with city experts of different departments. They agreed to open up the session for three citizens of Zwijnaarde (members of the neighbourhood committee) and one citizen of another neighbourhood (as an external layman; see Figure 11). The design office developed two scale models of two densification scenarios to support a dialogue on the preconditions for densification (see Figure 12). It was not the intention to arrive at a design proposal for the pilot project but to map opportunities and challenges regarding densification at this location. The session was an interesting negotiation between the values of the different participants as they were for

Figure 11. Co-creation session initiated by the design office. Picture by Mike De Brie.

example discussing what "collectively" means, but also the different personal meanings of public green space.

5. Discussion

In the previous part, we analysed two risky situations created via experiential evaluation to open up the participatory planning process of Zwijnaarde. In this part, we will share some reflections and learnings based on this process. We formulate these findings as elaborations towards an alternative and experimental approach to hybrid forums (Callon et al., 2009).

5.1. Experiential Evaluation Supports Multiple Roles

Experiential evaluation in the process of the NSP in Zwijnaarde was able to open up the process for new actors and created not only new relationships between city experts and citizens but also new collaborations between the city experts of different departments. With the live projects, new relationships were also created between citizens. The action plan that is part of the NSP has the potential to sustain these new dynamics and thus initiate agencying, the fourth strategic navigation technique, and by doing so, hand over the role of stage director to the city experts.

5.2. Experiential Evaluation Takes Place at Multiple Scales

Experiential evaluation renders tensions and dependencies between values visible but these tensions were not made constructive at some given point in time within this process. The NSP is rather an open-ended instrument that focuses on the large spatial structures of the neighbourhood. It defines a certain future scenario for the neighbourhood, but not everything is determined and there are blank spots that leave room for negotiation. Also, the scale of the NSP is large. In fact, Zwijnaarde is a collection of different neighbourhoods and there

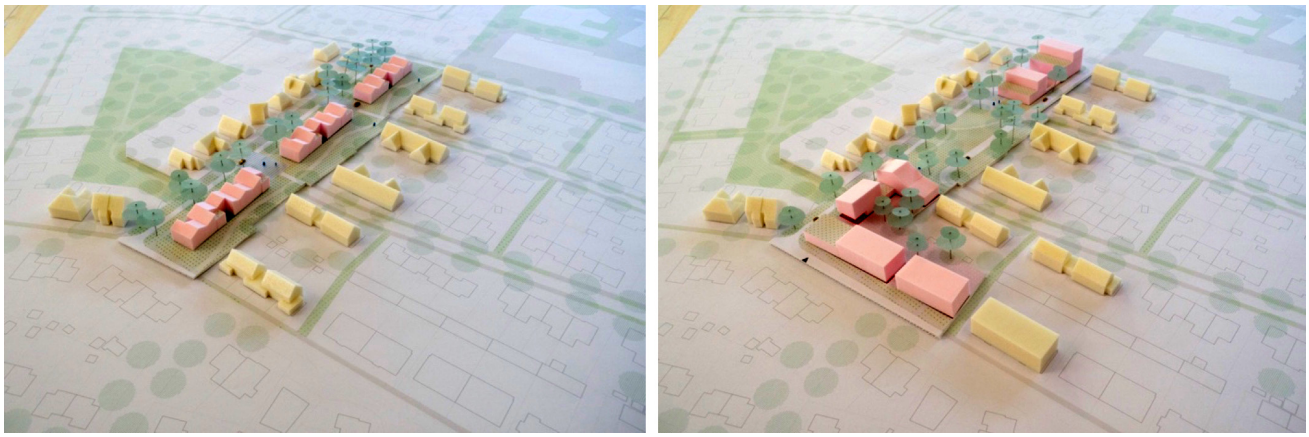

Figure 12. Scale models of two densification scenarios to support dialogue. Design and pictures by Maat Ontwerpers.

were two parts of another neighbourhood (Sint-Denijs-Westrem) added to the area. These parts all have their own tensions, which cannot be handled by the NSP but citizens want to have them taken into account and that is why, for them, the NSP is too abstract. The case made clear that, in order to take proper care of tensions between and among institutions and citizens, these need to be handled simultaneously at multiple scales. The experiential evaluation thus needed to create risky situations for multiple places on multiple scales to render tensions constructive. This requires a spatial plan to function as a platform for actions that contribute to the future transformation of the neighbourhood. This platform would sustain the new dynamics between the actors in which the city experts take upon the role of stage directors.

5.3. Experiential Evaluation Supports the Making of Territorial Stakeholders

The experiential evaluation and the creation of risky situations also give the designer as a stage director (Pedersen, 2020) a "designerly" mode of agency (Binder et al., 2015). The exploratory walks and the live projects were designed to extend the network of engaged citizens that were not involved yet. These risky situations were able to gather the participants that cared (Puig de la Bellacasa, 2017), which enhanced their "stakeholderness" (Metzger, 2013, p. 787) in the sense that their "stake" is related to what they value or care for, and the risky situations rendered these values visible (Metzger, 2013). After the values were made visible, they were translated into the decision-making process, which was opened up to engaged citizens. They were able to participate in the translation process of their individual values to collective values on a neighbourhood scale and potentially connected their values to the values of other engaged citizens, which turned them into "territorial stakeholders" (Metzger, 2013, p. 788). This makes experiential evaluation a process of "making" territorial stakeholders and not of "mapping" stakeholders (Metzger, 2013).

5.4. Experiential Evaluation and More-Than-Humans

Experiential evaluation, as an earthly and situated approach, opened the process for other values and also more-than-human values. The exploratory walks made the citizens include their appreciation for nature, which trees they value, and where they like to sit on a bench to unwind. The nuisance (air pollution and noise hindrance) of the infrastructure became an important element in the NSP, because citizens were attentive to it, while water was less visible. The live project made them rethink the value of underused open space. There is thus potential within experiential evaluation to include more-than-humans in a more explicit way to give them a direct voice in the process. This would not only require a rethinking of the experiential element but also the evaluation element in order to value the consequences for more-than-humans, because every decision in a planning process that defines a certain future scenario also excludes all the other options and thus allows more-than-humans to thrive (Metzger, 2016).

6. Conclusion

In this article, we explored the potential of experiential evaluation as an alternative and experimental approach to hybrid forums (Callon et al., 2009) in order to open the participatory planning process for other actors and values and thus create risky situations (Metzger, 2016). We used a methodological and analytical framework based on the four steps of strategic navigation techniques (tracing, mapping, diagramming, and agencying; Hillier, 2011) to analyse how the experimental evaluation enables the creation of these risky situations within the participatory planning process of the NSP of Zwijnaarde. This leads us to three final questions.

Experiential evaluation was able to include other engaged actors in the process and to hand over the role of stage director to the city experts. Would it be possible to hand this role to a collective of engaged citizens, a concerned group?

Experiential evaluation was able to make values visible and, at the same time, also rendered tensions visible. However, these tensions were not made constructive in one moment in time. Therefore, the experiential evaluation needs to be developed over time, at multiple places on multiple scales. This requires a spatial plan to function as a platform for actions that contribute to the future transformation of the neighbourhood. How can a more continuous work with experiential evaluation enable such a platform for the actions of the citizens and smaller processes to render tensions constructive?

Finally, experiential evaluation is a process of making territorial stakeholders and has the potential to include "more than humans" more explicitly. By doing so, it enhances the democratic character in a more-than-human way. How can experiential evaluation consciously address the tensions that exist between humans, and between humans and more-than-humans?

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Experts as Game Changers? A Critical Discourse Analysis of Climate Measures in the Metropolitan Region of Amsterdam

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Abstract
This article analyzes the acceptance of climate policy measures in the Metropolitan Region of Amsterdam to understand how policy and planning interrelate with private and public interests. While legitimizing climate policy and measures, values can also cause conflict when operationalized locally. By analyzing value conflicts in public discourse, we gain insights into questions of environmental behavior and their influence on the acceptance of climate action. We report on quantitative and qualitative discourse analysis covering 410 articles from Dutch newspapers between 2015 and 2021 in the Metropolitan Region of Amsterdam related to the energy transition, mobility, and urban greening. Our findings show that public discourse mostly remains abstract and detached from local contexts. As experts and politicians dominate the debate, the discourse mainly addresses science- and policy-related arguments, representing the public interest but reflecting only insufficiently private interests and the local (re-)distribution of benefits and burdens. Therefore, we attribute spontaneous protest to the lack of reference to differentiated values at the local level and find the argument of NIMBYism insufficient to explain residents' opposition. Instead, our findings point to experts' and decision-makers' lack of recognition of the local "idea of place" and a community's identity as an explanation for the sudden emergence of protests. Here, urban design may bridge the gap between policy and planning by translating technical and economic constraints into place-specific designs.

Keywords
climate change adaptation; climate change mitigation; critical discourse analysis; environmental behavior; identity of place; public acceptability; urban design; urban planning; values

Issue
This article is part of the issue "Planning Around Polarization: Learning With and From Controversy and Diversity" edited by Oswald Devisch (Hasselt University), Liesbeth Huybrechts (Hasselt University), Anna Seravalli (Malmö University), and Seppe De Blust (ETH Zürich).

1. Introduction

In 2019, several actions by the Extinction Rebellion movement shook the city of Amsterdam. Activists and sympathizers blocked roads and protested at Dam Square to demand radical political actions against the climate emergency: "I am quite angry that my generation is not being listened to. I have stopped flying and eating meat, but politicians hardly take any serious measures to improve the climate. It feels like we're being abandoned," said Evaline Vink, one of those demonstrators, to the press (Khaddari & Wiegman, 2019, para. 37). In 2021, another climate demonstration took place in Dam Square, organized by the citizens' initiative "Windalarm" to protest plans to build wind turbines near their neighborhood. Although the demonstration was against the implementation of climate measures, Naut Kusters, one of Windalarm's co-founders, told the newspaper that the initiatives' ultimate goal was to reach the net-zero targets as soon as possible: "That is not a point of discussion" (van Zoelen, 2021, para. 5).

This contradictory protest behavior highlights the discrepancy between abstract climate policy goals and the realities of implementation and is symptomatic of the

political and social challenges associated with the transition to climate neutrality and the adaptation of our cities. The accumulation of such conflict articulations suggests that the reason for the protest is not solely due to individual unwillingness, often derided as NIMBYism, the "Not In My Backyard" reactivity. NIMBY implies that local citizens are unwilling to accept personal costs in exchange for public interest. We argue that a more plausible reason for conflict is that, despite far-reaching consequences, the values of those affected locally are not sufficiently considered. Thus, becoming evident in a radical simplification of public debate on climate measures.

This article examines the tension between political climate goals and local acceptance of those measures. It analyses how conflicts of public and private interest are represented in public debate and how well public interest, as represented by experts, is connected to citizens' environmental values. This research is based on the hypothesis that considering people's values in planning and communicating climate measures will increase acceptance.

We examine to which degree experts mainly work with arguments that embody commonly accepted values in the public interest, appealing to the consensus of climate goals without addressing conflicts and contradictions in their implementation. We investigate the role of media when shaping the public discourse. We posit that journalism operationalizes a particular type of expert voice, namely that of trained scientists and professionals with direct and indirect involvement in city planning. While we recognize that community members possess situated forms of expert knowledge of their environment, the actors we consider experts in this article are those whose technical knowledge is institutionally legitimized.

We analyze public discourse on climate adaptation and mitigation in Dutch media outlets covering the Metropolitan Region of Amsterdam (MRA, *Metropoolregio Amsterdam*) from 2015 to 2021. This interlinking of measures reflects the limited space for intervention in Dutch cities, which lets municipalities often combine measures for climate mitigation with those for climate adaptation (e.g., subsidizing green roofs and solar panels). We used quantitative conceptual and relational content analysis to question dimensions of distributive justice and values of climate adaptation and mitigation in public debate. Our objectives were (a) to identify conflict-related arguments highlighting tensions between values and interests; (b) to question how interests and values relate, whose voice is represented in discourse, and the types of arguments used; and (c) to understand instances of support and protest as related to agreement, disagreement, or questioning of specific climate measures.

Because discourse influences the extent to which the spatial distribution of benefits and burdens is perceived as equitable and whether individuals and communities feel represented (Herdt & Jonkman, 2021), this analysis may help improve how municipalities, planning administrations, and governmental bodies communicate planning-related climate actions.

The structure of the article is as follows. First, we provide some theoretical basis for our analysis, looking at how values relate to questions of climate adaptation and mitigation and planning conflicts. We then discuss our mixed-methods approach, comprising qualitative and quantitative data analysis, the results of which are reported and discussed in Section 4. We conclude by emphasizing the importance of understanding how planning processes can connect public and private interests, how to communicate, and how to involve citizens. Here, we believe urban design can play an important role as a "bridge practice" (Mehrotra, 2020), between global policy ambitions and local community values.

2. Values and the Acceptance of Climate Policies and Projects

Values are general goals or ideals that people consider important in their lives and according to which they orient their behavior (Schwartz, 1992). Because of their abstract nature, values allow us to make assumptions about an expected or desired future or the behavior of others. They encompass diverse situations and actions, comprising various pro-environmental perspectives and actions (Seligman & Katz, 1996). One of the two value dimensions described by Schwartz (1992) is that of self-enhancement vs. self-transcendence. This dimension reflects the extent to which a person values the welfare and interests of others (self-transcendent) as opposed to their own personal interests (self-enhancing). Four categories of values influence people's behavior with regards to climate policy or climate-related measures (De Groot & Steg, 2008; Perlaviciute et al., 2018):

1. Biospheric values, which address concerns for nature and the environment;
2. Altruistic values, which express concern over the well-being of others and society;
3. Egoistic values, which concern safeguarding personal resources such as wealth and status;
4. Hedonic values, which address seeking pleasure and comfort.

The first two address public interest and are self-transcendent, whereas the latter two address personal interest and self-enhancement.

Rarely do climate projects, such as energy projects, exclusively address the biospheric value category. Instead, such projects have a variety of characteristics that can negatively impact some of the four values categories while benefitting others (Perlaviciute et al., 2018). Values that drive climate action range from individual to global concerns and can change over time (Martiskainen et al., 2020). Therefore, people's acceptance of climate measures is not given by a particular value scheme, and

there is no strong link between socio-demographics and environmental values (Sargisson et al., 2020). Other factors like personal and social norms may be more closely related to environmental behavior (Klöckner, 2013). In general, biospheric, altruistic, and egoistic values seem most relevant for environmental behavior (Perlaviciute, 2022).

The importance of core values and beliefs is particularly evident when looking at negative responses to climate policies and projects, which often occur when people's individual core values are threatened, emotional reactions are evoked, or elements of distributive or procedural justice are not adequately addressed (Marshall et al., 2019; Perlaviciute et al., 2018; Sargisson et al., 2020). One can distinguish two forms of protest which respond to different value categories. Social movements in favor of climate policies (e.g., Fridays For Future) address the absence of climate policies and action in individual concerns about the global and local environment and the wellbeing of future generations, vulnerable populations, etc., as well as concerns that their own families are being negatively affected by climate change. Here, biospheric, altruistic, and egoistic values are being addressed simultaneously (Martiskainen et al., 2020; Wallis & Loy, 2021). When threatening egoistic values, e.g., increasing costs or decreasing property value, climate policies and projects can evoke protest. The same action may equally address altruistic values, particularly if individuals feel that benefits and burdens are not equally distributed or if people feel excluded from decision-making processes. Here, it is assumed that people use a form of "practical rationality" to evaluate the given situation in terms of each value category. The mechanism of opposition to or rejection of climate measures appears to be related to the extent to which various project features violate or support the individuals' core values.

2.1. Value Conflicts in Urban Planning

In addition to tensions between climate policy, projects and individuals' core values, conflicts between the values themselves are at the heart of todays' urban planning. Values mediate the tensions between development for environmental, economic, and social sustainability (Campbell, 2016). They are also ethically motivated. The belief in something essential and legitimate serves to justify actions or to establish specific rules of conduct (Langford, 2004). Values are, therefore, deeply embedded in infrastructure and existing regulations and shape communities and their behavior (van den Hoven et al., 2015). During the planning process, inherent values become operationalized by experts and are transformed into social norms, which then shape design strategies and the implementation of projects (Dignum et al., 2016; van den Hoven et al., 2015).

Conflicts can arise from various "translation gaps" during the planning process. A gap between inherent values and a design strategy may result from a structural change in the planning process, e.g., in legislation or administrative procedures. Such change can affect people's sense of the equitable distribution of benefits and burdens (e.g., access to public resources and goods) and procedural justice (e.g., not being involved in the decision-making process). Recent studies have shown that these two factors significantly influence individual decisions and address values of all kinds, e.g., selfish and hedonistic values, altruistic values, and biospheric values (Perlaviciute et al., 2018).

2.2. Acceptance of Climate Measures

Conflicts can also arise if the planning process does not translate embedded values well enough into project design. At the beginning of a planning process, climate mitigation measures are usually addressed in abstract terms, referring to altruistic and biospheric values, e.g., sustainability or climate protection for future generations. They provide legitimacy to policy and planning. Government agencies and communities express such values in the public interest, and early in the planning process, they are usually supported by the majority. However, when these values are operationalized for specific local projects, they may face opposition from the community.

Furthermore, administrative practices and experts within government agencies may alter values (Langford, 2004). Any outcome often stems from complex relationships among various organizational frameworks such as funding and budgeting, legislation, and administrative regulations, which rely heavily on expert knowledge, making them hard to communicate to the general public.

Current research shows that people resist climate policies especially when they feel excluded from decision-making (Carattini et al., 2019; Gross, 2007). Public participation is, therefore, often cited as a possible means of addressing public resistance. But, if people have the perception of being asked too late or not having any significant influence on the outcome of the project, involvement is perceived as fake participation and can, again, fuel public resistance (Colvin et al., 2016; Gross, 2007; Perlaviciute et al., 2018; Reilly et al., 2016; Terwel et al., 2012).

Experts, therefore, play an important role in the operationalization of values during the planning process. They not only contribute to a project through their knowledge and expertise but also must translate values into coherent design strategies at multiple stages of the design process. They need to align a project with the organization's internal standards and consider the three relevant value categories important to the public.

2.3. Beyond NIMBYism

Public opposition against climate adaptation and mitigation projects is often dismissed as NIMBY, implying that

local citizens are unwilling to incur personal costs for the public interest. However, the influence of NIMBYism on the acceptance of climate mitigation measures is controversial: on the one hand, NIMBYism is used in public discourse as presumptive argument to explain local resistance to climate measures (Verhoeven, 2021); on the other, public support does distinguish different types of climate mitigation projects, e.g., urban greening vs. the installation of wind turbines. Criteria such as role perception, communication of complex planning processes, or individual reputation seem to play a role in the use of NIMBYism as an argument in public discourse. For instance, experts may use NIMBYism to explain the stopping of a project without further explanation of the complex administrative and legal actions behind it (Verhoeven, 2021). Similarly, local stakeholders and interest groups may insist on NIMBYism as a reason for opposition to a project, even if they must adjust their arguments to maintain their public appearances (Esaiasson, 2014).

While there is evidence for a correlation between the physical distance to a project's implementation and the responses to climate change or support for a specific project (Hart et al., 2015), the NIMBYism argument often ignores residents' other genuine concerns, such as a fair distribution of costs and benefits and the impact of climate projects on the identity and symbolic value of a place (Devine-Wright, 2005, 2013). Research on place attachment in climate adaptation projects has shown that place identity is situated within wider socio-political structures, institutions and cultural symbols. It is formed at multiple scales (Gustafson, 2009; Hernandez et al., 2007), and influenced by multiple factors such as personal mobility (Lewicka, 2011) as well as identity processes which are embedded in occupations carried out in particular places (Breakwell, 1986). This assumption is supported by research findings on climate mitigation projects, such as windfarms, suggesting that projects can disrupt and threaten place related identities and evoke resistance when perceived by residents to be "out of place" (Devine-Wright, 2009).

Following Patrick Devine-Wright (2011), we aim to investigate links between social values, identities, and collective actions, especially "NIMBY" resistance to climate adaptation and mitigation strategies. In debates about climate measures, it is often claimed that private interests (e.g., protection of ownership, property value, and character of place) may dominate. This set of interests may relate to conflicting values, but may also reflect a lack of influence in decision-making processes or a physical outcome poorly connected to the identity of place. To go beyond NIMBYism as an explanation and to better understand how climate is debated, our research aims to elucidate how private and public interests are addressed and connected in the public debate around climate adaptation and mitigation projects in the MRA.

Since research has shown that mass media's influence on the significance people afford to climate-related issues in their daily lives (Boykoff, 2011; M. Boykoff & J. Boykoff, 2004; McAllister et al., 2021), this article examines as well how the public discourse about climate is affected by media coverage and use of journalistic practices such as so-called "balanced reporting." Here, research on media coverage sheds light on the role of the expert in public opinion making through the use of balanced reporting and, the use of social media by individuals' and local interest groups' role on public opinion making (Painter, 2011; Painter & Ashe, 2012).

3. Methodology

3.1. Case Study

The MRA is a partnership comprising thirty-two municipalities in two provinces, North Holland and Flevoland. The MRA has the largest population in the Netherlands (2.5 million inhabitants, i.e., 14% of the Dutch population). Its agenda for 2020–2024 features an implementation line on transition planning that addresses, among other things, climate adaptation, energy transition, and their relation to the landscape. The MRA has the city of Amsterdam at its center. With the approval of the Roadmap Amsterdam Climate-Neutral 2050 (*Routekaart Amsterdam Klimaatneutraal 2050*) in 2020 and the Environmental Vision 2050 (*Omgevingsvisie 2050*) in 2021, the city has taken a pioneering role in planning and implementing a diverse portfolio of climate measures.

3.2. Comparative Analysis of Public Debates: Mixed-Method Content Analysis

This article analyses the tensions between public and private interests in the public discourse on climate adaptation and mitigation in Dutch media outlets from 2015 to 2021. During this period, the Paris Agreement was signed, new roadmaps for climate neutrality were developed, and Amsterdam's Environmental Vision 2050 was approved. We used quantitative conceptual and relational content analysis to investigate dimensions of distributive justice and climate adaptation and mitigation values in public debate as portrayed in public media. The dataset comprised ten Dutch public media outlets from the online archive Nexis Uni (Table 1; see also Supplementary File). It did not include professional journals, planning documents, or community-led media. The regional and local newspapers were chosen because their overall core local news coverage falls within the MRA. To ensure we only considered news within the MRA, we filtered the database according to location search terms (names of municipalities and regions; Table 2; see also Supplementary File).

We used 48 search terms organized into four topics to identify relevant articles in the online archive (Table 1). We set three search terms common to all topics to identify newspaper articles specifically about climate adaptation and mitigation projects. Three topics and keywords are grounded in the so-called strategic choices due

Table 1. Alignment of topics, strategic choices of Amsterdam's Environmental Vision, and search terms to identify relevant articles in the database.

Topic	Strategic choices Amsterdam	Common search terms (Dutch)	Common search terms (English)	Topic specific search term (Dutch)	Topic specific search term (English)
Climate measures		*klimaatverandering*, *klimaatadaptatie*, *klimaatmitigatie*, *klimaatmaatregel**	*Climate change*, *climate adaptation*, *climate mitigation*, *climate measure**	*maatregel** *plan* *planen* …	*measures* *plan* *plans* …
Urban greening	*Rigoureus vergroenen* [Rigorous greening]	*klimaatverandering*, *klimaatadaptatie*, *klimaatmitigatie*, *klimaatmaatregel**	*Climate change*, *climate adaptation*, *climate mitigation*, *climate measure**	*vergroen** *openbaare groen* *vegetatie* *hitte-eilandeffect* …	*greening* *public green* *vegetation* *heat island effect* …
Sustainable mobility	*Duurzaam en gezond bewegen* [Sustainable and healthy mobility]	*klimaatverandering*, *klimaatadaptatie*, *klimaatmitigatie*, *klimaatmaatregel**	*Climate change*, *climate adaptation*, *climate mitigation*, *climate measure**	*parkeerduurbeperking* *parkeerbeperking* *parkeerverordening* *parkeerverbod* …	*parking time restriction* *parking restriction* *parking ordinance* *parking prohibition* …
Energy transition	*Groeien binnen grenzen* [Growing within boundaries]	*klimaatverandering*, *klimaatadaptatie*, *klimaatmitigatie*, *klimaatmaatregel**	*Climate change*, *climate adaptation*, *climate mitigation*, *climate measure**	*windmolen* *windenergie* *energietransitie* *energiezuinig* …	*wind turbines* *wind energy* *energy transition* *energy-efficient* …

Note: Complete table in the Supplementary File.

to their specific connection to climate adaptation and mitigation, as described in Amsterdam's Environmental Vision 2050 (Gemeente Amsterdam, 2021, pp. 49–69). The fourth topic looked at climate adaptation and mitigation projects in general.

With these parameters, we retrieved a dataset of 410 articles and got insights into temporal trends and on the weight of each category in the discourse.

We identified seven codes that align social, economic, and environmental categories related to climate adaptation and mitigation plans and projects with the models of value orientation and values related to climate policy proposed by De Groot and Steg (2008) and Perlaviciute et al. (2018). Some codes fall into two or more value-orientation categories, highlighting the dynamics of values recognized in the literature. In this way, we seek to identify conflict-related arguments that indicate tensions between values and interests (Table 2). To increase the precision of the analysis, we defined multiple keywords within each code (Table 3).

We used the qualitative analysis software ATLAS.ti to investigate the dataset, applying iterative rounds of coding, to quantify the number of hits per code and identify trends over the period of analysis. This process generated an overview of different types of discourse, topics, and the analytic categories attached to them, instances of co-occurrence between analytic categories, and how these co-occurring categories relate to conflict between public and private interests. Furthermore, we used quantitative content analysis to examine how interests and values relate, whose voice is shaping the discourse, and the types of arguments put forward. For this, we made a context-appropriate distinction between experts and citizens. By "experts," we mean the actors who influence and are actively involved in policy, planning, and implementation of climate measures (i.e., politicians, scientists, and planning professionals). Secondly, we analyzed manually positions and arguments. We focused specifically on those sentences and paragraphs coded under "Public support and protest." We ran a qualitative content analysis to identify nuances within this category through the choice of wording as well as the choice of sentence structure: support and agreement (positive sentiments towards climate measures), protest (in demand of or against climate measures), disagreement (negative sentiment towards climate measures), explicit instances of NIMBYism, or questioning of the specific measures proposed (as insufficient or ineffective) or of the process

Table 2. Codes and related value orientation and values.

Value orientation	Values	Codes
Egoistic	Social power (control)	CONTROL, FREEDOM
	Wealth (material possessions)	COST
	Authority, influential (having impact on people and events)	PARTICIPATION, PUBLIC SUPPORT, AND PROTEST
Altruistic	Social justice	JUSTICE
	Equality	ACCESSIBILITY
	Helpful (helping welfare of others)	HEALTH, COST
Biospheric	Respecting the earth	SUSTAINABILITY
	Unity with nature	CLIMATE, PUBLIC, AND GREEN SPACE
	Protecting the environment, preventing pollution	ENVIRONMENT, HEALTH
Hedonic	Pleasure, enjoying life, gratification for oneself	HEALTH, PUBLIC, AND GREEN SPACE

of implementation. As a result, we could then visualize the intensity and development of different sentiments.

4. Data Analysis and Results

4.1. Development of Discourse: Codes

We found that the number of quotes coded under "Public support and protest" rose significantly over the period 2019–2021, coincident to the period of drafting of several documents naming specific plans concerning climate measures (Table 4). When looking at the number of citations in each of the four topics of study per year, citations coded under "Public support and protest" in the topic of energy transition increased particularly in 2021, the year where the municipality of Amsterdam disclosed options for new locations for wind turbines on municipal land (Figure 1).

When analyzing in detail how those quotes under "Public support and protest" related to instances of support, disagreement, or questioning of the measures, we noted how, in the topic of climate measures in general, disagreement escalated starting in 2019. Again, the subtopic of the energy transition is the one in which measures were questioned more often. This trend can be attributed to the aforementioned planning options for installing wind turbines in the environs of residential neighborhoods in the east and north of the city. These plans fueled demonstrations and protests that successfully gained media attention.

4.2. Development of Discourse: Timeline of Events

To contextualize the data, we constructed a timeline of the most important climate related events and policy acts at the various levels of the planning process. When we look at the development of the discourse over time, and relate it to those major events guiding international, national, and local planning and policy, we can identify two very distinct phases. Before 2019, the debate was very general with hardly any reflection of climate measures. Then, 2019 shows a peak in protests demanding climate actions, moved mainly by biospheric values, highlighting the reverberations of the "Fridays for Future"

Table 3. Examples of codes, their explanation, and keywords.

Code	Explanation	Keywords (Dutch)
JUSTICE	Distributive, procedural justice	*justitie*, *gerechtigheid*, *billijkheid*, *billijk**, *oneerlijk**, *onrechtvaardig**, *onwettig**, *onrechtmatig**…
PUBLIC SUPPORT AND PROTEST	(Dis-)agreement, mobilisation	*publieke steun*, *protest**, *burgerinitiatie**, *tegenstand**, *demonstratie**, *petitie**…
COST	Financial costs, affordability, increase or loss of value	*kosten*, *prijswaardevermeerdering**, *waardevermindering**, *financiele schade*, *betaalbaar**, *onbetaalbaar**…
PARTICIPATION	Active participation, citizen engagement, having a voice	*actieve deelname*, *deelnem**, *participatie*, *co-creatie*, *enquête* workshop**…

Note: Complete table and English translation in the Supplementary File.

Table 4. Overview of categories of codes and number of citations per year.

Year	2015	2016	2017	2018	2019	2020	2021
Number of articles	24	9	30	34	134	179	338
			Number of citations per code				
Public support and protest	3	1	6	14	153	86	244
Costs	2	0	7	12	118	128	88
Justice	8	1	22	8	67	43	34
Freedom	2	1	4	10	27	51	48
Health	0	0	2	6	38	51	94
Environmental impact	5	0	4	8	13	41	94
Participation	0	2	3	3	30	39	170

movement initiated by Greta Thunberg, and demonstrations by globally acting groups such as Extinction Rebellion.

With the realization of the severity of the climate crisis and the announcement of the European Green Deal and other European plans, urban planning and policy measures concerning climate adaptation and mitigation started to become more concrete, in documents such as the National Environmental Vision (*Nationale Omgevingsvisie*, or NOVI) and the working document of Amsterdam's Environmental Vision. At that point, we notice a clear shift in public discourse, towards disagreement and protest against local implementation plans by citizens, and interest groups (Figure 2).

4.3. Most-Cited Arguments, 2015–2021

The most cited topics picked up in the discourse concern the economic impact on people. Quotes on costs relate to the conflict between the private interest concerning values as wellbeing, ontological security and affordable lifestyle, and the public interest of sustainability and climate protection. However, it is interesting to note that arguments centered around the topic of participation have a comparable share. Indeed, we found that disagreement is usually accompanied by criticism of the planning process, a feeling of not being heard or recognized, and a demand for greater and more meaningful citizen participation (Figure 3).

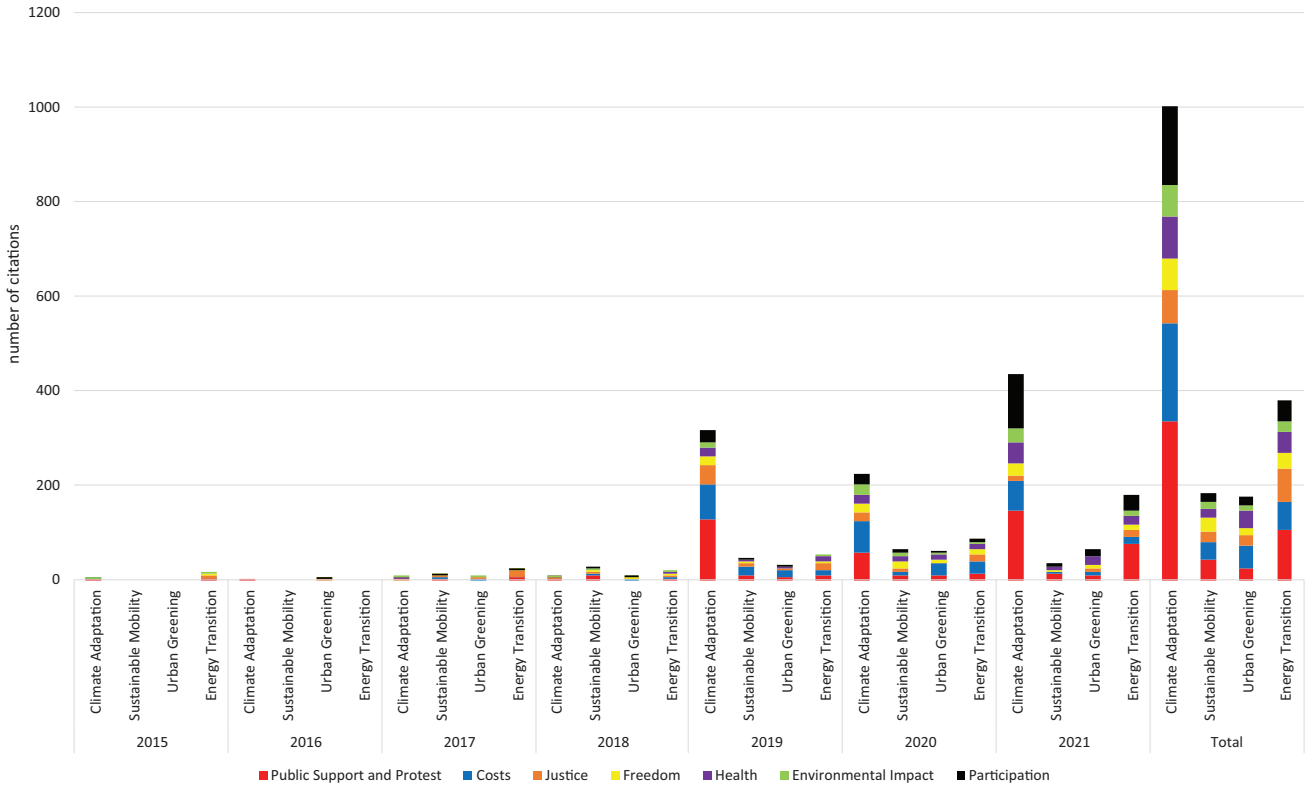

Figure 1. Development of discourse, 2015–2021: Categories of codes and number of citations per year per topic.

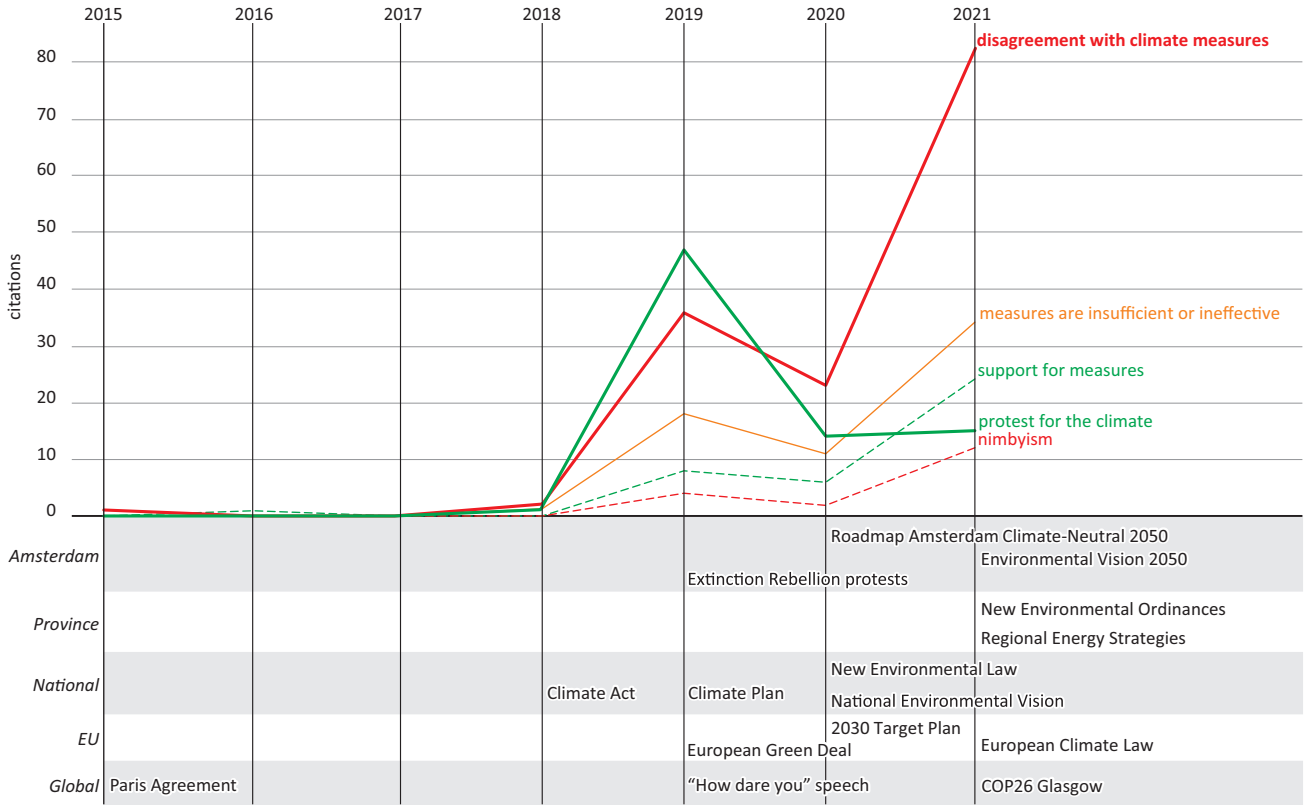

Figure 2. Timeline showing development of discourse: Protest for climate vs. disagreement with climate measures.

4.4. Main Themes and Trends Related to Disagreement or Dissatisfaction With Climate Measures

Looking at the progression of these arguments in time, our analysis suggests that costs and participation in climate adaptation and mitigation projects may be the most important aspects driving future discourse. In this respect, they can tip the balance in favor of, or against, climate adaptation and mitigation initiatives more than questions around their impact on the environmental qualities of a place or arguments linking measures to improved health (Figure 4).

4.5. Whose Voices Shape Discourse? Who Is Talking?

This sudden change from broad agreement to strong protest is also reflected in the concreteness of communication. If we analyze how climate measures are being

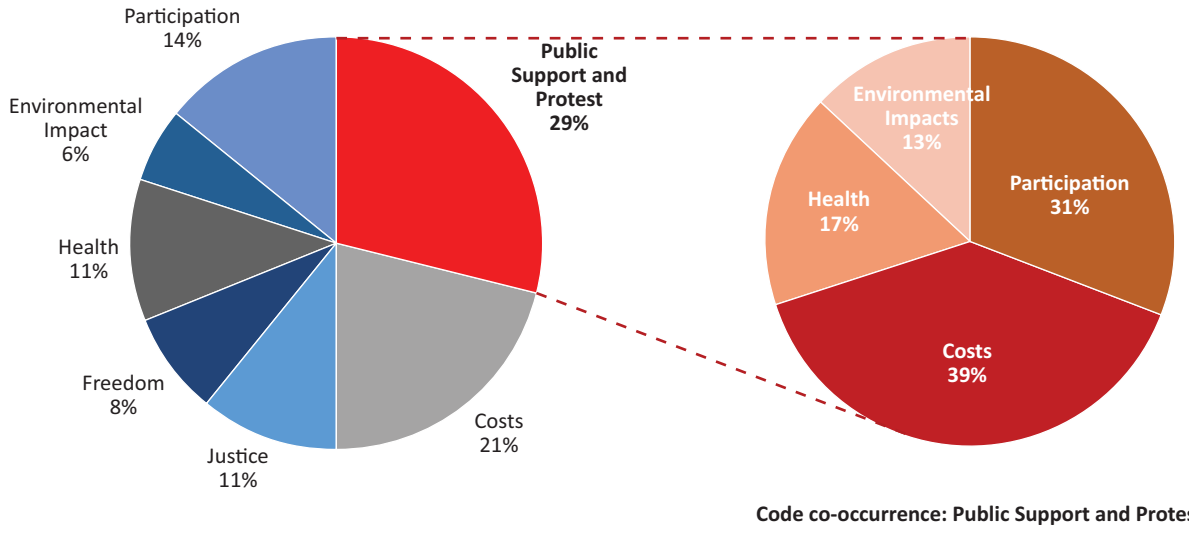

Figure 3. Most-cited arguments (2015–2021) and most-cited topics in co-occurrence with the "Public support and protest'' code.

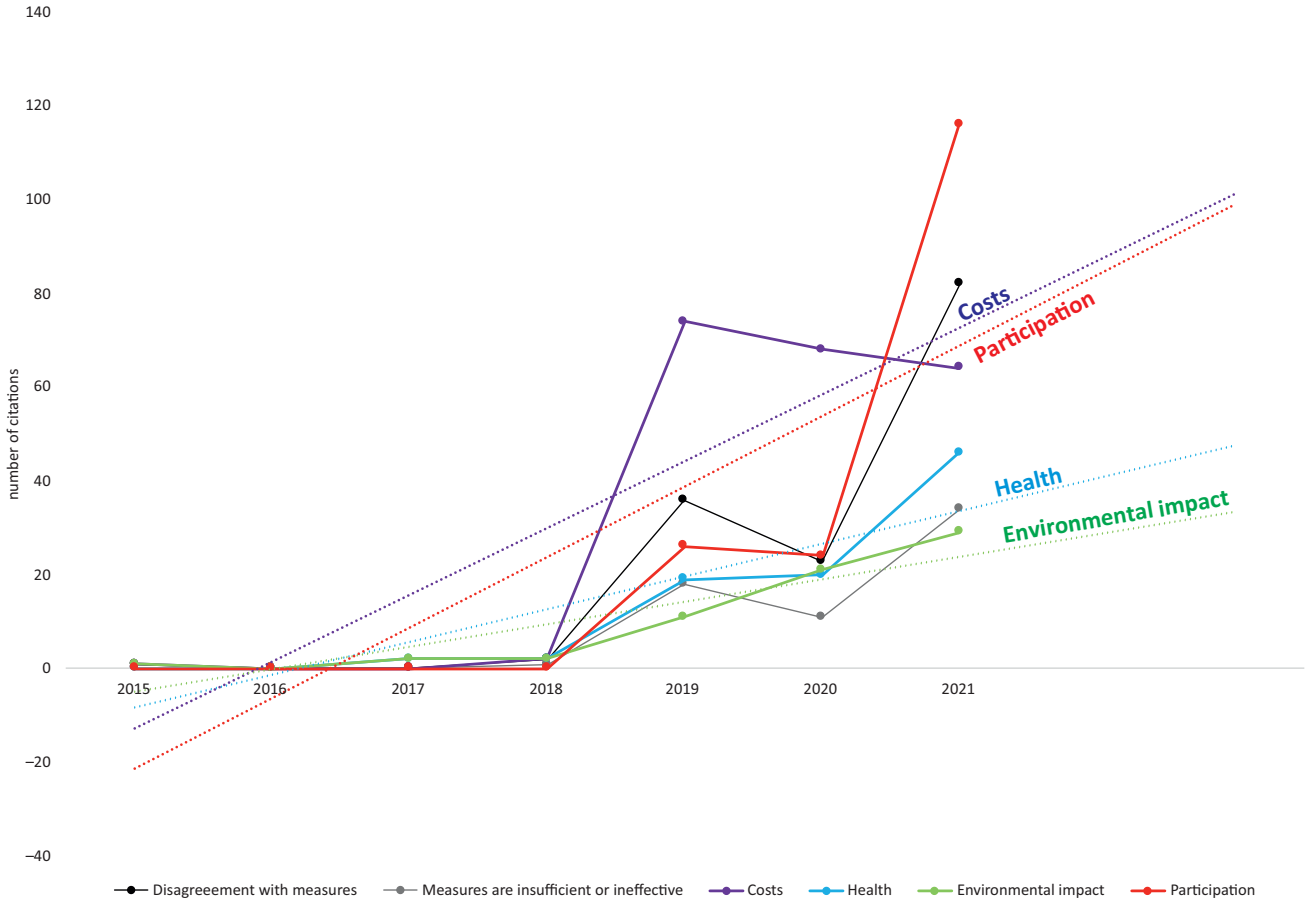

Figure 4. Main themes and trends related to disagreement or dissatisfaction with climate measures.

discussed in the media, it is striking that the discourse is dominated by a high level of abstraction and detachment from the implications of climate actions in the local context. In our sample of news articles, there is an over-representation of experts (politicians, scientists, planners, among others), who represent public interests such as the need for a sustainable economy and consumption. The discourse represents a set of values and norms for climate adaptation and mitigation, based on scientific facts. This is particularly evident in articles concerning the topic of the energy transition (Figure 5).

5. Three Themes Out of the Qualitative Analysis of Coded Citations Within the Dataset

5.1. Global vs. Local: Why Here, Why Us?

We observed a general disconnect in the public imagination between the abstract terms used by experts in public debates, highlighting biospheric and altruistic values, and the strategies for locally implementing specific climate measures:

> I understand that this measure has been taken to reduce our emissions, but why should the Netherlands with its 17 million inhabitants feel responsible to solve climate change? Because while we are all going to drive at 100 on this very small piece of earth, they continue full throttle in America and in Asia. We are too small to make a difference. (van Herk, 2019, para. 4)

Firstly, we noticed that the debate does not address questions related to "benefits and burdens" of climate mitigation measures sufficiently. Then, there seems to be difficulties in apprehending the complexity and systemic nature of climate change, and its connectedness to local action. This relates to questions on who should be held accountable. This argument often arises in reactions of protest as a: "why here, why us" question.

5.1.1. Disconnect Between Different Levels and Agencies of Planning

Secondly, we identified a disconnect in communication concerning the different levels of planning and the planning process, i.e., from national policy to regional strategy to local implementation:

> An additional disadvantage is that thirty regions in the country are each working separately on their own Regional Energy Strategy. So it is a patchwork quilt. Van den Berg: 'What you then see, for example, is that all windmills are planned on the border with

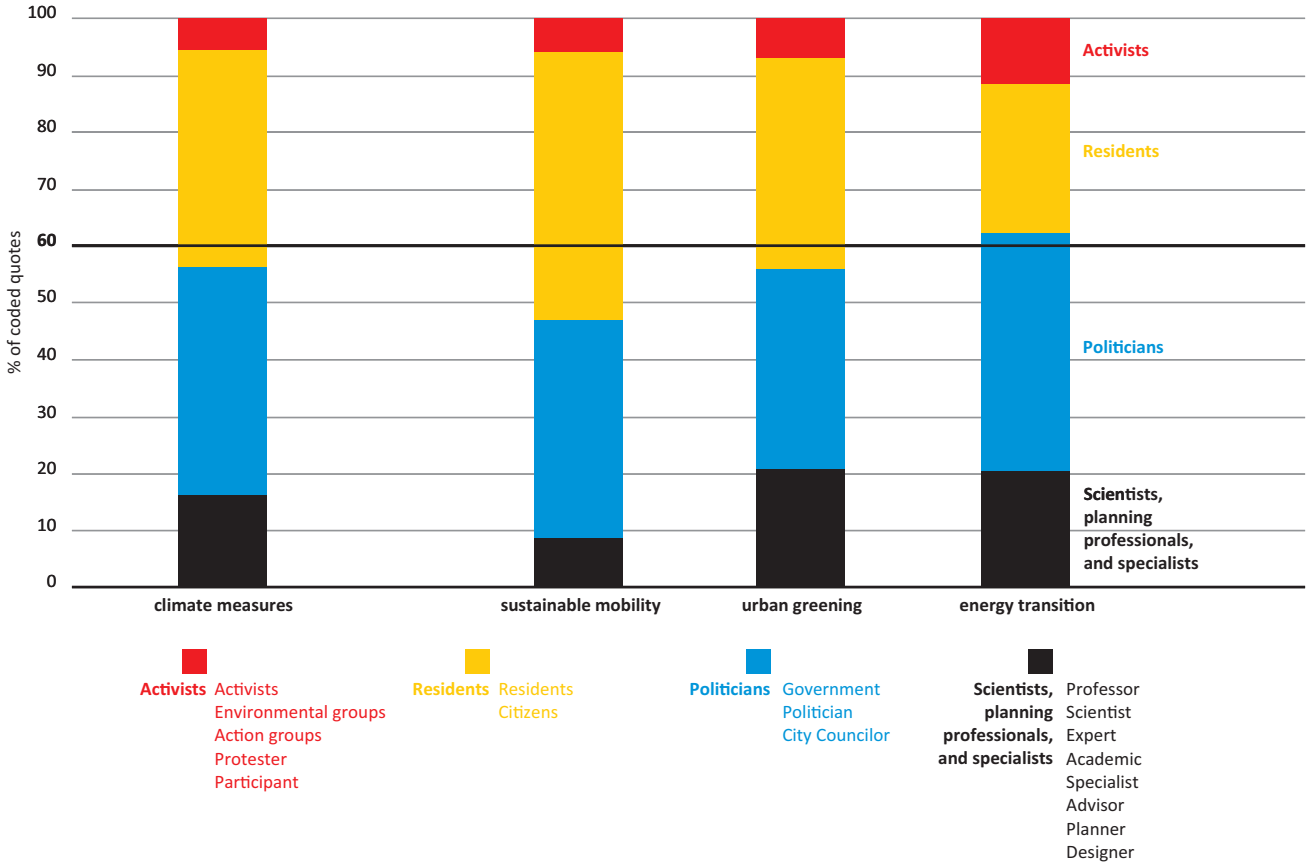

Figure 5. Most represented voices in discourse, 2015–2021.

> one other region, so that objections are only made from one side. Then you are no longer talking about a national assessment, but about a regional interpretation.' (van der Woud, 2021, para. 11)

The different phases of the planning process are not well communicated by the experts who devise the strategies, and the discourse does not give information on the significance of the planning steps and its actors. Experts follow the logics of their own organizations, and that is sometimes at odds with public expectation. In the case of the wind turbines in Amsterdam, the information on search areas resulted in local protests in the eastern area of IJburg. However, the planning document that stirred conflict was actually not meant to fix a specific location for their installation—it just declared areas with potential for wind energy. Yet, instead of opening a process of dialogue towards the further definition of the plans, the way it was communicated made residents feel that the installation of wind turbines in their environs was a *fait accompli*. This is not only a problem of communicating the process, but in the manner of communication, that emphasizes the notion that the planning process is a black box.

In the case of the green energy production by wind turbines and so-called solar meadows, such instances of resistance ultimately lead to the abandonment of plans and relocation to areas where no great resistance is expected, such as natural areas outside settlements or urban areas with less political or economic leverage. Such actions may result in an uneven distribution of burdens amongst residents and makes evident that questions of distributive justice need to be addressed in the planning of climate measures.

5.1.2. Green Is Not Idyllic

Finally, there is a problem with the communication and comprehension of the true spatial dimensions of some measures. Most climate mitigation measures concerning, e.g., the energy transition involve large infrastructure and industrial facilities:

> Wherever those windmills and solar meadows are planned, the protest against those plans is growing. Solar meadows and wind farms—however idyllic the names may sound—are not an asset to the landscape. They are in fact industrial installations, and who wants that in their backyard? (Wegman, 2021, para. 9)

Names such as "solar meadow" can give lay people false expectations about the dimensions and appearances of such installations. We argue that a mismatch between promises and expectations—and an emphasis on abstract ideas decoupled from outcome—relates also to urban design gaps when it comes to the

context-specific integration of such infrastructures in densely populated regions such as the MRA. In that regard, the question of addressing the identity of place through urban design gains great relevance.

6. Discussion and Conclusions

Our survey revealed a great disconnect in the public debate between public interest, as represented by experts and politicians, and the interests of residents. Private interests that reflect egoistic or hedonistic values play only a minor role in shaping the debate. Instead, public debate is characterized by globally legitimated arguments and recommendations presented by experts and politicians, who address climate mitigation measures as a public interest and under a set of biospheric values. "The consequences of climate change are already noticeable, with hot summers and heavy rainfall. That is why we are investing not only in measures to make the city more sustainable, but also in measures to keep the city liveable," noted Marieke van Doorninck, Amsterdam's alderwoman of Sustainability and Spatial Development ("Amsterdam schept banen," 2020, para. 2).

We also noticed a significant imbalance in value categories represented in public debate. Contributions by experts and planners are often characterized by a reductive oversimplification of the population's environmental behavior, also reflected in their use of terminology. Following the idea of "balanced reporting," public media continue to rely on experts to display knowledge and share scientific facts. Yet, our research shows that reporting on climate change in public media generally does not connect to the local communities, their concerns, and facts on the ground. Local resident groups hardly find a voice in the debate, and their individualities are amalgamated into a uniform, generic group. The most frequently mentioned addressee in the analyzed dataset is simply *mensen* ("the people"). Instead, local activists in the Amsterdam region use social media to share opinions and organize local protests. This segmentation of public debate into different media channels could make a common debate on local actions even more difficult.

When the debate on climate adaptation and mitigation focuses primarily on costs, it pits experts and politicians against the general public comprised of taxpayers and property owners. In such a debate, the expert's role is to uphold altruistic and biospheric values against potential cost and public spending increases. In contrast, the general public is reduced to defending their taxpayers' and property owners' interests associated with egoistic values. This is evident in how van Doorninck referred to economic aspects as the way to appeal for support: "Doing nothing [in terms of climate adaptation and mitigation] costs more, both in terms of quality of life and in the wallet" (van Zoelen, 2020, para. 8). In public debates, experts are often portrayed as separate from their roles as individuals and members of communities and families, and their portrayal does not consider the distribution of responsibilities among them. Additionally, this portrayal of experts pits their knowledge against that of locals.

Amongst experts, public opposition is often attributed to the NIMBY effect (Verhoeven, 2021; Wicki et al., 2022), often ignoring the potential of residents' other genuine concerns, such as a fair distribution of costs and benefits amongst residents, equal rights in public decision-making, and the impact of local projects on the identity and symbolic value of a place. Lumping everything into NIMBYism also disregards the complex balancing of value categories in individual decision-making processes, in which egoistic values are not necessarily more influential than biospheric and altruistic value categories (Perlaviciute, 2022). Research on participation has further shown that, if residents' concerns are not adequately addressed, negative emotions are likely to persist (Perlaviciute et al., 2018).

Overall, our analysis shows that the communication of measures from institutions to residents often follows the so-called decide-announce-defend model, a top-down, barely participatory method of public policy, known from the implementation of large-scale environmental measures such as energy infrastructures, flood protection, landfills, and nuclear repositories (Wolsink, 2007). The big difference between those projects and the smaller climate measures studied here is that the latter must be accommodated in, or close to, urban areas and within an existing framework of communities and diverse stakeholders. Accordingly, the organizational and administrative context of planning and implementation (which includes the planning approach, the design, and the legal framework) differs substantially from the small-scale context of urban transformation projects.

The experts in public debate on climate measures often follow the logic of an existing organizational framework, with opaque administrative processes barely transparent to the public. Policies addressing abstract goals such as the protection of nature and quality of life for future generations, the outcomes of policy implementation seem disconnected from public expectations. In that context, the public debate also shows a lack of recognition of the local "idea of place" and/or identity of inhabitants and community.

In the public discourse, we find a disconnect between different levels of planning—ranging from the European Union or the national government initiatives to regional strategies and local implementation—which puts in question the feasibility of participatory approaches. While participatory planning is to some extent already the norm in the Netherlands, processes differ very much and include various degrees of involvement. Municipalities generally consider public participation in urban planning as processes where inhabitants can inform themselves and comment on already elaborated design proposals. Processes of cooperative design or co-creation are only rarely part of the aforementioned established processes. Today, participative measures' impact on connecting to

place attachment and the identity of place is very limited. Since place attachment and identities are highly relevant for understanding climate adaptation, mitigation, and risk communication (Devine-Wright, 2013), this may help explain the unexpected emergence of opposition, specifically in Amsterdam, 2019–2021. Accordingly, in 2021 the municipality of Amsterdam experimented with a representative citizen assembly meant to give advice on ways to reduce the city's carbon footprint. While its twenty-six recommendations were highly relevant, the assembly outcomes had no binding effect on the choice of climate measures, their spatial allocation, and design (Brenninkmeijer et al., 2021; Bürgerrad, 2021).

Komendantova and Battaglini (2016) already pointed out that people nowadays long for meaningful engagement in finding solutions to minimize impact and not only be informed about outcomes. We concur with these authors' call for early engagement and transparency in the planning and implementation of climate measures despite or even because of challenges in communicating and comprehending the actual spatial dimensions of some measures. A dialogue-based communication strategy as part of a dependable participation process can help reconcile experts' positions and opinions with those of residents. Referring to Langford's idea of operationalizing values in planning processes, we would like to suggest a necessary adaptation of existing planning processes in the context of climate measures. Introducing value-based participative processes should lead to a better alignment of policy with local design projects and residents' expectations. We see potential in changing the role of experts; specifically, planners and urban designers could engage more in the participative process to foster value-based solutions on the local level.

As a result of our research, we recommend that administrations revise their communication strategies, reporting local planning and opportunities for participation through multiple media channels. Local situations and voices from the population require more emphasis. Additionally, deeply democratic forms of climate governance should be explored, facilitating grassroots and climate action "from below." As Appadurai (2001, p. 42) claims, "deep democracy" alludes to "roots, anchors, intimacy, proximity and locality," and therefore speaks about ways to bring about socio-environmental change that hold deep and true representation in the local place (Zapata Campos et al., 2021). Here, an integration of urban design methods into participation processes may help to translate technical and economic constraints into place-specific designs.

Future research could look at existing planning processes in the Netherlands and other national planning contexts to investigate how they manage or fail to connect public and private interests in climate measures. Such results would offer insights into the transferability of our findings and the types of practices that need to be incorporated in the organization of planning from an early stage on. Here, the use of social media analysis, interviews, and focus groups could offer a broader understanding on the relationship between the instruments and organization of planning processes, opportunities for participation, and the role of experts as facilitators and communicators of climate measures.

In conclusion, because of the strong link between attachment to a place, identity, and the acceptance of climate measures, future research could explore a more robust integration of urban design into the planning of local climate measures. Urban design methods hold the potential to further integrate alternative design scenarios conceptually and visually into planning, communication, and decision-making processes. In this respect, urban design, serving as a "bridge practice" between the physical characteristics of a city, socio-economic demands, and governance guidelines and regulations (Mehrotra, 2020), seems ideally suited to address the challenge of integrating climate action in cities in a way that is both socially inclusive and specific to the location.

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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Article

Designing Situated Vocabularies to Counter Social Polarizations: A Case Study of Nolo Neighbourhood, Milan

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Abstract
Many neighbourhoods are currently serving as laboratories where new methods are being explored for collaboratively redesigning cities and tackling the social, environmental, and cultural issues affecting them. These redesign processes are often supported by local communities who increasingly develop bottom-up initiatives to innovate and preserve the neighbourhood's "common goods." This is certainly the case of Nolo, an area in the city of Milan (Italy) that has recently undergone an urban regeneration process thanks to the presence of a proactive community of actors living and working in the neighbourhood. Despite effective social innovation practices enacted by part of the local community, several "voices" in Nolo—mainly belonging to marginalized communities—are still excluded from the current process of urban regeneration. This lack of attention is rather problematic for the whole community, as it is leading to increasing in rather than mitigating social polarization. To address this issue, we approached Nolo and its community through a participatory design experimentation, generating a series of collaborative platforms to enable those marginalized voices—humans as well as non-humans—to be heard, to enter into agonistic conversations with one another, and to question what they (should) all care about. What this (still ongoing) experimentation is currently showing is that to co-design collaborative platforms to counter polarization needs to be carefully balanced, negotiating between all the actors involved and acknowledging their thick entanglements to finally unravel how they radically inter-depend on one another. This kind of "ontologizing" practice is currently proving to be pivotal to counter "antagonisms" (and, therefore, mitigate social polarizations), and re-framing them in "agonistic" terms. This article reports how we operated this "ontologizing" practice in a particularly debated area of the neighbourhood by embracing the perspective of marginalized actors, encouraging them to collaborative and transformative actions for their own situated context.

Keywords
agonism; marginalized communities; participatory design; radical interdependence; situated knowledges; social polarization; urban regeneration

Issue
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1. Introduction

Many neighbourhoods across the globe are currently serving as laboratories where new methods are being explored for collaboratively re-designing cities and tackling the social, environmental, and cultural issues affecting them (Fassi & Vergani, 2022) from a community-centred perspective (Burayidi et al., 2020). Those "creative communities" (Meroni, 2007) supporting this exploration are increasingly developing initiatives to innovate and preserve the "common goods" (Marttila et al., 2014; Ostrom, 1990; Wall, 2005)—intended as resources or assets, such as streets, sidewalks, and parks, which are shared among community members—while producing

processes of inclusive and democratic, environmental, economic, and social regeneration (Fassi & Vergani, 2020; Manzini, 2019). In such neighbourhoods, this process is fueled by proactive people—those belonging to the "creative class" (Florida, 2002) or "professionals of the everyday" (Meroni, 2007) who tackle communities' issues—expressing their "voices" and proposing new initiatives for the sake of the community to which they belong. This process of "active involvement" is often triggered by the community's proactive fringe, which has easier access to sociocultural tools and resources. If this leads to the development of social innovation processes, it can also be problematic as it fails to include voices in the neighbourhood that are somehow silent or silenced (Vergani et al., 2022)—for instance, those in "under the radar" (Emilson et al., 2014) groups with a "low degree of social resilience" (Thorpe & Manzini, 2018) belonging to fragile communities (newcomers, the elderly, children, people with physical or mental disabilities), but also those of non-human agents, such as plants and animals, which tend to be completely excluded or marginalized from social innovation processes (Manzini & Tassinari, 2022).

In this framework, participatory design (PD) can play a critical role in promoting social cohesion, empowering citizens to tackle the challenges of living in urban contexts and envisioning alternatives (Smith et al., 2016). It can help to create inclusive and accessible spaces that facilitate community engagement, encouraging people to take an active role in shaping the spaces around them (Huybrechts et al., 2017). PD is often the primary approach driving this process, as it plays a fundamental role in enlarging the democratic arena (Huybrechts et al., 2017), embracing the participants' different points of view (Björgvinsson et al., 2010) while managing the divergences and complexities of those communities identified in the scale of the city by the dimension of "proximity" (Manzini, 2021). As a matter of fact, communities are places where different "voices" converge, creating a "pluralistic" (Mouffe, 2009) context in which "agonism'' (DiSalvo, 2010; DiSalvo & Lukens, 2011; Hillgren et al., 2016; Mouffe, 2000) comes into play. In this process of sharing and discussing the different points of view, PD can help to identify common "matters of care" (de la Bellacasa, 2017; Huybrechts et al., 2022b; Manzini & Tassinari, 2022), i.e., something we fundamentally all "care" about, as we recognize our own lives depend on it. de la Bellacasa's (2017) definition of care proves pivotal to the question of what may be in-between different kinds of publics—their common matters of care—without forcing them into a consensus. Care "includes everything that we do to maintain, continue and repair 'our world' so that we can live in it as well as possible" (de la Bellacasa, 2017, p. 3). However, what it explicitly means to design with "care" may prove problematic (Huybrechts et al., 2022b) as engaging situated communities in PD processes—maintaining an inclusive and ecosystemic perspective—may therefore raise some issues (von Busch & Palmås, 2023). While co-designing and co-producing more sustainable and just futures (Smith et al., 2016), it is complex to develop effective changes on a city scale (von Busch & Palmås, 2023) while also comprising the "radical interdependence" (Escobar, 2018) between all actors.

To trigger a process of transformation on a neighbourhood scale, several levels of engagement are required, ranging from bottom-up drivers promoted by local groups to top-down initiatives supported by institutional bodies (Fassi & Manzini, 2021; Fassi & Vergani, 2022). According to Tomitsch et al. (2021), within this range, a medium level of involvement can be described as "middle-out engagement," an approach that brings together representatives from bottom-up and top-down initiatives working to reach specific common goals. In this sense, local administrations often become more aware of the potential role of neighbourhood communities, developing open calls to invite citizens to develop, co-design, and co-produce new initiatives. These calls—which are often shared through digital tools—promote temporary design approaches in which "creative" (Meroni, 2007) or "project-based" (Fassi & Manzini, 2021) communities are directly involved in renewing public areas. Many of those experimentations are proving that it may be useful to form "coalitions" (Tomitsch et al., 2021) of local citizens, businesses, associations, and informal groups, as well as policymakers, institutions, and municipal bodies, to bring different perspectives into the picture.

In this framework, designers can play a fundamental role (Manzini & Rizzo, 2011), as their PD work might contribute to the simplification and integration of policies or other administrative regulations, drawing attention to specific scenarios which might spark fresh perspectives on given socio-environmental challenges (Fassi & Sedini, 2017). To do so, one needs to go beyond the solely human realm and expand the political agency we traditionally envision for PD (Binder et al., 2015; DiSalvo, 2010, p. 201) into a (cosmo)political one (Huybrechts et al., 2022b; Stengers, 1997). In design terms, this may translate into re-framing the PD approaches of "infrastructuring" (Björgvinsson et al., 2010; Ehn et al., 2014), "commoning" (Marttila et al., 2014; Seravalli, 2018; Teli et al., 2020), and "institutioning" (Foth & Turner, 2019; Huybrechts et al., 2017; Teli et al., 2020) from an "ontological perspective" (Huybrechts et al., 2022b; Willis, 2006). However, "ontologizing" PD processes (Huybrechts et al., 2022a) may prove difficult to implement. To counter PD's risk of working in an exclusionary and polarizing way, we propose here to address "agonism" from within the perspective of care, working to enable diverse publics to enter an agonistic debate, acknowledging how we inter-depend on one another. More specifically, recognizing how all human actors in a situated context inter-depend on non-human agents might help to embrace the need to preserve non-human communities (for instance, plants), and identify this as a

common matter of care binding initially polarized human publics together and enable them to act collaboratively.

The PD work addressed here describes a process of disarticulation and re-articulation of contesting points of view in Nolo (Milan, Italy), where not only human but also non-human voices have been considered. By articulating an ongoing case study, the authors are investigating PD's potential to enable more inclusive and eco-systemic processes of commoning, infrastructuring, and institutioning. This explicitly translates into developing "ontological mappings" and "collaborative platform building" (Huybrechts et al., 2022a), where the "platforms" are intended to be prompts "to bring together a diversity of actors to exchange knowledge and generate in dynamic ways a collective form of intelligence" (Huybrechts et al., 2022a) and not strictly as technological and digital urban platforms (Barns, 2020; Graham, 2020). In this sense, the tools here articulated are twofold: a *commoning tool*, in the form of ontological mapping, and an *infrastructuring tool*, a collaborative platform called Situated Vocabulary (SV) in which to converge, translate, and mediate the different situated knowledges (Haraway, 1988) coming from (ontologically) diverse communities of the same neighbourhood, thus countering antagonism (and therefore social polarizations) by prompting agonism. In addition, the article addresses a second collaborative platform we are currently using in this ontologizing process, an *institutioning and commoning tool* provided by the Municipality of Milan (called Collaborative Pact) to unpack the criticalities of Transiti Square, a small part of the Nolo neighbourhood.

By addressing the collaborative platforms of the SV and Collaborative Pact, and the ontological mapping developed thanks to the SV, this article aims to show how ontologizing the PD process might prove effective in:

- Countering polarizations of human communities in particularly critical situated contexts by embracing non-humans in the conversation;
- Prompting proactiveness in situated communities;
- Envisioning scenarios of future transformative actions to be later developed by situated communities.

2. A Literature Background on Participatory Design

As already outlined in the introduction, in the attempt to counter "antagonisms" (Mouffe, 2013) where polarizing forces are opposed to one another, PD processes sometimes tend to ultimately drive contesting opinions towards a convergence without a serious process of negotiation between the different parties, and this way often tends to oversimplify the complexity and diversity of contesting publics, cutting out what is at the fringes of the participatory process (Björgvinsson et al., 2010; Brodersen & Pedersen, 2019). When this happens, we mistake "antagonism" for "agonism" (Mouffe, 2013), whose "pluralisms" (Mouffe, 2009) keep democracy striving.

When we design without carefully balancing processes of negotiation, there is a risk of eventually promoting a culture of "consensus" rather than of "dissensus" (Mouffe, 2013; Rancière, 2015). When we do so, we miss the chance to counter social polarizations, as we underestimate the potential of dissensus to not only strengthen democracy but also to counter "antagonism" (Mouffe, 2013), and the polarizations that contribute to shaping it. This is finally where the concept of "agonism" (DiSalvo, 2010; DiSalvo & Lukens, 2011; Hillgren et al., 2016; Koskinen, 2016; Mouffe, 2000) comes into play. Mouffe's understanding of "agonism" as a "double moment of disarticulation/re-articulation" (Mouffe, 2013) points to the fact that agonistic counter-hegemonic practices might serve to question and challenge polarizing points of view—characterizing "antagonism" (Mouffe, 2013)—contesting the sedimentations of the meanings and values they underpin and bringing them into an open and dynamic confrontation by re-articulating new configurations.

From these new configurations, a reassessment of one's own points of view is always possible. This exercise of self-critique can eventually help to unmask the sedimentation of prejudices and misconceptions and therefore challenge the fundamental lack of empathy underpinning social polarizations leading to a form of "agonistic pluralism" (Mouffe, 1999), where diverse publics can listen to one another and eventually re-assess their contesting points of view, negotiating between them. If one follows Mouffe's line of reasoning, then PD interventions serving as agonistic counter-hegemonic practices have the potential to mitigate social polarization. Furthermore, if one investigates the misconceptions and sedimentations of meanings at the basis of many antagonistic points of view, one can see that there is often a lack of understanding of the complexity of the entanglements connecting diverse publics to one another. If one adds to this level of complexity the entanglements between human and non-human agents (Latour, 2018), then the entanglements between social and environmental issues also become evident. When entering an agonistic debate, the *double moment* of *disarticulation/re-articulation* of all parties involved might lead to reassessing some of these misconceptions and learning to acknowledge the relation of "radical interdependence," binding them with one another and with the other agents (not necessarily human ones). PD practices can prove pivotal there, in supporting those diverse publics to become more aware of this complexity, by mapping it and making it tangible. As argued by Brodersen and Pedersen (2019, p. 966), "in participatory design such negotiations are often carefully staged and navigated by a designer and draw attention towards the designer's ability to navigate the design process by staging, facilitating, and learning from/synthesising the results of negotiations." In other words, PD can enable and facilitate those processes of negotiation which are essential to an "agonistic" and pluralistic society (Binder

et al., 2015; Clark, 2008; Storni et al., 2015) and have the potential to counter "antagonism" (and, therefore, also social polarizations).

In this process of negotiation, PD may help identify some common "matters of care" (de la Bellacasa, 2017)—i.e., something we fundamentally all care about (de la Bellacasa, 2017)—around which to collectively assemble (Latour, 2018). However, to effectively address and preserve these "matters of care," it is essential to acquire the knowledge and skills needed to learn how to "care" (Huybrechts et al., 2022b). Yet, to learn to "care" means first to learn to recognize what needs *care*, as we interdepend from it: in other words, the entanglements which have been disrupted by anthropocentric choices, and yet are essential to our own life. What is really "in-between" (Arendt, 1958/2013; Tassinari & Staszowski, 2020) us is not just the political, but the "cosmo-political" (Stengers, 1997), the "radical interdependence" (Escobar, 2018) binding us all humans with one another, but also with non-human agents. To look for those interdependencies also means to re-assess the intimate, often mystified connection between the environmental and the social. To do so, PD needs to re-frame its politics in the light of the challenges of the Anthropocene and reconsider its political agency in terms of cosmo-politics, thus recognizing the "thick" (Tsing et al., 2020) entanglement between human and non-human agents.

When looking at "ontologizing" practices, the creation of platforms for mapping these thick entanglements in situated contexts might serve as a very real way to *ontologize infrastructuring* (the SV platform), *commoning* (the ontological mapping), and *institutioning* (the Collaborative Pact platform).

3. Methodology

Our case study is an ongoing experiment the research team POLIMI DESIS Lab developed in the urban living lab Off Campus Nolo. The living lab is hosted in the local municipal market of Nolo and is part of a wider initiative from the Politecnico di Milano, called "Polisocial," to make the university's presence in the city more tangible, providing the possibility for researchers and scholars to be more responsible, attentive to social challenges, and closer to the territory and its community. The SV is a participatory action research (Crouch & Pearce, 2012; Muratovski, 2015) that benefits from multiple co-designed sessions to collect data and produce a situated kind of knowledge to be further used in developing transformative actions for and by the local community. The research project was launched with the opening of Off Campus Nolo and aimed at understanding the complexity of the neighbourhood by gathering qualitative data through mapping "voices" and information from the different communities.

The founding idea of the project is that the SV starts as a collaborative platform in which to disarticulate and re-articulate contesting points of view, negotiating them to identify common "matters of care" (de la Bellacasa, 2017) thanks to a commoning process of "ontological mapping" (Huybrechts et al., 2022b), where the entanglements between all local stakeholders (human and more than human) start to be flashed out. The co-created SV takes the form of a physical artefact—a booklet, following the structure of a vocabulary to collect all the different meanings of the words—as well as an online podcast developed in collaboration with the neighbourhood participatory radio, managed by the local community, in which the vocabulary is translated in an oral format hosting the recorded voices of people. Both the booklet and the podcast should be considered as an "agonistic space" (Mouffe, 2007) for contesting voices, designed to also include the marginalized ones (such as children, the elderly, newcomers, and people with disabilities). The project is built around nine keywords (Public Space, Degradation, Common Good, Sense of Belonging, Memory, Fun, Commitment, Change, and Nolo) chosen by the neighbourhood during two co-design sessions conducted with part of the proactive community of Nolo (Vergani et al., 2022). Those words served as a basis for collecting those voices which had not yet been involved in the urban regeneration process. As those voices (for instance, of newcomers) are often polarized with the ones that are already part of the urban transformation process, we designed the SV platform to enable the beginning of a process of agonistic negotiation amongst them, bringing them into dialogue to map their common matters of care (and, particularly, how they all actually care for the plants in the public spaces), and demystifying the misconception that newcomers do not care for this common good.

The diverse voices included in the SV have been gathered through interviews, comments on social media, and co-design sessions with the Nolo community, but also linguists, philosophers, anthropologists, writers, artists, activists, botanists, zoologists, geologists, and microbiologists, who could, together with environmental activists and practitioners, bring in other points of view, such as those of non-human agents (Figure 1). The SV served as a basis to develop an ontological mapping, identifying the thick entanglements connecting all agents, in other words, the common "matters of care" (de la Bellacasa, 2017) binding them together, also trying to address and un-mask the polarizing misconceptions. Using tailor-made co-design sessions, each keyword of the SV addressed a specific marginalized community of Nolo. While Public Space was quite open to all the neighbourhood communities, Degradation paid specific attention to the voices of newcomers to the neighbourhood. Common Good focused on children and the points of view of non-human agents, and Sense of Belonging addressed the points of view of the elderly. All the data collected in this "ontological mapping" were later used to prompt collective actions by envisioning future "scenarios" (Carroll, 1995; Jégou & Manzini, 2008), taking this eco-systemic and social complexity into account.

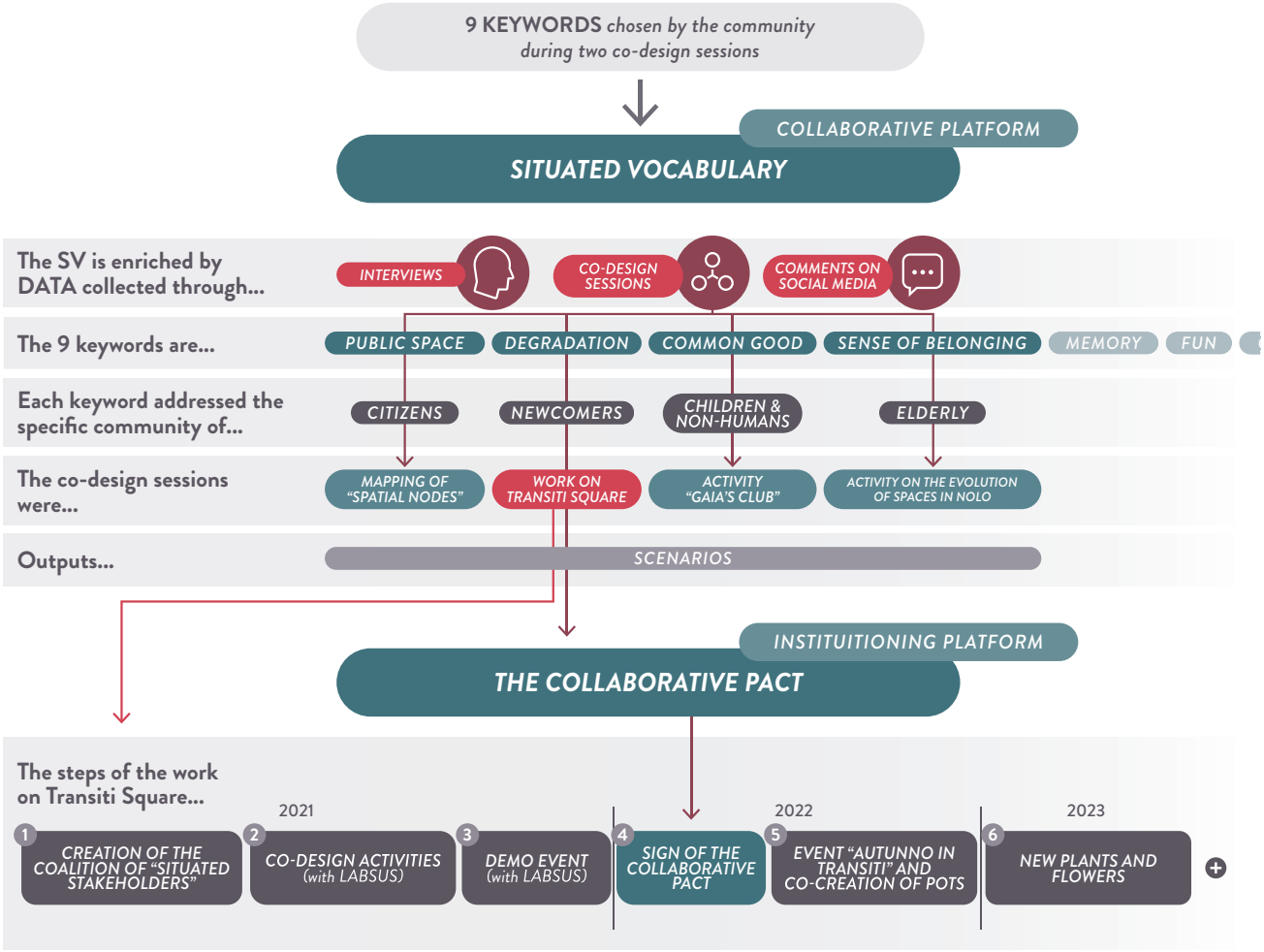

Figure 1. The methodological process for Transiti Square supported by the collaborative platforms of the SV and the Collaborative Pact.

4. The Case Study: The Situated Vocabulary

4.1. Mapping the Complexity and Fostering Agonism With the Situated Vocabulary

In the context of Nolo, we did not have to start from scratch. Many bottom-up initiatives—such as the community-managed Radio Nolo (the neighbourhood web radio from which we developed the SV podcast) or the Neighbourhood Breakfasts—were already in place (Fassi & Manzini, 2021). Also, the online Facebook group Nolo Social District (comprising more than 12,000 members) has in recent years produced a series of online and offline social innovation initiatives (Camocini & Fassi, 2017; Fassi & Manzini, 2021; Fassi & Vergani, 2022). However mainly for linguistic and socio-cultural reasons, many voices are still excluded from the initiatives launched by the local community. This lack of confrontation often translates into polarizations, where cultural minorities of new-coming communities from other contexts are seen as responsible for urban degradation processes. In the past, cultural misconceptions fostered the creation of social frictions, characterized by widespread degradation both from an environmental and social point of view. Those misconceptions, which in this context are particularly hard to get rid of, have been the starting point for our PD work. Because the context of Nolo is rather complex and diverse, it was necessary to be very cautious about how to represent those voices which are, for many different reasons, reluctant to participate (or simply cannot, as in the case of non-human agents; Huybrechts et al., 2022a). Since the opening of Off Campus Nolo, the SV has served as a compass to guide our work in the neighbourhood, defining a PD process which allowed us to know the community better and get in touch with both its visible as well as its hidden issues. Thanks to the work enacted with the first word of the SV, i.e., the one addressing the word 'Public Space, we identified the most critical "spatial nodes" (intended as neighbourhood public spaces to be redesigned; Fassi & Vergani, 2022) and started the ontological mapping of those nodes to identify common "matters of care" (de la Bellacasa, 2017; see Figure 2).

The mapping prompted by the words Public Space led us to identify a specific contested spatial node: Piazzetta Transiti (Transiti Square; Figure 3). This is a small

Figure 2. The spatial nodes identified in Nolo thanks to the co-design activity conducted at Off Campus Nolo with the neighbourhood communities.

park perceived as having been particularly degraded due to several issues, mainly focussing on marginalized communities of newcomers who are considered responsible for the process of local degradation. Over the last decade, there have been many frictions between the different local communities, which have been gradually configuring the spatial, and therefore social and environmental, assets of the space. The result of this process is that Transiti is currently a rather degraded public park surrounded by street-facing buildings and commercial activities and is quite congested during mornings and evenings mostly because of its proximity to the entrance of the subway, used by workers who commute every day. Also, the park polarizes the community between Italians and non-Italians, which misses out how some Italians are also an active part of the square's degradation process, as well as the fact that many non-Italians (such as a local association called "Para Todos," working for many years to help the community of newcomers to better integrate with the social tissue) are proactive stakeholders involved in many regenerative initiatives for the neighbourhood.

In the beginning, citizens used to gather and enjoy the park, making use of its street furniture to relax. In the last few years, the situation has slowly changed. The opening of kiosks for cheap food and drinks attracted new people to the area, transforming the square into a day and night shelter, especially for unemployed people (amongst whom were many jobless newcomers) who started to appear on the benches and sidewalks, making noise and leaving empty bottles and rubbish in the park. These behaviours annoyed many of the inhabitants around the park, who asked for the Municipality's intervention. Eventually, a high metal fence was built, converting the square into a park with strict opening and closing times, thus avoiding people gathering, especially at night. The intervention also led to the removal of the street furniture, making the park impractical not only for the "night community" (considered to be solely responsible for the degrading process) but also for those

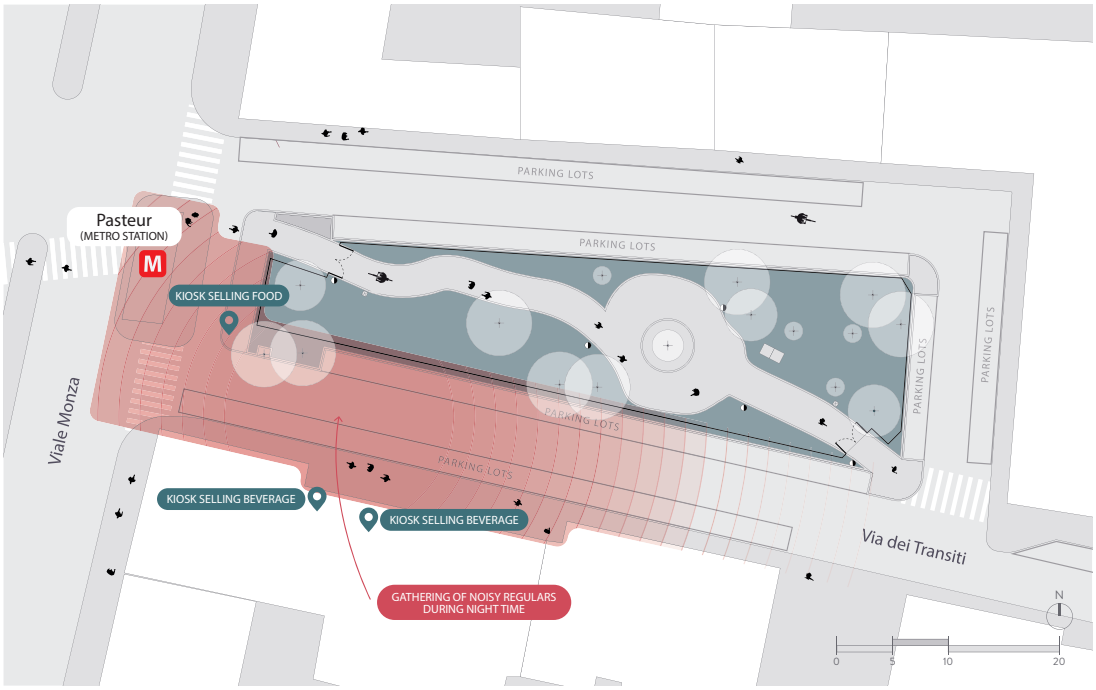

Figure 3. Transiti Square plan.

citizens—especially the elderly—who used to appropriate the space daily. This decision eventually led to the square no longer being an asset for the public, a common good, becoming instead a mere place to pass by. The square's transformation, on the one hand, satisfied part of the population, but on the other, ended up creating general discontent as it only moved the night issue outside the fence, giving the night regulars the opportunity to continue their behavior sitting on sidewalks or between parked cars. The park ended up becoming even more degraded and unsafe, attracting people from outside the neighbourhood—most of the time newcomers looking for spaces of sociality—to buy cheap drinks in the shops around the square and eventually vandalize it.

4.2. Identifying Misconceptions With the Word "Degradation" in Transiti Square

When we started working on Transiti Square we decided to use the word Degradation (the second out of nine keywords) as the main compass to guide our PD work. As previously described, the ontological mapping prompted by the SV addressing this word helped us to collect all the "voices" of the situated stakeholders around Transiti. Even if today the space seems quite desolated and currently represents a contested issue polarizing the local community into locals and newcomers, our field research enacted with the SV helped us to uncover the agonistic and, therefore, democratic potential that such a contested space might host. Transiti is indeed rich in pluralities and diversities and can be considered as a "friche" (Clément, 2016)—a residual area rich in biodiversity caused by the fragmentation of the landscape over time—as it is also a shelter for those agents (both human and non-human) that are often marginalized. Therefore, we had to be aware of this treasure without losing any of its potential.

The interviewees revealed polarizing memories of the park. Some remember it as a space where older people and families would spend time together, others as a place of micro-criminality and degradation. Some others blame the community of newcomers hanging out at the kiosks, others the homeless people frequenting the space. Parts of the community pointed their fingers at those living in the building illegally occupied in front of the square, while others addressed the social and cultural influence of the nearby arterial road with a high presence of newcomers. While there is indeed a significant number of newcomers who misuse the park and render it unsafe for kids to play, there is at the same time the Para Todos association representing a resource for countering the square's degradation, as well as the local shop owners, who are perceived as a serious part of the problem but were revealed as being interested in taking care of the square. Also, not all Italians are interested in this renovation process, as some are actually an active part of the problem. Yet, newcomers are often perceived as being a major part of the problem rather than contributing to looking for a solution and repurposing the square. This is the misconception addressed and disarticulated by the SV's work.

The ontological mapping enacted with the SV was pivotal as it led to envisioning several design scenarios—acknowledging the misuse of the square (and thus its social degradation) and connecting it to its eco-systemic degradation—aiming at improving the social and environmental conditions by bringing together the currently polarized communities (for instance, those who

wanted the fence and the newcomers who are unfairly seen as responsible for the degradation) to re-purpose the square. In more detail, we found out that the eco-systemic degradation made certain types of inappropriate use of the common good more probable and that actors who appeared polarized in the first instance, such as the neighbourhood's residents and newcomers, in fact, cared for the social and environmental situation of the square. As the initial focus on addressing social issues of the park was somehow sensitive—the risk of working only on the contested issue of the fence was rather high—we decided instead to focus first on the park's environmental issues, about which a diverse public clearly cares, so as to then engage them, in the second instance, in more sensitive social issues. These scenarios (Figure 4) were later disseminated to the neighbourhood through social networks (Facebook and Instagram) and displayed at Off Campus Nolo, and prompted us to return to Transiti after the mapping process to develop with the community a Collaborative Pact, an institutioning collaborative platform offered by the Municipality of Milan.

4.3. The Collaborative Pact

Ontologizing PD approaches implies the ability to develop collaborative platforms enabling ontological mapping when a specific context or specific publics require it (Huybrechts et al., 2022a). If SV is a platform enacted by the research team as an ontological infrastructuring tool, the platform Collaborative Pact represents for us an ontological institutioning as well as a commoning tool (Huybrechts et al., 2022a), as it serves to identify new commons by taking the eco-systemic and social entanglements into account and to find new ways to enable collaboration with institutions based on this acknowledgement.

The Collaborative Pacts are tools provided by the Municipality for the implementation of the shared administration of common goods through which one or more active citizens and public bodies define the terms of the collaboration for the care of both tangible as well as immaterial common goods. The pact gives the signatories the permission to act and take care of a specific space, carrying out initiatives and projects that would normally require longer bureaucratic times to be processed. This is thanks to the more direct relations with the municipal administrations, which are also signatories, that directly coordinate the bureaucracy of certain requests. Furthermore, some specific stakeholders (e.g., external supporters) may also provide resources and materials (in our case, plants and wooden containers) to be used for the co-imagined activities. However, Collaborative Pacts are not timeless, as their timeframe usually lasts between six months and three years. In this span of time, the signatories temporarily "adopt" the public space, envisioning and co-producing activities to be put in place with the aim of transforming (or reframing) the "spatial node" as an active common good. Therefore, the collective's commitment is essential and formal, as the co-envisioned actions must be completed in a limited amount of time. Once the pact is over, the common good returns to the Municipality's hands.

Figure 4. Several visual scenarios (made of collages) developed in the framework of the SV from the work on Degradation; from the top left: "Neighbourhood Collective," "Model Nolo," "Green Thread," and "Collaborative Pacts."

In PD practices with such a rich pool of agents, it is difficult to balance the complexity of institutioning processes (Huybrechts et al., 2017). Working with situated communities in public urban spaces on a neighbourhood scale means struggling with intricacies due to local policies limiting the actions of the stakeholders involved. Acting in the framework of Nolo helped us to reinforce our knowledge about those tools given by the Municipality to promote new institutioning and commoning practices (Huybrechts et al., 2017; Teli et al., 2020), paving the way for the creation of a specific group of situated stakeholders enriched by the collaboration of institutions and other political bodies. The involvement of those diverse actors took shape throughout a PD process in which we (co)designed and (co)produced local events, meant to generate a dialogue between key institutional actors, both on a micro scale (the neighbourhood), as well as on a meso scale (the city). The last of these events was the formalization of the new collective working to collaboratively take care of the square, where all the actors involved signed the Collaborative Pact. The new coalition formed by the actual signatories in Nolo, including different types of stakeholders such as inhabitants, associations, informal groups, and the Municipality (see the Acknowledgments section) also includes "representatives" (Latour, 2018) of non-human voices (activists and experts), reinforcing our will to be as open as possible in merging in the PD work social and environmental justice issues.

With the coalition, we continued our ontologizing process unpacking all those polarizing points of view directly in the field and organizing weekly meetings in the square to discuss the different ideas. Being physically present in Transiti helped us to prove that something was changing, and attracted citizens to freely express their own opinions about the space. In the loop of this re-iterative process of negotiation, and by comprising diverse actions in the field, we were able to facilitate the process of disarticulation of some of the polarizing points of view, fostering the development of a real agonistic discussion where all the stakeholders involved were able to democratically express their opinions. Some moments of friction in the process were registered, especially due to some stakeholders feeling that the hidden agenda behind the pact was to dismantle the presence of the metal fence. The process of negotiation proved to be particularly hard, and therefore it was pivotal for us to shift the focus of the discussion from the fence (a social issue) to possible actions to be done collectively to green the space (an environmental issue), intertwining discussions with actions. Here the environmental issues represented a Trojan horse for us to address the social ones avoiding ending up feeding polarizations that only focused on the fence.

The events we organized all aimed at providing the community with the possibility to work together, testing some activities, and experiencing the place in a different way, bringing the square back for a day to its main purpose—being a common good—and not as a mere space of passage (Figure 5). One of those events started with the cleaning of the park and saw citizens actively collaborate in taking care of the space by removing bottles, cans, and other rubbish thrown over the gate by regular night visitors. After the collaborative cleaning of the

Figure 5. Some of the events organized in Transiti Square; from the top left, a co-design session for the Pact, a summer event for children, a collection of ideas for the future of the square, and the cleaning of the park.

square, we organised two parallel activities. The first consisted of the co-construction of a *piñata* (built with the help of the community coming from South America, who were a section of the newcomers identified by the inhabitants as those having brought degradation to Transiti) with children from the neighbourhood. The second activity saw the situated stakeholders involving passers-by and curious citizens in creating a billboard to trace other ideas for the facilities to be designed and implemented in the square.

All these events, which take place throughout the year, are currently mitigating the polarizations not only in the square but also between single individuals of the pact, fostering the development of a shared, yet rich in pluralities, process to care about the place. However, while on the one hand, the community was revitalized thanks to the Pact and initially polarized social groups and individuals are now working together to take collaborative care of the square and its plants, on the other hand, the issue of night regulars is still yet to be tackled. Further processes of negotiations are required in which local associations like Para Todos and shop owners can play a significant role.

5. Conclusions

It is particularly difficult to evaluate currently active projects. And yet, what we have witnessed until now is that the PD work enacted with the two platforms has enabled us to map the complexity of this situated context, unpack and focus on specific issues affecting the community, and partially disarticulate the polarization by re-articulating the discussion towards a common goal. While the first step helped us to scratch the surface, bringing to light the antagonism present within the community and allowing an ontological mapping of both the community around the spatial node and the topic of the degradation in the area, the second was successful in re-packing, maintaining, and protecting the plurality of points of view, addressing them towards a productive flow that merged into the platform of the Pact. We noticed that action is fundamental in the processes of disarticulation and re-articulation from antagonism to agonism. We have clearly seen how remaining stuck in conversations continued to generate polarization while the actions triggered by the Pact helped to mitigate the discussions related to both cultural misconception and the metal fence, leading the stakeholders involved to feel more like a community. Moreover, we understood how drawing on matters of care identified in the non-human part of the neighbourhood community (plants and the greenery in Transiti) helped to develop a process to overcome antagonism and polarization.

The Collaborative Pact allowed a high fluidity of action for the stakeholders involved, who are free to enter and exit from the commitment and aggregate in different forms and purposes for the sake of the common goal. What we have realized so far is that to "ontologize" our PD process—(co)creating platforms designed as agonistic spaces from which to collaboratively map "radical interdependencies" and envision regenerative futures from this awareness—is currently helping us to better engage with the local community and address its complexity, confronting matters of exclusion and countering easy polarizations between members of the community, but also between social and environmental issues. In this sense, the experience has effectively triggered a democratic discourse, addressing criticism and polarizations into a process that, until today, struggled to be formalized as it ran aground on the issues (the metal fence and degradation) without focusing on the actions. However, there are still considerable critical issues that are emerging in the process. The group has not yet been able to fully integrate part of the community of newcomers who generated the degradation in Transiti. If, on the one hand, the community of newcomers is represented within the pool of the stakeholders, on the other, we see that this cultural misconception has shifted from a "locals/non-locals'' polarization to a collective action against those fringes of noisy newcomers and locals (those hanging out at the kiosks in the evenings). Unfortunately, the night regulars still perpetuate their actions outside the park, disturbing both inhabitants and passers-by. More PD work is needed here, to re-address the issue through new participatory actions. However, there are limits to what one can reach by means of PD actions. Here, institutioning practices and political bodies must also come into place in a more substantial way, taking some infrastructural decisions that might more significantly help to mitigate those phenomena, and helping grassroots initiatives that struggle alone to face such a deep-rooted social problem. In this sense, the benefits prompted by the Collaborative Pact might help the same institutions to be more present in the field and take braver actions strongly desired by the community of citizens aggregated in these forms of coalitions, such as the removal of the fence.

What we are currently experiencing is that to counter polarization we needed to stay in the situation, understand and engage with the context, learn from it, taking the time to (co)create agonistic platforms of contesting publics: polyphonic, "situated" (Haraway, 1988) communities where "consensus" is not the aim, but rather the agonistic and open-ended process of recognition of common matters of which to care about, as they interest all the actors involved, beyond previous misconceptions and crystallized opinions that might have led in the past (and might still lead) to polarizations. In these kinds of agonistic processes, new commons have been identified (Custers et al., 2020; Seravalli et al., 2015), and new, more transversal kinds of local collaborations have arisen to better address them (Akama et al., 2020). We are aware that issues of power and perspectives are still in play and this needs to be further problematized, particularly when it comes to the point of representing/translating some of those voices in the PD process

(Huybrechts et al., 2022b; Spivak, 2021). This is helping us somewhat to reassess our role as designers in the PD process and better engage with its fallibility. Besides, it is also helping us to protect the agonistic space we created, keeping the differences rather than forcing different voices into a convergence, a common language where in the end nobody is truly represented. We can only start to unpack, even if in a fallible and inconclusive way, the complexity of those relationships by identifying where we need to *care* for them, re-generating them, restoring them, re-framing them; and yet, we need to recognize that this exercise needs to be envisioned in an open-ended, fallible way (Huybrechts et al., 2022b).

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Strengthening Urban Labs' Democratic Aspirations: Nurturing a Listening Capacity to Engage With the Politics of Social Learning

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Abstract
Urban labs are arenas for fostering urban sustainable transitions, where different actors experiment and learn together how to create inclusive and sustainable cities. A key aspect of these processes is social learning, which is the collaborative learning process through which new understandings and practices emerge from the activities of urban labs. Social learning also includes the process through which these understandings and practices are further anchored and can transform the organizations participating in urban labs. Social learning is seen as key to tackling polarization and creating transformational capacity at different levels. This article explores how social learning can strengthen urban labs' democratic ambitions. Building on the insights emerging from a collaborative learning process with civil servants within an urban lab, it highlights the need for ensuring plurality and challenging privilege in social learning. It also emphasizes the importance of nurturing a listening capacity within urban labs and municipal organizations.

Keywords
listening capacity; pluralism; privilege; social learning; sustainable city planning; sustainable development; urban labs

Issue
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1. Introduction

In the European context, cities are increasingly exploring and driving sustainable transitions (Eales et al., 2021) and striving—in line with UN SDG no. 11—to develop cities that are inclusive, safe, resilient, and sustainable (UN, n.d.).

Currently, a key approach to promote urban sustainability transitions is that of urban labs. Grounded in transition management (Köhler et al., 2019; Markard et al., 2012), urban labs come with different names (urban labs, urban living labs, innovation platforms, etc.) but share the same nature; they are arenas that engage different local actors in exploring and learning together how to create sustainable cities (Schöll et al., 2017). Social learning is the process through which urban labs' participants collaboratively learn from joint experiences (Bos et al., 2013). Social learning allows for addressing possible conflicts among different interests about sustainable transformations by engaging participants in exploring and learning by bringing together their knowledge and perspectives (Pahl-Wostl, 2007). The notion of social learning also includes the process through which urban labs' findings and learnings are further anchored in different organizations to create changes in their ways of working (Forrest & Wiek, 2014). Social learning is recognized as key to fostering transformative capacity (Castán Broto et al., 2019) and several efforts have been made towards articulating its nature. Some have focused on articulating learning within urban labs activities (Beukers & Bertolini, 2021; Van Poeck et al., 2020), while others have looked at organizational learning (Luederitz et al., 2017; Seravalli, 2021), the process through which urban labs outcomes are further anchored in participating organizations. A less explored question is the relationship between social learning and democratic concerns related to urban labs. Despite their participatory nature and democratic ambitions, urban labs often struggle to generate public value and tend to respond to the interests of a few actors (Eneqvist et al., 2022).

This article explores how social learning can enhance urban labs' democratic aspirations. Firstly, it articulates the political nature of social learning, then it provides some insights on how to understand and organize social learning as a democratic effort. It does so by building on the theoretical relationship between social learning and participation and by reflecting on the insights emerging from a collaborative reflective process within a Swedish urban lab that engaged civil servants working with participatory processes in city planning and development. The intertwining of theoretical and practical insights points to the need to sustain plurality while challenging privileged knowledge regimes and fostering a listening capacity within urban labs and municipal organizations.

2. Social Learning for Sustainable City Development

This section overviews the idea of social learning as discussed in sustainable transition studies. Then, it focuses on the political dimension of social learning and its importance for urban labs.

2.1. In Between Experiential and Organizational Learning

Social learning represents a cornerstone within sustainable transition studies (Bos et al., 2013). Sustainability is recognized as a complex problem that requires ongoing collective learning and adaptation to be tackled (Pahl-Wostl, 2007). Social learning is also seen as key to fostering changes among people and organizations, nurturing collective intelligence and shaping better governance (Van Poeck et al., 2020).

When it comes to urban labs, two kinds of social learning have been identified. The first one is the learning that happens within urban labs activities, which is about collaboratively evaluating joint experiences out from participants' different knowledge and perspectives (Beukers & Bertolini, 2021; Van Poeck et al., 2020). To articulate this kind of learning, pragmatist theory (Dewey in Rodgers, 2002) and experiential learning theory (Kolb, 1984) have been used. Reflecting in and on experience allows the correction of errors using established rules and procedures, but also the revision of existing rules and procedures if they do not fit new challenges. This is done by engaging with the core values, purposes, and principles that guide current ways of doing and thinking about the issue at hand (Argyris & Schön, 1974).

The second kind of learning is about the spreading of urban labs results and insights to organizations, namely organizational learning (Luederitz et al., 2017; Seravalli, 2021). The concept of organizational learning is entangled with the idea of organizational change. It involves creating opportunities within organizations for people to learn and to act upon that learning by using new insights and understandings to improve ways of working and organizational structures (Senge, 1990). This form of learning is often resisted as it challenges not only structures and routines, but also existing mindsets and power relationships in an organization (Argyris & Schön, 1974). Organizational learning is key to transferring the outcomes of urban labs and for transforming municipal organizations as well as governance modes toward the creation of sustainable and just cities (Schöll et al., 2017).

2.2. The Politics of Social Learning

Sustainable transition studies frame social learning as a matter of shifting mindsets and practices to achieve sustainability (Bos et al., 2013; Pahl-Wostl, 2007). When it comes to its political dimension, social learning is seen as an opportunity to deal with the possible controversies that might emerge around sustainable transformations that, if not carefully handled, can lead to destructive polarizations (Collins & Ison, 2009; Pahl-Wostl, 2007). Schöll et al. (2017) have recognized the importance of including marginalized actors in urban labs to strengthen their democratic legitimacy and capacity to generate public value. Castán Broto et al. (2019) observed how urban labs displaying a high degree of social learning considered inclusive forms of urban governance and deliberately tried to empower communities. However, they also noted that only a few urban labs are working proactively with social learning. Furthermore, Eneqvist et al. (2022) have been highlighting how, in urban labs, the participation of different actors does not necessarily entail more democratic processes, and there is a risk for urban labs to become instrumental in the pursuit of specific interests rather than the public good. Moreover, transition studies are approaching social learning mostly as a rational process (Beukers & Bertolini, 2021; Luederitz et al., 2017; Van Poeck et al., 2020) and little attention is given to how different interests are at play in and shape learning processes. Flyvbjerg (1998) captured how specific rationalities, and thus knowledge, are shaped in city planning and development to serve the interests of certain actors and to reproduce existing power relationships in the urban context. Overall, this calls for a careful engagement with the politics of social learning.

3. Unpacking the Politics of Social Learning in Urban Labs

To articulate the politics of social learning, this article relies on the relationship between social learning and participation. On one side, the collaborative and collective nature of social learning (Bos et al., 2013; Pahl-Wostl, 2007) makes it a participatory process that combines exploration and deliberation by bringing together different knowledge and perspectives (Pahl-Wostl, 2007). On the other hand, within urban planning, there is an increased understanding of participation not as a deliberative process, but rather as a process that is about gathering different perspectives and knowledge to learn about how to handle the complexity of contemporary urban development (De Blust et al., 2019). Thus, in social

learning processes, a key concern is not only "who is deciding" (Arnstein, 1969), but how understandings are created and, for example, what kind of knowledge (and thus interests) are given priority in the process (Collins & Ison, 2006, 2009). Additionally, social learning engages with existing structures and procedures within organizations (Seravalli, 2021) that are shaped by underlying views and rationalities that are difficult not only to change but even just to expose (Argyris & Schön, 1974).

3.1. Fostering and Maintaining Plurality While Questioning Privilege

The notion of "unpacking participation" has been introduced by Cornwall (2008) as she recognized how the traditional way of framing citizens as a homogeneous group (Arnstein, 1969) was challenged in practical work with participation. She highlights, for example, how the intersection of ethnicity and class among citizens determines a plurality of interests and different capacity for participation. As a consequence, certain citizens might be more aligned with authorities' representatives than with other citizens (Cornwall, 2008). Thus, urban labs need to pay attention not only to the engagement of different actors (Schöll et al., 2017), but also to what perspectives are present and which are absent in their social learning processes. It is also crucial to follow how plurality is maintained or dismissed along the processes. Democratic achievements of participatory processes depend not only on who is invited but also on the dynamics that emerge among participants engaged in the process and on how processes' outcomes are further integrated into ordinary activities (Palmås & Von Busch, 2015). As a consequence, the involvement and valuing of plurality in social learning processes does not automatically entail that marginal/marginalized perspectives influence the development of shared understandings. It is key to recognize the role of taken-for-granted perspectives and specific actors' interests in shaping single processes and formal structures and thus limiting the possibility for plurality to be maintained. This demands a careful engagement with the way that established views, structures, and practices are challenged or reproduced in social learning, recognizing how striving towards plurality cannot be separate from undoing privilege (Pease, 2010), i.e., the systematic questioning of taken for granted ideas, ways of working and positions about and around the issue at stake.

3.2. Beyond "Having a Say": A Listening Capacity for Social Learning

Maintaining plurality in urban labs is not just a matter of providing marginal/marginalized voices with the opportunity to "have a say" (Schöll et al., 2017); it is also vital for these voices to be "heard." This highlights the importance of listening in social learning processes, which can be defined as a political act that gives attention to voices and perspectives that might be marginalized (Coles, 2004), and that fosters deep engagement among radically different perspectives (Bickford, 1996). Listening has already been recognized as a key capacity for engaging with tacit knowledge in participatory city planning and development (Moore & Elliott, 2016). It is a capacity that is determined both by individuals' skills and attitudes, as well as by organizational structures and routines (Moore & Elliott, 2016). Here, I suggest that a listening capacity can also enhance urban labs' democratic foundation, by fostering learning from diversity among urban lab participants and within municipal organizations. This kind of learning also requires unlearning (Visser, 2017), which is the ability to recognize and question taken-for-granted knowledge regimes and rationalities, and the way they shape urban labs' processes as well as municipal ordinary activities. The aim would be not only to make space for different views but to question power dynamics that regulate positions of marginality and privilege (Pease, 2010) in city planning and development, in order to ensure that plurality is maintained.

4. Method: A Collaborative Learning Process Within an Urban Lab

The practical insights presented in this article were developed as part of an urban lab promoted by the city of K (the name of the city is fictious to ensure the informants' anonymity), which included the Planning Department, the Environmental Department, and the Buildings and Streets Departments of the City. This was The Innovation Arena (TIA). The lab focused on driving several planning efforts in the city by experimenting with new ways of working, with a particular focus on citizens' participation.

In the frame of TIA, together with a civil servant, I ran an initiative to enhance social learning about TIA's participatory planning processes. This was the Forum for Citizens' Involvement (FCI). We involved people working in TIA and colleagues from different departments. Similar to the format used by De Blust et al. (2022), FCI consisted of regular meetings among civil servants to share experiences, collaboratively reflect on single processes and their challenges, and analyze the organizational settings in which they were operating. We decided to involve only civil servants on an operative level, as we wanted to create a safe space for them to support learning and unlearning (Visser, 2017) about their practice and the role of organizational aspects (Argyris & Schön, 1974) in shaping opportunities and hindrances for participation in planning processes.

Each meeting was about two hours long and started with a presentation, given by us (the civil servant and I) or one of the participants, delineating a case or issue to discuss and reflect upon. This was followed by a series of exercises aimed at fostering collaborative reflection. We applied traditional participatory design approaches (Brandt et al., 2012), combining exercises where people talked with exercises where people could draw and

work with different materials (particularly, collaborative mappings and visualizations) to allow them to engage with and express both their explicit and tacit knowledge (Brandt et al., 2012; see Figure 1). In each meeting, we also ensured a mix of exercises. In some of them, participants could think on their own to formulate their own position; in others, participants discussed in small groups different positions and experiences to develop shared formulations and understandings. There were also plenary sessions where they shared the small groups' insights and identified common themes and differences.

Data were collected in two ways. During all sessions, participants were asked to summarize personal reflections and group discussions with short sentences, often prompted by specific questions that the project secretary and I formulated beforehand. At the same time, the civil servant and I were also documenting the small group sessions and the plenary sessions by listening and taking notes.

In between one meeting and the next one, the civil servant and I analyzed the materials produced by the participants and the notes we took during each session. We used an "analysis on the wall" method (Sanders & Stappers, 2012) where we engaged our different perspectives (that of a participatory design researcher and a civil servant) to cluster and connect data, identify insights, and name emerging themes (Figure 2). During these sessions, we also jointly reflected on the emerging themes and tried to formulate some preliminary conclusions. The outcomes were short written reports summarizing the main insights emerging from each session as well as our joint reflections. These reports were shared with participants and discussed (and in case adjusted) at the beginning of the following meeting. The data used in this paper are the insights and reflections from the written reports.

A limitation of the method is related to the involved people. All FCI participants were interested and passionate about questions of participation in city planning and development and, therefore, their understandings and position cannot be considered as representative of their departments.

5. Case: The Forum for Citizens' Involvement

TIA was the third iteration of an urban lab in the city of K. TIA was managed by the environmental department and focused on developing approaches for sustainable city planning and development. TIA was financed through a mix of internal funding and funding coming from an EU structural funds project and a national project financed by the Swedish Innovation Agency. The city of K has a strong tradition of addressing climate adaptation and ecological sustainability in city planning and development. In the last years, there has been also a growing focus on how to tackle problems related to segregation

Figure 1. One of the templates we used for the individual exercises.

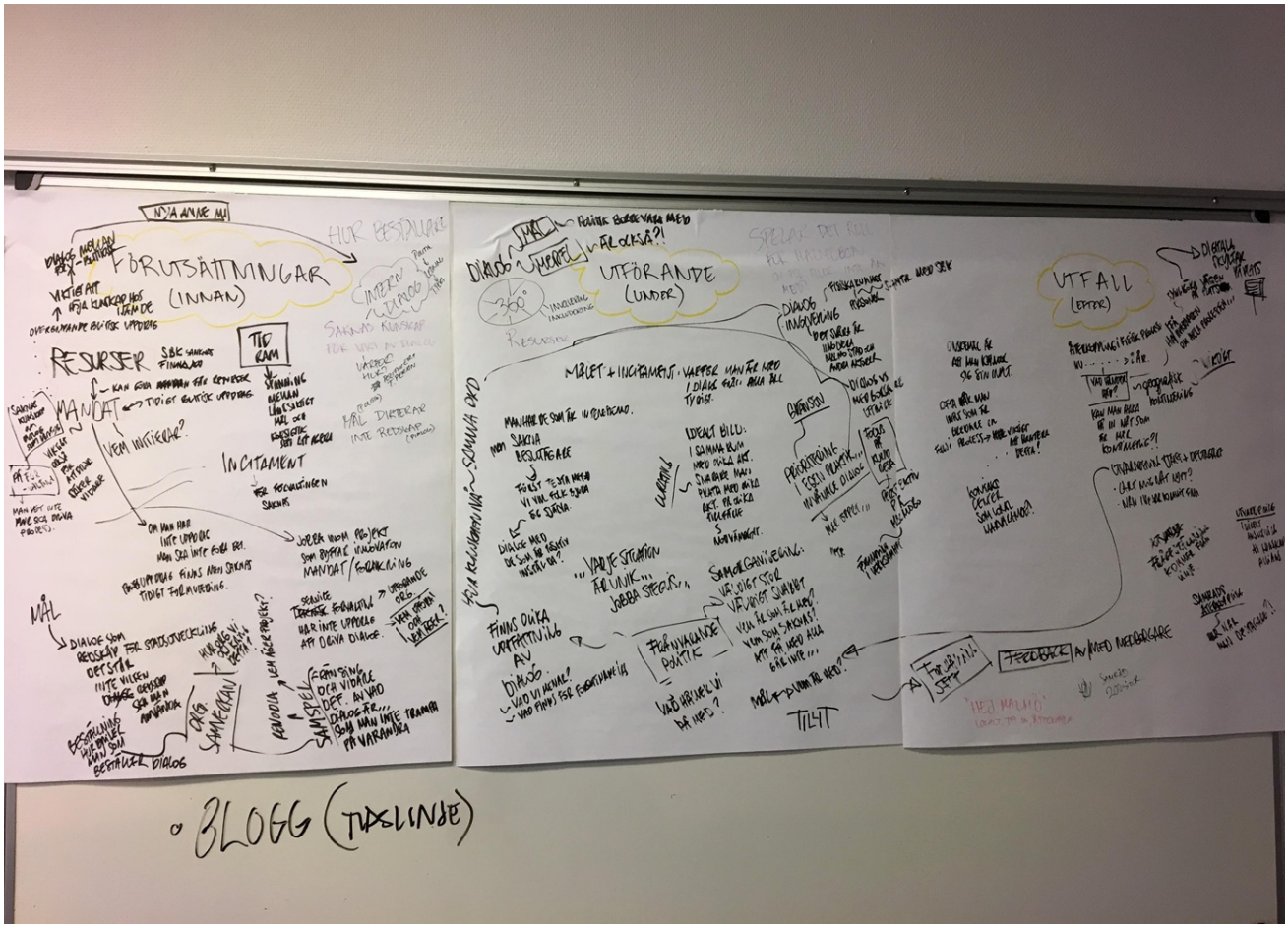

Figure 2. The "analysis on the wall" of one of the meetings.

and social inequalities. The first two iterations of the urban lab focused on the question of how to plan for sustainable and inclusive cities. They raised the need for better anchoring the urban lab's efforts within different departments' ordinary activities to support the spreading of their outcomes. Thus, in the planning of TIA, it was decided to dedicate a full project activity to learning with the aim of not only supporting learning within processes, i.e., experiential learning (Beukers & Bertolini, 2021; Van Poeck et al., 2020), but also fostering new ways of working within ordinary activities, i.e., organizational learning (Luederitz et al., 2017; Seravalli, 2021). Given my profile as a participatory design researcher, I took the responsibility for conducting a learning process about citizens' participation, in collaboration with TIA project secretary. This was how the FCI came to be. We framed it as a collaborative learning initiative focusing on supporting learning within single planning processes in TIA (experiential learning), between these processes and ordinary activities (organizational learning), and on identifying opportunities and hindrances for organizational learning within ordinary activities.

FCI ran between November 2018 and June 2019 and consisted of seven meetings gathering between 30 to 35 civil servants from the Environmental Department, the Planning Department, the Buildings and Streets Department, the Service Department, and the Central City Office. All the participants came voluntarily, and they were all working with and being passionate about participation.

The last meeting took place right before the summer of 2019. There were plans to continue in the autumn by trying to involve both politicians and managers from the departments engaged with city planning and development to discuss how to organize long-term participatory work across departments. However, because of a lack of personnel (many people in TIA's leading team quit their position, among them, the project secretary; the reasons were the difficulties in anchoring TIA outcomes within ordinary activities), the leading group of TIA decided to stop FCI and rather focus on the deliverables demanded by the external financing bodies. I used the input gathered in FCI to formulate a report about methods for citizens' participation that focused on the importance of organizational aspects for participatory processes.

Table 1 provides a summary of the focus of each meeting and the main findings that emerged. The single insights are categorized as they relate to the different themes developed in the analysis: (a) participation as social learning; (b) political aspects related to planning and social learning; (c) the listening capacity, opportunities, and challenges related to it.

Table 1. Description of each FCI meeting and its main insights.

Meeting focus	Insights related to single planning processes	Insights related to organizational aspects
1. Case: River Park, the planning of a new neighborhood with a focus on sustainability and sharing economy. The case was presented by the civil servant who was part of the communication group that included civil servants and building companies and had the task to involve citizens in the shaping of the area. Particularly, the presenter raised the tensions that emerged in this process between the economic interests of the building companies and public interests.	Citizens' participation is about establishing learning between citizens, civil servants, politicians, and other actors (a) There should be a special focus on supporting learning between citizens and politicians (a, b) The importance of moving from temporal and short-term processes to long-term permanent dialogue and learning (c) Besides having dialogues with citizens, it is important to work with small-scale experimentations to provide quick feedback to citizens. This might also allow for an organic development of an area, so when people move in, they can influence the process (a) Is it possible to design a city "for all"? Or rather, is it better to ensure that the interests of groups that are often forgotten (e.g., children) are given priority in planning processes? (b)	Different departments have different pre-conditions for driving participation. They have different resources and different relationships with citizens, politicians, and other actors (for example, the planning department has to ensure that every planning processes include participatory/dialogue sessions with interested actors; the streets and buildings department has a much closer relationship with politicians than other departments) (c) There are general rules in the city about how to conduct communication activities. These rules can be a hindrance to developing learning in participatory processes because they don't allow to adapt the style of communication in relation to the involved groups of citizens (c)
2. Own practice. Participants were invited to discuss and reflect on their own way of working with citizens' participation.	The importance of having a repertoire of methods and tools but also a particular sensibility to choose and adapt the method to the situation (c) It is important to distinguish between self-evaluation (i.e., self-reflection) and evaluation (i.e., a systematic way to evaluate participatory processes) (a) In talking about evaluation of and learning within the process, it is important to be aware of what knowledge and perspectives are given priority (a, b)	Participation is a 360° process. There is a need to focus also on involvement within one's own organization (managers, colleagues, and politicians) to ensure that processes' outcomes and learnings are appropriated (a) The departments lack internal routines for systematically evaluating citizens' participation efforts (c) It is important that civil servants make visible to politicians the compromises that are made in planning processes to accommodate the economic interests of property owners and building companies (b)
3. Organizational learning and challenges: The meeting included civil servants and researchers working in another Swedish city with participatory planning processes. They presented their cases and then there was a discussion about organizational aspects related to participation.	The need for managing conflicts between expert/professional knowledge and citizens/users' knowledge (a,b) How to make space for different forms of knowledge in planning processes? (a)	The difficulty of integrating tacit and experiential knowledge in bureaucratic processes (a, c) How to create an organization that can systematically listen? For example, how it might be possible to use input from city services that have daily contact with citizens (e.g., schools or libraries) in planning processes? (c) How to combine expert and local knowledge? Could it be possible to have a planning process run by local citizens and actors with the participation of city planners? (b, c)

Table 1. (Cont.) Description of each FCI meeting and its main insights.

Meeting focus	Insights related to single planning processes	Insights related to organizational aspects
4. Case: Reconversion of a former industrial area. The area was a former railway deposit (owned by a private company) that was hosting cultural actors and creative companies. Because of its central location, the city wanted to reconvert it into a residential area. The presenters were the planners involved in the process that tried to establish a fair and long-term collaboration between the landlord and the current tenants with the goal of ensuring that the old industrial buildings were not demolished and that the current tenants could have a future in the area.	The importance of involving property owners to ensure that participation efforts and their outcomes are integrated into both planning and development processes (a, c) How to move from short-term interventions to a long-term collaboration between different actors? (c) How to ensure a fair relationship between the property owners and current tenants? Could long-term contracts that clarify and regulate their relationship be a possible solution? (b)	The city lacks internal routines, structures, and resources to engage in long-term local collaborations about city planning and development (c)
5. Participation in projects vs. participation in ordinary activities. The session was based on a dialogue between two civil servants. The first one had been working with citizens' participation in many planning and development projects. The second one had been working with participation in a specific neighborhood for several years as part of their ordinary tasks.	The importance of starting from "a not-knowing position" (c) It is important to build trust with citizens, but it takes time (c) If one has time and mandate to work locally in an area, one does not need so many resources to create a long-term citizens' dialogue (c) A long-term engagement in an area gives the opportunity to develop a more nuanced understanding of different citizens' perspectives and interests (b, c) Being a good facilitator is not so much about methods. It is more important to focus on mindsets. One needs to be able to integrate theory and practice (c) There is a need to move beyond representation, one cannot expect single participants to represent the interests of larger citizens' groups. It also might be counterproductive to define possible citizens' groups as there are so many different factors that are determining citizens' interests and positions (b)	It is difficult to promote and spread new ways of working both for urban lab initiatives as well as for efforts within ordinary activities (a) Internal mandate, legitimacy, and resources influence the way one can work with participation (c) It is important to anchor participatory processes internally (c) Most of us work isolated in our departments. It is important to find ways to meet and learn across departments (a, c)

Table 1. (Cont.) Description of each FCI meeting and its main insights.

Meeting focus	Insights related to single planning processes	Insights related to organizational aspects
6. Mapping the before, during, and after, of participatory planning processes. Participants were invited to map current processes they were involved in and consider the preconditions for processes and the outcomes/effects generated.		There is a gap between "formal" and "practical" mandates for participation. The formal mandate has usually higher ambitions that cannot be achieved because of a lack of resources and mandate to integrate results in ordinary activities (a) There is a lack of shared understandings and approaches to work with participation across departments (a, c) There is no shared structure to bring back the results of processes across departments (a, c) On the organizational level, there is little focus on the outcomes/effects of participatory processes (a, c)
7. Discussion on the results from the mapping of preconditions, and outcomes/effects of participation in planning processes. This last meeting focused on discussing further and elaborating on the results of the previous session. It started with a short presentation summing up the main insights from the previous session.	The importance of understanding citizens' participation as a learning process and the importance of including in this process also property owners and other actors. A learning process that can depart from questions that are coming from the city, but also from the citizens and/or other actors (a, b) One needs good knowledge about an area to be able to reach citizens that are rarely involved in participatory processes (b) One needs a flexible mandate and resources to be able to intervene with different methods in relation to the characteristics of an area (high level of participation, low level of participation, possible tensions and polarizations) (c) Participatory processes could also drive questions/issues which are important for citizens rather than the city (b)	Planners see the need for having a better understanding of local areas and being able to map needs and potentials. However, they often lack the resources to be able to do that (a) A focus on participation requires a radical change in planners' roles since they need to be able to capture and integrate different forms of knowledge in the planning process. This shift needs to be discussed with managers and politicians to ensure that there are structures and support for working in this way (c)

6. Analysis

This section summarizes the main findings that emerged from the FCI highlighting elements that are related to (a) participation as social learning, (b) political aspects related to planning and social learning, and (c) opportunities and challenges related to listening.

6.1. Participation as Social Learning

The centrality of social learning emerged already from the first FCI meeting. Single planning processes were explicitly defined as learning processes that needed to involve not only civil servants and citizens, but also other actors engaged in city planning and development (De Blust et al., 2019). Planners felt the need for knowing more about an area but often lacked the resources for doing so (De Blust et al., 2019). Emphasis was also put on the need of supporting learning between politicians and citizens. Participants showed a good understanding of the political challenges of social learning by raising the importance of mobilizing and involving different kinds of knowledge in planning processes and the difficulties of doing so. They also discussed the importance of small-scale interventions, but mostly as a matter of providing feedback to citizens rather than as means for social learning.

While the expression organizational learning was not explicitly used by participants, they lifted the importance of and challenges in bringing back results of participatory processes in ordinary activities. With the idea of participation as a 360-degree process, they pointed to the importance of reaching citizens and external stakeholders as well as involving colleagues, managers, and politicians. They recognized how both urban labs' efforts and internal attempts to introduce new ways of working with participation were meeting resistance (Argyris & Schön, 1974). They stressed how, internally, there was little focus on evaluating participatory processes and lifted the need for distinguishing between self-reflection and more systematic ways to evaluate participatory processes and thus improving the way they were dealt with on an organizational level. They highlighted the lack of structures and routines across the departments to feed back the outcomes of participatory processes and to learn about participation. The civil servants who had long experience working with participation highlighted that they perceived a gap between strategic aims about participation and what could be achieved in practice, due to a lack of resources and poor attention to how the outcomes of participatory efforts were integrated into planning processes. Overall, they recognized that to support participation as a social learning process, planners needed to take another role and focus on capturing and integrating different kinds of knowledge (De Blust et al., 2019). A role that required different structures and routines within the departments and in the interaction with politicians.

6.2. Political Aspects Related to Planning and Social Learning

Participants in FCI were highly sensitive to political questions. When it comes to planning processes, emphasis was put on the need to better respond to the needs of marginal/marginalized groups in planning processes. They also raised the problem of the privileged position of property owners and builders in planning and development processes (Flyvbjerg, 1998). On one side, they were interested in finding pragmatic ways of balancing the strong role of these actors (i.e., the idea of long-term agreements between current tenants and property owners) on the other, they expressed the wish of making politicians more aware of the compromises that were made in planning processes to accommodate the interests of these actors. They also challenged taken-for-granted ideas about participation in urban planning, like the criteria of representation (Cornwall, 2008), and suggested the idea of planning out from the interests of marginal/marginalized groups, like children. They recognized how knowledge of an area was vital to have a deep understanding of diverse interests and views.

They also articulated some political challenges of social learning. They were aware that different forms of knowledge had different possibilities to shape planning processes and their results. This was both raised in terms of conflicts between experts' and citizens' knowledge, but also the need of taking into consideration which views, and perspectives were applied in the evaluation of participatory efforts. They were also fully aware of the challenges that current structures and procedures posed in terms of making space for citizens' perspectives and they speculated around the possibility of restructuring planning processes so that they were driven by local communities rather than planners, thus giving priority to citizens' knowledge and perspectives rather than experts' views. They also considered how participatory processes could be organized so that they could be used by citizens to explore and learn about issues that mattered to communities rather than to the municipality. Both these suggestions can be seen as a matter of questioning positions of privilege (Pease, 2010) in planning processes.

6.3. Existing Opportunities and Challenges Related to Listening

Listening emerged as a crucial aspect to enhance social learning. Participants explicitly talked about the importance of starting from "a not-knowing position" as a matter of trying to avoid preconceptions and thus being open to different perspectives (Bickford, 1996). They described listening as being related to single planning processes alongside organizational conditions (Moore & Elliott, 2016). When it comes to the interaction with citizens, civil servants highlighted the importance of long-term and area-based efforts that could allow the development of good knowledge about an area, build local trust, and thus ensure a broad and deep understanding of different local interests. They highlighted that this required a flexible mandate and the freedom of adapting methods and approaches to the specific situation. They saw this way of working as not requiring so many resources, but rather being more a question of having the possibility and capacity to work out from the local settings. They also discussed the importance of attitudes and mindsets over methods for doing this kind of work.

On the organizational level, a key problem was recognized in the fragmentation across departments. They had different pre-conditions to work with participation. They lacked shared structures and routines and ways to integrate back participatory processes' results, evaluate participatory efforts, and learn together how to improve their way of working. Moreover, existing communication standards in the municipality were seen as a hindrance to working in flexible ways. During the discussions, it emerged also the proposal of exploring how it might be possible to engage in planning processes representatives from municipal services that had everyday contact with citizens (i.e., schools and libraries), given that they had a good overview of a local area and could facilitate interactions with different groups.

7. Discussion

As already highlighted, FCI's participants were civil servants who valued participation and who were involved in complex urban development processes. Their understandings were advanced and some of their proposals were quite radical, yet they pointed at some interesting insights that could be used to improve the way urban labs engage with the politics of social learning and strengthen their democratic ambitions.

7.1. Maintaining Plurality While Challenging Privilege Through Social Learning

Urban labs have already recognized the importance of fostering plurality (Schöll et al., 2017) as a means of strengthening their democratic nature. The findings from FCI confirm the significance of including different knowledge and perspectives in Urban Labs, particularly those that tend to be marginalized, to ensure that the understandings developed through social learning and the decisions that follow are democratically grounded. At the same time, it also becomes evident that creating space for plurality cannot be separated from challenging existing conditions of privilege (Pease, 2010). Therefore, urban labs should focus on engaging with plurality while questioning taken-for-granted knowledge regimes and rationalities. When it comes to social learning, this requires paying attention to the type of knowledge and perspectives that inform understandings and decisions as well as monitoring social learning processes capacity to challenge privileged knowledge regimes and foster unlearning (Visser, 2017) among those involved in (re)producing these regimes. This entails recognizing and tracing the role of planners', property owners', building companies', and other privileged actors' perspectives in the learning process. At the same time, urban labs could experiment with these perspectives, for example, by involving politicians and the public in learning about how privilege and marginalization operate in urban development processes, exploring ways of mitigating privileged conditions (like the agreement between tenants and property owners), or directly challenging them (like the idea of having citizens rather than planners driving planning processes). It is also crucial to work on internal structures and practices within municipal organizations, making visible how they are informed by specific views and knowledge regimes (Argyris & Schön, 1974), and exploring to what extent they allow or neglect the possibility of integrating a plurality of perspectives. This internal process needs to be grounded and to involve civil servants, managers, and politicians to create a shared understanding of the limitations of current structures in driving more democratic planning processes.

In this way, social learning can take on a new dimension. Besides being a process that focuses on integrating different forms of knowledge and managing possible polarizations around sustainable transitions (Collins & Ison, 2009; Pahl-Wostl, 2007), it could also enhance urban labs' capacity to maintain plurality and questioning privilege in their activities and outcomes and in relation to existing structures and procedures within ordinary municipal activities.

7.2. Nurturing a Listening Capacity

Civil servants involved in FCI highlighted how, in maintaining plurality and challenging privilege, listening represents a key capacity as the ability to deeply engage with diversity (Bickford, 1996). They emphasized how listening required long-term local engagement and a flexible approach for developing a deep understanding of an area, its citizens, and their diverse interests. This requires new ways of framing and organizing participation in urban planning, like, for example, the permanent involvement of schools and libraries in these processes, but also a new role for the city planner. In line with Moore and Elliott (2016), the listening capacity is defined by single planning processes as well as organizational aspects. It depends on individual civil servants' attitudes and skills, formats and procedures for participatory processes, as well as on mandate and resources, the way participatory process results are integrated into ordinary activities, systemic evaluation, and learning about participation. Additionally, FCI participants emphasized the importance of political bodies in enhancing listening. They discussed the need for making politicians aware of the compromises made in urban planning and for directly involving them in participatory processes.

Urban labs could work towards enhancing a listening capacity in and across single planning processes, municipal departments, and political bodies overseeing planning processes. On the level of the single planning process, they could foster the exploration of attitudes and approaches, but also the testing of new ways of framing and organizing participation with an explicit focus on "listening" (Bickford, 1996) besides "providing a say" (Arnstein, 1969), and with a clear understanding of the limits of the "representation criteria" and the need for "unpacking" (Cornwall, 2008) citizens' and other actors' interests. Through dedicated social learning processes, and similarly to what we did with FCI, these explorations could be connected to ordinary activities to identify possible organizational hindrances or opportunities to enhance a listening capacity on organizational level (Moore & Elliott, 2016). However, it is crucial that these processes reach out to political bodies overseeing urban planning to ensure that they are aware of the limits of current participatory practices and organizational structures and, hopefully, ensure a mandate to enhance their listening capacity.

8. Conclusions

Urban labs are rapidly spreading in Europe as an approach to promoting sustainable city development.

Despite their participatory nature and democratic ambitions, urban labs are at risk of promoting the interests of a few actors rather than serving the public good (Eneqvist et al., 2022). This article explores how social learning, a key feature in urban labs, could be used not only to tackle sustainability challenges while mitigating possible polarizations (Pahl-Wostl, 2007) but also to enhance urban labs' democratic aspirations.

The article builds on the insights of FCI, a collaborative learning process about participation in sustainable city planning and development, that was organized within an urban lab in the Swedish city of K. FCI participants highlighted the importance of social learning to enhance the democratic quality of planning processes and the centrality of a listening capacity (Moore & Elliott, 2016) in planning processes and municipal organizations to engage with the political challenges of social learning.

The key insights are that besides fostering plurality in their activities (Schöll et al., 2017), urban labs should focus on how plurality is maintained over time and to what extent marginalized perspectives inform learnings and decisions in their own activities as well as within municipal ordinary activities. When it comes to social learning, this entails not only engaging with a diversity of perspectives, but also challenging taken-for-granted perspectives and the privileged position of experts' and other influential actors' views in informing understandings of and actions in urban labs and, more in general, urban development processes.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Challenging the Master Narrative on Large-Scale Social Estates: Exploring Counterstories Through Digital Storytelling

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Abstract
The challenging and reframing of dominant narratives have been recognized as crucial to the regeneration of stigmatized areas. This article builds upon a digital storytelling process in the social estate of Peterbos, Brussels, to investigate how the counterstories of inhabitants challenge the "master narrative." The counterstories foreground the spatial agency of tenants, the (dis)enabling role of space, and the difficult relationship with social housing companies. The article concludes that counterstories not only reveal dominant spatial imaginaries about high-rise estates but also have the potential to foster a more situated and experiential understanding of the relationship between people and space. However, it is important to note that digital storytelling is not a substitute for inclusive planning. Critical engagement with ongoing planning processes remains crucial.

Keywords
counterstories; digital storytelling; inclusive planning; social housing

Issue
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1. Introduction

As research moved away from the positivist ideal of technocratic planning, lay knowledge and the experience of residents and non-planners have been gaining importance in planning, both in theory and practice (Fischer & Forester, 1993; Innes, 1998). As part of this evolution, storytelling or narrative processes have been seen as ways to include more diverse groups of residents (Schuman, 1987), particularly those who had often been excluded from the deliberative arena (Albrechts, 2002). Incorporating storytelling as "a method for planning" (Van Hulst, 2012) would facilitate other forms of communication that are different from the technical jargon used in the design charette or the planning process in general (Bulkens et al., 2015).

The focus of this article is the exploration of the use of *counterstories* in planning. Apart from a recent publication developed by Lopez et al. (2018), few planning researchers have actively engaged with the concept of counterstories. In addition, rarely have they focused on the way digital storytelling can be used as a tool to capture such counterstories. Through a discussion of our action research in a social high-rise estate in the Brussels-Capital Region (Belgium), we hope to demonstrate the relevance of this approach, especially in places that are subject to stigmatization. While large-scale social housing estates are relatively rare in Belgium due to the strong liberal-economic character of the Belgian housing order, the promoted preference for private ownership of free-standing houses over compact housing development has resulted in an image problem for such estates. Debates in media and regional parliaments in Belgium have centered around the liveability of these estates (De Decker & Pannecoucke, 2004).

Through our analysis of planning documents and a self-initiated digital storytelling project in the context of the regeneration of the social estate of Peterbos

in Anderlecht, Brussels, we identified two key benefits of counterstories. First, examining planning documents as forms of stories helped us to recognize the subtle ways in which culturally dominant representations of high-rise estates are enacted in texts and images in planning documents such as master plans and action programs. Second, the process of digital storytelling, in which counterstories emerged through conversations, moving images, and voices, helped to develop more contextualized and situated understandings of space and social behaviour.

This article is organized as follows: First, we examine the role of storytelling in planning and introduce the concept of counterstories. We highlight their significance in marginalized areas and, specifically, in planning processes in high-rise social housing estates. Next, we discuss the context and methodologies used to capture the stories of planners and residents. We frame the ongoing planning processes as a form of storytelling and, by doing so, show how planners respond to prevailing narratives of high-rise estates. In the analysis that follows, we illustrate how counterstories of residents, conveying their experiences in space, enable us to challenge these narratives. Before concluding the article, we emphasize that counterstories generate knowledge that can inform a critical planning practice, particularly in places with contested narratives, while also underscoring the critical questions and dilemmas that arise with the tool of digital storytelling.

2. Positioning Counterstories in the Planning of Large-Scale Social Estates

The analytical perspective of this article is inspired by the resurgence of stories and narratives in planning over the past three decades (Sandercock, 2010; Throgmorton, 2003). This "story turn" has been conceptualized as both a model *of* planning and a model *for* planning (Van Hulst, 2012). Framing storytelling as a model *of* planning draws attention to the importance of crafting good narratives within planning processes (Secchi, 1984). Throgmorton (2003), for instance, demonstrated that by writing "texts," using a particular language, such as plans and visual renderings, planners are inevitably involved in persuasive storytelling. In the wake of shifts in ethics and epistemology (Innes, 1998), storytelling has also been promoted as a model *for* planning (Sandercock, 2010; Van Hulst, 2012). By creating spaces for stories to be heard, planning practice could become more therapeutic, democratic, and/or inclusive (Sandercock, 2010). More recently, the notion of counterstories has been coined by scholars in the field. Lopez et al. (2018), for instance, highlighted how counterstories can offer critique but also hope, enabling planning practice to learn from community voices. Fattah and Walters (2020) have similarly shown how counternarratives of people living in informal settlements can produce solidarities to resist evictions. However, these recent publications primarily focus on counterstories developed in response to larger "common sense assumptions" (Lopez et al., 2018, p. 108) that are part of traditional planning in polarized contexts. Although crucial, they do not show how stories of planners and inhabitants deviate within planning processes that are not conceived in a top-down way but rather include levels of citizen participation (Arnstein, 1969). As such, knowledge about the more subtle ways that common sense assumptions about marginalized places and people enter contemporary public planning processes is incomplete. Further, situated knowledge of what planners can learn from counterstories in the context of ongoing regeneration processes is lacking. Finally, these recent publications are mostly focused on textual data such as interviews, focus groups, and ethnographic fieldwork notes, and less on visual material or creative tools such as digital storytelling. In order to explore these intersections, it is first necessary to gain a clearer understanding of the concepts of stories, narratives, and spatial imaginaries, as well as their role in planning processes and the regeneration of large-scale social estates, in particular.

Stories, on the one hand, are seen as a sequence of events unfolding in time and space. They describe a change in a situation and help us to make sense of it (Ameel, 2017; Verloo, 2015). Narratives, on the other, are analytical reflections on these stories that reconstruct different storylines and add meaning to them (Verloo, 2015), representing a particular point of view for a particular audience (Ameel, 2017). In planning, such analytical reflections are intertwined with spatial imaginaries (Davoudi, 2018). The latter are collective understandings and representations of a place that supposedly emerge from a range of characteristics and phenomena associated with that place (Davoudi, 2018). While they can generate a sense of belonging and community, they can also create exclusion (Davoudi, 2018). The naturalization or reproduction of spatial imaginaries is therefore not a neutral process, but rather one that is imbued with power relations. Indeed, those in power have a normalizing judgement (Foucault, 1991) that dictates what is considered the "true" narrative of a place by silencing other experiences or "by 'othering' competing interpretations" (Watkins, 2015, p. 512). Lindemann (2020) uses the concept of master narratives to describe such hegemonic paradigms or ideas, similar to the concepts of *grands récits* or metanarratives (Bamberg, 2004). Master narratives often operate below the level of conscious recognition, implicitly shaping smaller stories and daily life. As such they are not only descriptive but also constitutive of reality, guiding our interactions (Sandercock, 2003).

This seems especially relevant in marginalized areas, where inhabitants' social and political identities are subject to different forms of discrimination. In addition to ethnicity, factors such as class, religion, disability and appearance can contribute to their disadvantage. Inhabitants of marginalized areas not only lack agency in shaping their image (Costera Meijer, 2013), but they also often face the consequences of negative

spatial imaginaries. In social housing estates, stigma is frequently cited as a primary issue, exacerbating other problems (Hastings & Dean, 2003; Hicks & Lewis, 2020). Authors such as Arthurson et al. (2014), Wacquant (2008), and Warr (2005) have compellingly described how dominant narratives derived from spatial imaginaries, which depict estates as barren, chaotic, and rough, negatively affect internal social cohesion and personal well-being. This is why several authors have emphasized the importance of image building in neighbourhood renewal (Hastings & Dean, 2003; Wassenberg, 2004). However, while planners responsible for such renewal do not necessarily *perpetuate* problematic reputations as commercial media tend to do, Hastings and Dean (2003) have demonstrated that they do *respond* to the narratives mentioned above, thereby inadvertently reinforcing negative spatial imaginaries.

Several authors have argued that narratives can serve as not only oppressive but also as healing experiences when they accurately recount personal experiences (Sandercock, 2010). In this regard, counterstories appear to be interesting means of image building. Counterstories have their roots in critical race theory, where they have been embraced as a primary way to give a platform to voices from the "outgroup" (Delgado, 1989, p. 2413). Counterstories do so by sharing real, lived experiences that highlight the cracks in the master narrative and "open new windows of reality" (Delgado, 1989, p. 2414). This attention to lived experiences is based on the firm belief that knowledge stems from the social position. In spatial disciplines, a few tools have been developed in order to capture such lived experiences, such as GIS-based spatial narratives (Elwood, 2006) and countermapping (Peluso, 1995). Community organizations have adopted GIS-based maps and images to include their spatial knowledge in decision-making processes. Countermapping, on the other hand, frames mapping as a power-laden representation (Dalton & Mason-Deese, 2012). The choice of what to show on a map (e.g., national boundaries) or what not to show (e.g. ancestral native lands) renders it a tool for hegemonic forces to reinforce their power positions in spatial development. Countermapping seeks to find different ways to envisage spaces in maps, in order to "increase the power of people living in the mapped area to control representations of themselves" (Peluso, 1995, p. 387). In our analysis, we used digital storytelling, which is a tool with which participants create short videos that consist of moving images, pictures, and drawings. In these videos, participants talk about their own lives in their own voices (Truchon, 2016). The tool is often used among marginalized and sensationalized communities to make their unheard voices be heard (Gregori-Signes & Pennock-Speck, 2012). It promotes them as experts in their own lives (Truchon, 2016) and makes them active subjects in the formation of their neighbourhood's imaginary (Costera Meijer, 2013).

In order to use counterstories as a mode of inquiry, Delgado (1989) suggests first examining how stories contribute to a master narrative, perpetuating a specific version of social reality. He then proposes analysing counterstories by showing what such stories leave out, potentially preparing the way for a new story. We will follow this order of inquiry to study how stories of planners derogate from stories of residents of large-scale social estates. In doing so, we will reflect on the "generic styles [stories] can take" (Martinez, 2014, p. 38). To explore the stories, we will highlight the specificity of planning documents, in which not only texts but also graphs, plans, and images respond to dominant representations of space. For the counterstories, we will focus on the tool of digital storytelling and how we applied it in the context of Peterbos. We will highlight its strengths but will also show some limitations regarding its potential to capture counterstories.

3. Context and Methodology

3.1. The Regeneration Plans

The context of this analysis is Peterbos, a high-rise social housing estate located in the Brussels-Capital Region, Belgium. The estate, which was built after the Second World War, comprises 18 high-rise towers with 1,400 housing units, as well as a few commercial and social services. It is situated in an open and green landscape on the periphery of the city region and is surrounded by low-rise neighbourhoods. At the time of writing, the site is undergoing various planning processes aimed at the renovation of public spaces and several towers. In our analysis of the "master narratives," we focus on two main regeneration plans.

The first regeneration plan is a master plan that was initiated by a social housing company in 2014 but was ultimately rejected by the housing authorities of the Brussels-Capital Region. The plan exists of two reports: one called *Sketch Design Phase* and another called *Preliminary Draft Phase*. While initially seen as a guideline, it became a detailed plan that included a progressive renovation of the towers and public spaces.

The second regeneration plan includes a "diagnostic," "priorities," and an "action program," developed within the context of a "sustainable neighbourhood contract." These documents were adopted in early 2019 and formed the primary guidelines for developing new facilities and renovating the public space in Peterbos. The neighbourhood contract is a transversal planning policy that has been adopted in various countries in Europe as an instrument steering participatory regeneration processes in areas facing social and economic difficulties (Aernouts et al., 2022). In Brussels, the policy was adopted in 1993 and changed in 2010 in order to give more attention to environmental dimensions, hence the "sustainable" neighbourhood contract. Nowadays, it combines planning interventions with socio-economic actions, bringing together various stakeholders, such as the region and its planning institutions, the municipality, citizens, and, in

this case, social housing companies. In this article, we solely discuss the three documents (diagnostic, priorities, and program), made by an external multidisciplinary urban planning agency during the first year of the neighbourhood contract. We do not focus on the plans and activities developed afterwards, such as a master plan, social-cultural activities, and social economy projects.

3.2. The Digital Storytelling Project

In light of sensationalizing and stigmatizing media coverage following incidents of violence between inhabitants and the police in the spring of 2018 (see for instance Grymonprez, 2018; Debaets, 2018; "Peterbos: Une zone de non-droit à Bruxelles?," 2018), we were drawn to the idea of using digital storytelling as a means to showcase more diverse perspectives of Peterbos. Over a period of seven months, from October 2018 to May 2019, we organized six workshops and two feedback sessions with eight inhabitants of Peterbos, during which we created short videos using a combination of texts, pictures, drawings, and short moving images. To recruit inhabitants, we explained the project to passers-by in the public space of Peterbos and also used the knowledge of social workers to identify those who might be interested in an audio-visual project or benefit from telling their story. As such, our selection was based on the needs and motivations of inhabitants rather than on research interests or representativeness. We presented the stories and findings from the digital storytelling process to both participants and inhabitants of the neighbourhood, in order to understand how some elements were shared among estate inhabitants. Each workshop included assignments to reflect on the message of these videos. The eight inhabitants were divided into two groups: a Monday morning group with two women and two men, and a Wednesday afternoon group with one woman and three teenage boys. To understand the conditions that led to the creation of these stories, the two authors of this article attended the sessions as participant observers. Joint by a third researcher, throughout the process, we formed researcher–inhabitant duos to provide support and act as soundboards for specific assignments. This support ranged from helping people with disabilities to cross the area or to take pictures, to contributing to the writing process in case of language barriers. By actively supporting one or two participants each, we aimed to normalize our presence as part of the process. A fourth researcher, who played a key role in developing the digital storytelling tool, guided the sessions and compiled the videos.

We conducted an analysis of both the plans and the digital storytelling project within the framework of action research on inclusive regeneration strategies for large-scale social housing estates. Indeed, our research delved into not only an in-depth study of how the regeneration was experienced locally but also engagement with planning stakeholders who were involved in the regeneration process, by conducting interviews and attending meetings, presentations, and workshops. Our collaboration with the planning stakeholders, on the one hand, explains how we got access to the regeneration plans. We did a narrative analysis of these regenerating plans by examining the planning documents presented above, including the texts, graphs, plans, and images, and by identifying how they related to broader imaginaries and narratives on high-rise estates present in the context of Peterbos as well as in national and international literature on large-scale social estates. Our engagement with the inhabitants through the digital storytelling project, on the other, was limited to a relatively small group of eight people. We tried to develop a meaningful interpretation by taking into account inhabitants' social and political identities and how these related to their experiences. The first author of this article, Younes Rifaad, also conducted interviews with four of the eight inhabitants to discuss our interpretation of the stories.

4. Revealing the Master Narratives Within the Regeneration Plans

In both the master plan and the documents of the sustainable neighbourhood contract, we identified two key narratives that were responded to: the impact of modernist high-rise architecture and the homogeneity of social renters. In this section, we link the stories of the planners to national and international literature on large-scale estates and study how they are reproduced in the analysis of these plans.

According to the master plan, Peterbos possesses the positive qualities of a good modernist neighbourhood, such as an "abundance of qualitative green spaces" (Office 1, 2014a, p. 22). However, the large amount of public space is also viewed as its weakness, as "most of it currently remains undefined" (Office 1, 2014a, p. 88), making hierarchization and privatization of parts of the public space the priority of the plans. The undefined spaces in their current state "make the neighbourhood confusing and thus, unsafe" (Office 1, 2014b, p. 38). Additionally, the current social composition of the neighbourhood is considered a "social mix…that is unhealthy" (Office 1, 2014b, p. 36), which is illustrated with various diagrams. In one of the diagrams, the revenues of Peterbos, the municipality, and the entire region are compared. Below the diagram, it is stated that there are too many elderly and unemployed inhabitants, particularly when compared to the statistics in other places. In another graph called "Spaces With a Healthy Mix" (Office 1, 2014a, p. 36), the ratios between social rent and rent and ownership for middle-class households for an area in Sheffield and Amsterdam are displayed. The plan proposes to densify the site by introducing housing for middle-class inhabitants. The additional buildings would be constructed right next to the existing towers, forming ensembles and collectivizing parts of public space.

As a result, the remaining public space would become easier to understand, enabling "better

appropriation by inhabitants, and as such a better management" (Office 1, 2014a, p. 88). In addition, the densification would create the critical mass needed to provide more commercial and cultural facilities, located on a central and structuring lane. This would also break the monofunctionality of the site, which "provides no reason for people in adjacent neighbourhoods to visit" (Office 1, 2014a, p. 58), increasing their isolation. The team responsible for the master plan consulted inhabitants of the neighbourhood through "tent discussions" (Office 1, 2014a, p. 38), with questions mostly relating to the public space. Regardless, most of their conclusions involving the functioning of the public space came from a reading of spatial characteristics.

The "diagnostic," "priorities," and "action program" of the neighbourhood contract, the second set of regeneration plans that were subject to our analysis, offer a more sensitive and refined reading of the site, yet propose solutions that are similar to those in the master plan. For instance, the priorities report notes that "urbanism in open order has both spatial and ecological qualities, but it also causes problems in terms of appropriation and social control" (Office 2, 2018b, p. 10). In response to these problems, the planners aim to re-activate public spaces by introducing new functions to the area. One solution is to construct a large central facility that would attract visitors from the surrounding areas, thereby breaking the isolation of the neighbourhood. Another proposed solution is to create a network of services primarily for local inhabitants. Together with new "conviviality spaces" (Office 2, 2018c, p. 84) and renovated walkways, these facilities would create a new hierarchy that encourages the appropriation of public space and fosters social interaction among residents.

The plan's authors also aim to involve tenants in the construction of these conviviality spaces, believing that it would make them feel more connected to the neighbourhood and thus more responsible for it. As highlighted above, the language used in the documents of the neighbourhood contract is less forceful than in the master plan. The designers of the neighbourhood contract aim to value local knowledge, in this case, acquired by a team of architects and sociologists who conducted the fieldwork and organized participatory workshops, albeit operated in a very challenging time frame.

Although the two regeneration plans and the analyses supporting them differ significantly from each other, they both respond to two prevalent ideas in discussions about high-rise social housing estates. Firstly, modernism has been criticized for failing to create functional spaces (Sendi et al., 2009). While modernist estates were initially based on progressive ideals of equality and good living conditions for all (Turkington et al., 2004), they quickly became a quick and cheap solution to house large amounts of households, in the context of slum clearances (Declerck, 2004) or to rebuild destroyed housing after the Second World War (Wassenberg, 2004). As a result, the initial architectural ambitions of the movement quickly decayed and essential elements such as collective facilities (Vervloesem et al., 2008) or the importance of orientation (Declerck, 2004) became less present. This led to a standardised and monotonous construction of high-rise towers (Zimmer, 2009), often in cheaper, peripheral locations with few facilities (Turkington et al., 2004). Modernist architecture subsequently became the subject of criticism (Lees & Baxter, 2011), particularly in the case of Belgium, where freestanding owner-occupied housing is still considered the norm (De Decker & Pannecoucke, 2004). In recent years, however, this criticism has evolved in architects' and urbanists' circles, with a reconsideration and appreciation of high-rise housing (Dejemeppe, 2010). Their demolition is increasingly seen as ecologically irresponsible, while their high density and collectivity are viewed as a qualitative solution to population growth in major cities. Nevertheless, as shown by the plans presented above, open spaces in high-rise estates are still often seen as unreadable and confusing, hindering personal investment and leading to an anonymous environment (Hall, 1997; Lefrançois, 2022). This is believed to result in a lack of social control that allows for the physical degradation of the estate (Lefrançois, 2022), as no one feels responsible for the environment.

Secondly, while the importance of maintaining and renovating social housing is increasingly recognized in the context of Belgium, where there is a strong lack of social housing, actors involved in regeneration plans tend to problematize the social composition of social housing estates. In Belgium, social housing is seen as a safety net, catering to the most precarious households (De Decker & Pannecoucke, 2004). As in other countries such as the UK and France (Musterd & Andersson, 2005), this spatial concentration of precariousness has been deemed to amplify individual problems (De Decker & Pannecoucke, 2004). Contemporary planning solutions often aim to break this spatial separation from wealthier households, either in the form of introducing middle-class housing (as in the case of the master plan) or in the form of attracting visitors by introducing public facilities (as in the case of the neighbourhood contract). Even if such approaches have been criticized in other contexts for their weak empirical foundations (Crump, 2002) and a lack of understanding of how groups mix (Lees, 2008), they remain part and parcel in regeneration plans in Belgium.

In the following section, we will compare these stories of planners with those of inhabitants and participants in the storytelling process, focusing on those stories that are excluded from these key ideas.

5. Searching for Counterstories

5.1. Place Attachment

Both regeneration plans present a spatial imaginary of an inside-outside dichotomy, portraying an isolated,

undefined, modernist estate that prevents appropriation by its tenants. The plans are based on the belief that people are confined within the "borders" of "an island" (Office 2, 2018b, p. 68), resulting in a dynamic of "people withdrawing in themselves and…not leaving the neighbourhood often" (Office 2, 2018b, p. 6). The "lack of structure and difficult orientation" is also believed to "contribute to the isolation of the neighbourhood" (Office 1, 2014a, p. 25), leading to design strategies focused on redefining and hierarchizing public space. However, the digital storytelling process challenges these ideas by showing the inhabitants' mental maps, the contemplative character of appropriation, and hidden uses of the landscape.

The inhabitants' mental maps do not correspond with the neighbourhood being isolated or a singular entity. Even though the site is homogeneous in terms of architecture and ownership structure, the digital storytelling trajectory shows that people's daily geography is not restricted to the "borders" of the site (see Figure 1). For instance, one resident created a video about his social life outside the neighbourhood, including information about his friends and acquaintances in Brussels and his participation in a community agriculture project. Referring to his own neighbourhood, he describes that he "only passes through" (video Participant 1 [P1]). For the teenagers, their neighbourhood and daily lives do not limit them to the site of Peterbos. When asked to discuss their neighbourhood in the workshops and their videos, they chose to discuss a snack bar close to their school, clothing shops in the center, and a municipal park, among others.

Inhabitants also make sense of the public space, enjoying the green environment and nature the site offers. They recognize it as a valuable asset in a strongly urbanized environment and make use of the open-air sports facilities, take walks, or smoke cigarettes in designated places. As much as they enjoy some places, they avoid others, such as those occupied by drug dealers, creating a mental hierarchy that assigns certain uses and behavior to certain places. In other words, residents learned how to (re)act in specific spaces, creating differentiation in "publicness." This mental reading and hierarchy do not prevent inhabitants from appreciating the site as a whole, although they do so in a more contemplative manner, as opposed to the active appropriation pursued in the plans. For example, one resident mentions in his video that he enjoys watching children play and people walking their dogs. The teenagers dedicated their videos to the animals they encounter at Peterbos and are "proud to know the whole neighbourhood, every nook and cranny" (video P6; Figure 2). They even included images and short clips of a fox and a bird's nest in their video, which they had originally shared on social media. This exemplifies the positive emotions associated with certain qualities of the site that allow individuals to express themselves and contribute to their identity (Fleury-Bahi et al., 2008).

Some uses remain overlooked by the planners, such as those of the shared spaces in the apartment blocks. For inhabitants, these are social spaces where neighbourly relationships play out in elevators or hallways, where people know each other by sight, greet each other, and/or chat. These spaces function as parochial

Figure 1. Stills of video fragment of resident showing her daily walks with her dogs (video P4).

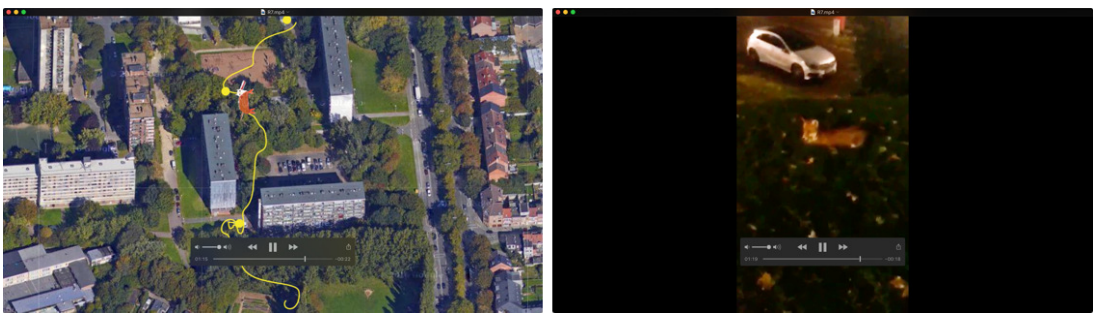

Figure 2. Stills of a video fragment of a youngster showing his appreciation for the wildlife in Peterbos (video P6).

spaces (Lofland, 1998), providing opportunities for acts of reciprocity, such as exchanging food and clothes (see Figure 3). In a workshop, one resident recounted living in a building with large hallways where neighbours left their doors open and even placed chairs outside to converse. In his new building, the smaller hallways create a barrier to getting to know his neighbours in the same way. The generous circulation space in older apartment blocks is thus a notable spatial quality that enables socialization.

The examples show that Peterbos is not a place devoid of social interactions. Although the connections between neighbours may be shallow, the fact that they recognize each other and sometimes socialize spontaneously is valuable (Blokland, 2009). However, this does not prevent some residents from experiencing profound loneliness. During the workshops, several participants expressed sentiments of isolation.

These perceptions and lived experiences of residents highlight the risk that some of the planners' responses to commonplace ideas on modernist architecture overlook the actual nature of place attachment and fine-grained uses of the urban form. While the residents interact with the built environment (Blokland, 2009), their relationships with the site and with others are not determined by it. On the contrary, inhabitants actively engage with the space and introduce their own meanings and uses.

5.2. Disabling Spaces

By focusing on a lack of appropriation and lively spaces, the two plans not only overlook certain uses and practices of space but also fail to understand why people interact with physical space in a certain way. For instance, while the neighbourhood contract does recognise the problematic state of the pathways, it mostly attributes "the lack of animation in the public space" (Office 2, 2018a, p. 72) to the lack of services on the ground floor, whereas the digital storytelling process highlighted the significant impact of physical (dis)ability on inhabitants' spatial agency. Moreover, the process showed that the built environment itself plays a large role in "disabling" tenants (Lid & Solvang, 2016).

During the workshops and meetings with residents, it became evident that many inhabitants face challenges when moving around in the area. One notable example is a community worker who gave a lift to two workshop participants, despite their house being less than 200 m away. Additionally, while taking pictures on the site, a resident with reduced mobility took various shortcuts to reach a specific location, disregarding the existing walkways and the large central staircases, instead traversing the hilly terrain diagonally. Furthermore, a resident struggling with an illness only walked to the nearby shopping centre on days she felt well.

This reduced mobility of Peterbos inhabitants also makes the malfunctioning elevators in the towers particularly problematic. The buildings range from six to 19 stories high, making elevators a basic necessity for many people. In one workshop, a resident stated that when the elevators of her building broke down, elderly inhabitants barely left their homes. Another inhabitant with reduced mobility commented that the housing company puts his life in danger as he sometimes needed to take the dark and dirty stairs.

The strong focus on the lack of public space appropriation (Office 1, 2014a; Office 2, 2018a) and on "disenclaving" (Office 2, 2018b, p. 20) the neighbourhood in the two regeneration plans, not only downplays residents' agency but also the theme of accessibility. Given the concentration of various kinds of precarity in the area, reduced mobility is part and parcel of Peterbos. Moreover, poverty and health issues (Hughes & Avoke, 2010) can be both the cause and consequence of reduced mobility. Around half of the participants in the storytelling project ended up in social housing due to health problems. For them, poverty not only represents a lack of money but also creates cumulative barriers to well-being (Hughes & Avoke, 2010), leading to poor health and decreased participation (Clarke et al., 2011). As physical space strongly influences these individuals' capacities (Lid & Solvang, 2016; Wanka, 2017), accessibility is their primary concern in the design of public space.

5.3. Paradoxical Empowerment

The regeneration plans explicitly aim to foster a sense of responsibility among residents through "mental and social appropriation processes" (in the case of the master plan; Office 1, 2014a, p. 82) and by involving them "in the use, management and maintenance of collective

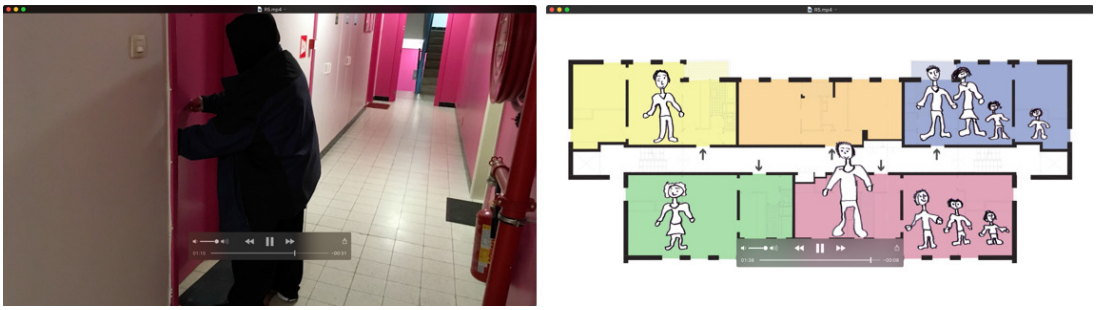

Figure 3. Stills of video fragment of an inhabitant discussing neighbourly relationships (video P4).

materials" in specific public spaces (in case of the neighbourhood contract; Office 2, 2018c, p. 87). Additionally, they seek to "work on the emancipation and widening of horizons of residents" (Office 2, 2018b, p. 10).

However, the responsibility discourse presented in the plans contrasts with the daily experiences of residents who care for the neighbourhood. As one woman stated in her video: "We can work on the neighbourhood, but I also wish that 'they' would not neglect the neighbourhood so much" (video P5). During the workshops, participants frequently expressed their frustration with pending elevator repairs, which once lasted several months. In this particular case, the social housing company only took action when residents started a protest that garnered media attention. Housing companies often attribute malfunctioning elevators to the residents' incorrect use of them, invoking the responsibility of residents. Instruction posters in the elevators that show appropriate and inappropriate behavior seem to reinforce this narrative. During one of the discussions, a researcher asked why residents did not immediately call the operator to speed up repairs. One man responded that the social housing company reprimanded him when he did so. Another resident agreed, expressing doubts as to whether his complaints "even made it past the secretary," and even if they did, "he was gone for months" (P2; final group discussion on May 21, 2019). The fact that he could not promptly take care of his living environment made him feel insignificant and ignored, as if he was not allowed to speak up because he lived in a social housing estate. This frustration, which is linked to the status of social tenants, extended to other domains of his life, leading to feelings of depression. Another resident shared the same feeling and preferred to connect with people outside the estate, distancing himself from the other residents (Wacquant, 2008). Others simply suggested that the social housing companies should "maintain the buildings better, inside and outside" (video P5; Figure 4).

By cultivating a sense of responsibility among social tenants, the regeneration plans do not challenge but rather sustain the prevailing moral discourse on their "re-education" (Flint, 2004). In contrast, the digital storytelling process shows that true emancipation requires a critical examination of the power dynamics between institutions and tenants (Arnstein, 1969). This may be beyond the planners' control but is essential for meaningful change.

6. A Plea for Digital Storytelling?

The analysis above highlights several strengths of the digital storytelling process in capturing counterstories and feeding alternative spatial imaginaries, thereby countering dominant narratives of space. Firstly, the empirical findings widened generic discussions on the relationship between residents and the built environment, by providing situated and experiential spatial knowledge. Such knowledge shows how people structure their everyday lives (Davoudi, 2018) and assign meanings to certain spaces, which can lead to more inclusive designs for these spaces (Lefrançois, 2022).

Secondly, the comparison between the planning document analysis and the digital storytelling process interrogated the visual representations at the centre of planning. In the regeneration plans, visual tools such as diagrams and plans were used to represent "neutral data." Some of these data, like the graphs that represent places with a "healthy mix," hold spatial imaginaries on housing estates and their inhabitants, in which both the tenure form (social rent) and social composition of social housing neighbourhoods are deemed unhealthy. More generally, they fail to show how individuals shape space. In contrast, the intonations in the voice recordings, the moving drawings, pictures and videos, highlight some characteristics of the hidden transcript (Scott, 1990) of the planning process, revealing how people make sense of the built environment of their neighbourhood and appropriated it in their way. Hence, using new forms of media to represent space, such as countermapping (Peluso, 1995) and digital storytelling, has transformative potential in itself.

Thirdly, the digital storytelling process offered us an interesting tool *for* planning by actively seeking to impact real-world situations (Ameel, 2017). It provides a valuable tool for critical planners, engaging with feminist, anti-racist, anti-classist, or other marginalized perspectives and experiences of "the other" (Piccolo, 2008; Rahder & Altilia, 2004). These approaches value lived experiences and explicitly produce knowledge in relation

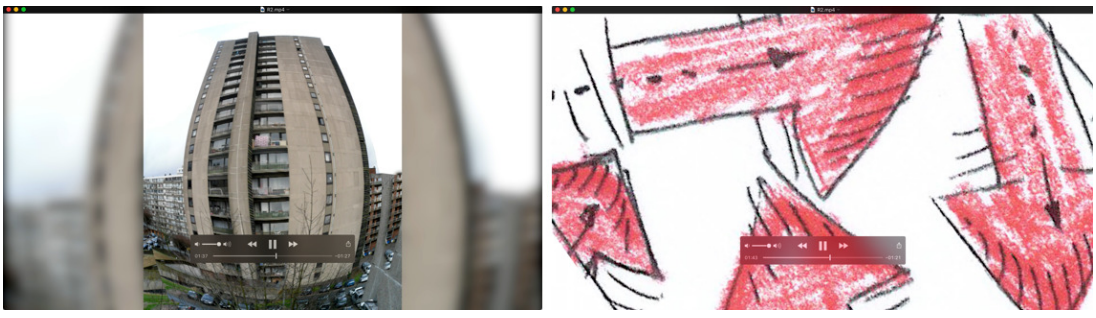

Figure 4. Stills of a video fragment of a resident describing the rigid structure of the social housing companies (video P2).

to a political struggle. As such, they acknowledge epistemological traditions in which "stories do not just recall or make sense of something, they create everything, and are implicated in all aspects of ongoing, lived experience" (Potter, 2020, p. 1544).

Inevitably, the digital storytelling process also had some weaknesses. Similar to countermapping, it created "new types of power relations around control and knowledge" (Peluso, 1995, p. 387) through storytelling technologies. For instance, we only developed seven videos with eight inhabitants, a fraction of the 3,000 inhabitants of the site. The workshops were moderated by one researcher, who also compiled the material into videos. The workshops were each time attended by four residents, two to three researchers, and one social assistant. The researchers and the social assistant participated in the different exercises, but only the stories of the inhabitants were captured in a video. Although we organized two sessions dedicated to feedback on the drafts of their videos and enquired inhabitants to discuss our interpretations of them, these different constraints show that digital storytelling is not devoid of "expert" dynamics that can exclude inhabitants from participating fully. The co-construction generated throughout the process can be empowering for some but disempowering for others, such as those who do not wish to be associated with the neighbourhood, as was the case for one inhabitant who decided not to publish his video.

As such, digital storytelling should not be viewed as a quick fix for planning issues (Hodgson & Schroeder, 2002). In our case, the stories helped us to define themes and gain situated knowledge that we integrated into meetings with planning stakeholders. We shared the videos with participants and other residents, discussed them, and confirmed our findings during a neighbourhood festival and community-building activities. We also presented the storytelling project to various stakeholders responsible for the regeneration of Peterbos, showing them the videos and sharing our observations and findings. The urbanists responsible for the follow-up assignment of the neighbourhood contract attended the presentation, and although they emphasized the inside-outside dichotomy in their plan, which was challenged by the storytelling project, they carefully considered the accessibility of public spaces. This highlights the modest, yet significant potential contribution of our work. The storytelling project also sparked new projects and stories, which further explored how residents experience and perceive their living environment. Social workers utilized the project to facilitate more direct discussions on issues between residents and housing officials. As a result of the discussions that emerged during the project, the inhabitants and the social worker set up an upcycling project. The development of counterstories should thus be viewed as an ongoing process that is deeply embedded in ongoing regeneration practices and their imaginaries, where "spaces for micro-interaction" (Aernouts et al., 2022, p. 6) between both could be crucial for success. It is important to note that, in our case, these forms of interaction were not created out of the blue. As action researchers, we translated the counterstories into narratives, by analytically reflecting on them and positioning them against the stories of planners. In this endeavour, we mostly took an antagonistic stance, by highlighting areas where the planners' analysis and envisaged future did not correspond with our findings on the ground, trying to illuminate "how the world looks from behind someone else's spectacles" (Delgado, 1989, p. 2240). In doing so, we occupied an interstitial space (Aernouts et al., 2022) within the planning process, where diverse forms of interaction—collaboration, communication, but also friction and conflict—between different actors were mobilized to nurture the planning process.

7. Conclusion

We started this article by presenting opportunities for storytelling. We understand all planning as storytelling that disseminates narratives and shapes spatial imaginaries. We then put forward the lens of counterstories (Delgado, 1989; Lindemann, 2020). While we see the master narratives as dominant and hegemonic viewpoints that put certain representations and spatial imaginaries into reality, counterstories are efforts to challenge them by including the experiences of marginalized groups. By doing, we do not necessarily want to state that all planners adopt master narratives, nor minimize the potentially challenging time frames within which planners often have to operate. We rather want to show how planners sometimes *respond* to dominant representations, unintentionally reproducing them (Hastings, 2004). We then studied counterstories, building on empirical data of action research, including the study of plans and a digital storytelling trajectory, both developed in the context of a regeneration process of a social housing estate in the Brussels-Capital Region, Belgium.

Empirically, the study of the planning documents drew attention to how specific discourses on the modernist patrimony and inhabitants of social estates find their way in the planning process, in line with national and international thinking about modernist social housing estates. The counterstories showed less visible forms of appropriation, the role of (dis)ability in residents' interaction with space, and the constraints of notions such as "emancipation."

Methodologically, the tool of digital storytelling seems especially interesting from an epistemological point of view, showing new windows into reality through other forms of data, such as voices, intonation, and moving images. They can feed new spatial imaginaries that contribute to seeing and characterizing certain spaces, especially those that are marginalized, different. Nevertheless, digital storytelling should not by any means be seen as a panacea for developing more inclusive planning processes. Above all, such a narrative

approach to planning acknowledges the messy reality of engaging in real-life contexts, in which planners continuously need to remain critical and reflect on the stories on which they base themselves.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Social-Ecological Knowledge Integration in Co-Design Processes: Lessons From Two Resilient Urban Parks in Chile

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Abstract
Cities worldwide face multiple social and ecological challenges, such as climate change and its impacts. Adapting and transforming our urban environments is urgent to improve their resilience to uncertain scenarios. These challenges require renewed urban solutions and force us to rethink their design processes. Multiple actors are involved in such processes, coming from different sectors, and sometimes having conflicting agendas and knowledge backgrounds. Many of these processes can be considered co-design processes, with actors interacting to improve the design quality, legitimacy, and feasibility. Many conceptualise cities as social-ecological systems and public spaces are their subsystems. A collaborative approach to designing public spaces contributes to integrating the social-ecological knowledge from the public, private, and citizen actors. The question remains: How is sometimes conflicting social-ecological knowledge integrated into public space co-design processes? We study two large-scale urban parks in Chile. We framed them as social-ecological systems and analysed their co-design processes. This study aims to provide insights into the difficult-to-grasp phenomena of knowledge integration in co-design processes. We analysed these cases in previous studies. Now we provide insights into social-ecological knowledge integration in co-design processes. Although framed in Latin America, the findings may be helpful elsewhere.

Keywords
Chile; co-creation; co-design; knowledge integration; public space; resilience; social-ecological systems

Issue
This article is part of the issue “Planning Around Polarization: Learning With and From Controversy and Diversity” edited by Oswald Devisch (Hasselt University), Liesbeth Huybrechts (Hasselt University), Anna Seravalli (Malmö University), and Seppe De Blust (ETH Zürich).

1. Introduction

Cities worldwide face multiple social and ecological challenges, such as climate change and its impacts. Impacts, floods and land erosions, displaced refugees, housing shortages, wildfires, wealth disparities, and pandemics are some of the problems cities face. They should be addressed with urban transformations in integrated ways (Webb et al., 2018). They require new solutions, so we should rethink the processes to design them (Colloff et al., 2017; Saad-Sulonen et al., 2018). Some suggest a resilient evolutionary approach (Davoudi et al., 2012) and climate-sensitive planning (Haasnoot et al., 2013; Peker & Ataöv, 2021) to adapting cities through nature-based solutions (Ersoy & Yeoman, 2020).

Resilience emerged in the 1970s in ecological research to define the ability of a system to change when under stress (Holling, 1973). This definition includes the capacity to withstand, re-organise, and recover (Berkes et al., 2008; Brown et al., 2021). Three resilience interpretations are often recognised: the engineering, the ecological, and the evolutionary. While the engineering approach focuses on returning to its previous state, the ecological approach accepts change as adaptation (Fingleton et al., 2012; Rose, 2004). The evolutionary resilience approach emerged to define the capacity of a system to change as a dynamic, relational, and transformable process (Carpenter et al., 2001; Davoudi et al., 2012; Folke et al., 2010; Gunderson & Holling, 2001; Walker et al., 2004). The latter is often suggested for urban planning (Davoudi, 2021). Urban resilience has been defined

as the capacity of urban systems and their social, ecological, and technical networks across temporal and spatial scales to adapt or transform (Meerow & Stults, 2016). An evolutionary approach defines that cities should be prepared for change (Davoudi et al., 2012) through participatory approaches (Peker & Ataöv, 2021). In this study, we adhere to the evolutionary resilience approach and understand cities as social-ecological systems that can persist, adapt, and transform.

Cities are often conceptualised as complex and evolving social-ecological systems (Berkes, 2017; Biggs et al., 2021; Folke, 2006; Ostrom, 2009). An adaptive resilience approach to cities as social-ecological systems challenges expert-driven processes and call for new understandings of space and time (Davoudi, 2021; Gaete Cruz et al., 2021). This study addresses the dichotomy between social and ecological systems (Berkes & Folke, 1994), where diverse actors collaborate to respond to crises creating social networks and shared visions (Folke et al., 2005). This study conceptualises public spaces as social-ecological systems and analyses their co-design processes.

Designing public spaces requires social and ecological parties (Webb et al., 2018). Designers, experts, stakeholders, and citizens are involved in such processes, coming from different sectors with sometimes conflicting agendas, values, and knowledge backgrounds (Agid & Chin, 2019; Gaete Cruz et al., 2021, 2022a, 2022b). This diversification brings together different forms of knowledge from and beyond disciplines. Multiple formal and informal knowledge, empirical knowledge (Gibbs et al., 2018), local knowledge (d'Hont & Slinger, 2022), implicit or tacit knowledge (Sanders, 2002), and perceptions (Ducci et al., 2023) from practices and experiences, capabilities (Janssen & Basta, 2022), and even values, and aims converge (Gaete Cruz et al., 2022b). Indigenous, local, and citizen expertise knowledge forms can complement traditional academic disciplines (Biggs et al., 2021). Collaboration in design challenges conventional procedures within multi-stakeholder settings to improve context-suitability (Gaete Cruz et al., 2022b; Mattelmäki & Visser, 2011; Sanders & Stappers, 2008).

Public space processes involve actors with diverging aims and knowledge fields (Webb et al., 2018). They may come from different sectors and backgrounds. Public spaces are contested, and interventions often raise conflicts. In designing them, multiple aspects should be discussed, negotiated, and deliberated (Brysch & Czischke, 2022; Castro, 2021). The wider the diversity of knowledge, aims, and values integrated into the process, the more the awareness of the diversity and uncertainty in addressing social and ecological challenges. When intervening within cities, knowledge integration is critical for systemic change (Berkes, 2009; Folke, 2006).

The co-design concept defines design processes in which actors interact to improve the design quality, legitimacy, and feasibility (Gaete Cruz et al., 2022b; Sanders & Stappers, 2008). Such interactions may result in the integration of diverse knowledge forms. We found that in co-design processes, multiple actors interacted and played a role within three co-design arenas: strategic, transdisciplinary, and socio-cultural (Gaete Cruz et al., 2022b). Then we analysed the knowledge integration design mechanisms throughout the processes (Gaete Cruz et al., 2023). However, the types of knowledge integrated still need to be determined.

In designing within social-ecological systems, knowledge integration is crucial, especially when the knowledge is conflicting, diverse, and specific. This study aims to provide insights into the difficult-to-grasp phenomena of knowledge integration throughout co-design processes. It follows previous studies analysing the same co-design processes and advances in answering how is sometimes conflicting social-ecological knowledge integrated into public space co-design processes.

The question remains: How is sometimes conflicting social-ecological knowledge integrated into public space co-design processes? To answer this question, we conceptualise public spaces as social-ecological systems and analyse the integration of knowledge throughout the co-design processes. We study two large-scale urban parks in Chile. We aim to understand how social, ecological, and social-ecological knowledge is integrated throughout the design processes. We start by analysing the actors involved in the processes and the disciplinary or non-disciplinary knowledge from consultancies and organisations. Then, we analyse the integration of knowledge reported throughout the processes based on the interviews. We were able to map the trajectories of the cases throughout the design.

This study contributes to the difficult-to-grasp phenomena of knowledge integration in blurry co-design processes. This study provides new insights into social-ecological knowledge integration in public space co-design processes. This study follows previous studies on the same cases (Gaete Cruz et al., 2021, 2022b, 2023) and elaborates further on the complex phenomena of public space co-design for resilience.

2. Social-Ecological Co-Design for Resilience

Due to the interdisciplinary nature of the resilience approach, frameworks are essential as overarching guides for collaboration (Biggs et al., 2021). Frameworks identify and organise factors to understand a phenomenon (McGinnis, 2011). In social-ecological systems research, frameworks define concepts, elements, processes, and relationships to explain or predict outcomes (Biggs et al., 2021). This study combines co-design processes and the social-ecological systems approach. We build on literature to define the analytical approach to studying social-ecological knowledge integration.

2.1. Public Space Co-Design Processes

Design is both a practice and a discipline that uses and produces new knowledge to solve ill-defined problems

(Cross, 1982, 2001; Krogh & Koskinen, 2020). Urban design and planning have dealt with uncertainties and change for a long time (Healey, 1992; Innes & Booher, 1999). Many collaborative and communicative turns have been suggested to overcome the distance between designers, planners, their users, and other stakeholders. Collaborative and participative approaches to design have emerged in the last decades to address complex problems (Manzini, 2015; Mattelmäki & Visser, 2011).

Co-design approaches refer to the collaboration of multiple actors in design processes to improve the projects (Sanders & Stappers, 2008). This study defines co-design as the collaborative approach to the design process in which multiple actors from diverse sectors and backgrounds interact, collaborate, and integrate knowledge (De Blust et al., 2019; Gaete Cruz et al., 2022b). Co-design processes are iterative and evolving, and most focus on the early phases and the fuzzy front end (Sanders & Stappers, 2014). We adhere to the iterative, cyclical, and somewhat chaotic nature of collaboration and its changes through time (Botero & Hyysalo, 2013; Di Siena, 2020; Gaete Cruz et al., 2022a).

In previous studies, we contributed two analytical co-design frameworks (Gaete Cruz et al., 2022a, 2022b). We adhered to the cyclical design conceptualisations defining the steps and phases of the projects (Hansen et al., 2019; Jonas, 2007; Roozenburg & Eekels, 1995). We then linked them to Arnstein's (1969) participatory ladder (see also Collins & Ison, 2006) to analyse processes and overcome the academic bias of focusing on co-design activities (McDonnell, 2018; Saad-Sulonen et al., 2018).

The design cycles occur throughout the phases and define how the project develops in the four steps of collection, analysis, ideation, and evaluation. This approach is conceptualised as the "trial-and-error process that consists of a sequence of empirical cycles in which the knowledge of the process, as well as the solution, increases empirically" (Roozenburg & Eekels, 1995, p. 90). As shown in Figure 1, the cycle is repeated in each phase as a frame for the analysis. The design process has a conceptual, a preliminary, and a final design phase before the implementation (Van de Ven et al., 2016). In the conceptual phase, the problem, objectives, and foremost criteria are defined to produce outline proposals (Cross & Roozenburg, 1992; Roozenburg & Eekels, 1995). In the preliminary phase, a scheme is developed from possible spatial layouts, functional displays, and material propositions (Cross & Roozenburg, 1992; Roozenburg & Eekels, 1995). During the detailing phase, the technical definitions are developed and defined (Cross & Roozenburg, 1992).

Despite the linear timeline shown in Figure 1, our understanding of co-design processes is fuzzy (Sanders & Stappers, 2008), messy, and cyclical (Botero & Hyysalo, 2013). The timeline is a simplified conceptual representation used to analyse different aspects of iterative co-design processes. This background section combines this timeline with a social-ecological system approach to further analyse knowledge integration processes.

2.2. Social-Ecological Knowledge

Urban and ecological approaches have been integrated for decades to produce socio-technical and ecological spaces and processes. For decades urban functional approaches have been contested (Geddes, 1968; Lynch, 1964; Olmsted et al., 1997; Rossi, 1966) and many have urged for the integration of urban infrastructures and the environments that support them (Carson, 1962/2009; McHarg, 1969; Spirn, 1984). Urban and ecological approaches have been brought together to broaden the limits of urbanism (Bélanger, 2016; Brown & Stigge, 2017; Mostafavi & Doherty, 2016; Waldheim, 2016). In this integrative turn, the social-ecological systems approach is helpful to conceptualise the two interlinked and interdependent systems. A collaborative approach to their design processes may improve such urban designs.

Cities have been conceptualised as complex and evolving social-ecological systems (Berkes, 2017; Biggs et al., 2021; Folke, 2016; Ostrom, 2009). The social-ecological system approach integrates humans into nature, stressing their interdependence, interconnectedness, and reciprocal feedback (Folke et al., 2016). Human and ecological systems are understood as interdependent, inseparable, and intertwined. The term emerged in the early 1990s amongst scholars in ecological economics and common-pool resource systems (Berkes et al., 1989; Ostrom, 2009). It combines social and ecological systems and an integrated adaptive system with feedback and dynamics (Biggs et al., 2015; Folke et al., 2010) that constantly change in response to internal or external pressures (Davoudi et al., 2012).

In urban design, new projects should account for the interconnectedness and interplay between the social and ecological systems and their emergent features and processes (Biggs et al., 2021; Preiser et al., 2018). To do so, they use the available knowledge within their systems, combined into a whole through human creativity in design processes (Devisch et al., 2018; Roozenburg & Eekels, 1995).

Academic disciplinary knowledge is often conceptualised as mental frames and models, technical and

Figure 1. Generic timeline for co-design processes: Cyclical steps and phases.

design knowledge (Christiaans, 1992). Non-disciplinary knowledge is often informal and refers to the practice, technical, experiential, and value-oriented knowledge. However, such classifications refer to the sources of such knowledge and their type. This study conceptualises knowledge as the information, methods, and solutions needed to design spaces, functions, flows, and institutions. It focuses on the systems that frame such knowledge types, particularly their co-design processes.

Social-ecological knowledge is needed to make cities for people and nature. Social, ecological, and social-ecological knowledge are defined in Table 1. For the scope of this study, such knowledge systems are focused on public space design. Our definition follows previous ones in understanding spatial, temporal, and organisational scales (Biggs et al., 2021). Also, the action-oriented perspectives define actors, areas, and flows (Tjallingii, 2015). We recognise that social, ecological, and social-ecological forms of knowledge are contributed to and integrated into co-design processes, as shown in Figure 2.

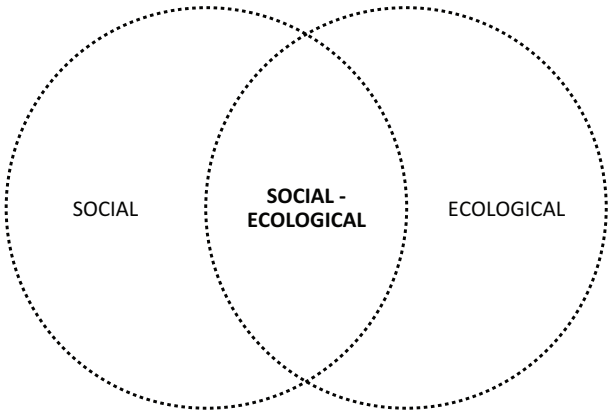

Figure 2. Diagram of the social-ecological knowledge within the system.

We recognise social, ecological, and social-ecological knowledge systems, as shown in Table 1. We acknowledge that drawing boundaries to the components of systems is challenging but valuable for analysis (Biggs et al., 2021). For this study, these categories were defined to study them interconnectedly. The social knowledge system is broadly understood and comprises socio-cultural aspects, values, and physical infrastructure details to support human settlements. The ecological knowledge system is the information about biotic and abiotic elements that allow us to comprehend, protect, and intervene towards sustaining biodiversity, forestry, flows, and supporting structures. The social-ecological knowledge system is the combined approach to the information that links and connects social and ecological spaces, functions, and institutions. We acknowledge the importance of social-ecological integrated knowledge when designing integrated and resilient public space projects.

2.3. Social-Ecological Co-Design Processes Framework

Due to the interdisciplinary nature of resilience and the social-ecological systems approach, there is a conceptual and methodological pluralism (Colding & Barthel, 2019). Analytical and conceptual frameworks have been said to be important in social-ecological systems research as overarching guides to facilitate collaboration (Biggs et al., 2021). They contribute to defining concepts, elements, and processes. In this study, we develop an analytical framework that allows different forms of knowledge to be mapped in a timeline (Figure 3).

This study's analytical framework links social, ecological, and social-ecological forms of knowledge with a generic timeline. The framework focuses on the types of knowledge present in co-design processes. In doing so, a social-ecological knowledge landscape is defined. Although schematic, the framework allows different co-design processes to be mapped, and different process trajectories can be compared for further analysis.

The framework is an evolution of the co-design process framework previously developed by the author (Gaete Cruz et al., 2022a) and contributes to further conceptualising co-design processes (Bossen et al., 2016;

Table 1. Definitions of knowledge systems.

	Definition	References
Social	Social, economic, political, cultural, technological, physical, dynamic, and institutional elements regarding communities and institutions, activities and flows, physical infrastructure, and geomorphologies	Biggs et al. (2021); Folke et al. (2016); Landman (2021); Ostrom (2007); Tyler and Moench (2012); Webb et al. (2018)
Social-ecological	Interconnected, interdependent, and interactive social and ecological systems are equally important; elements, relations, and processes	Berkes (2017); Berkes et al. (2000); Biggs et al. (2021); Colding and Barthel (2019); Ostrom (2007)
Ecological	Biotic (population dynamics, food interactions, biodiversity) and abiotic (nutrient flows, climate patterns, forestry, water, soil, and air) physical, dynamic, and institutional elements	Biggs et al. (2021); Ostrom (2007)

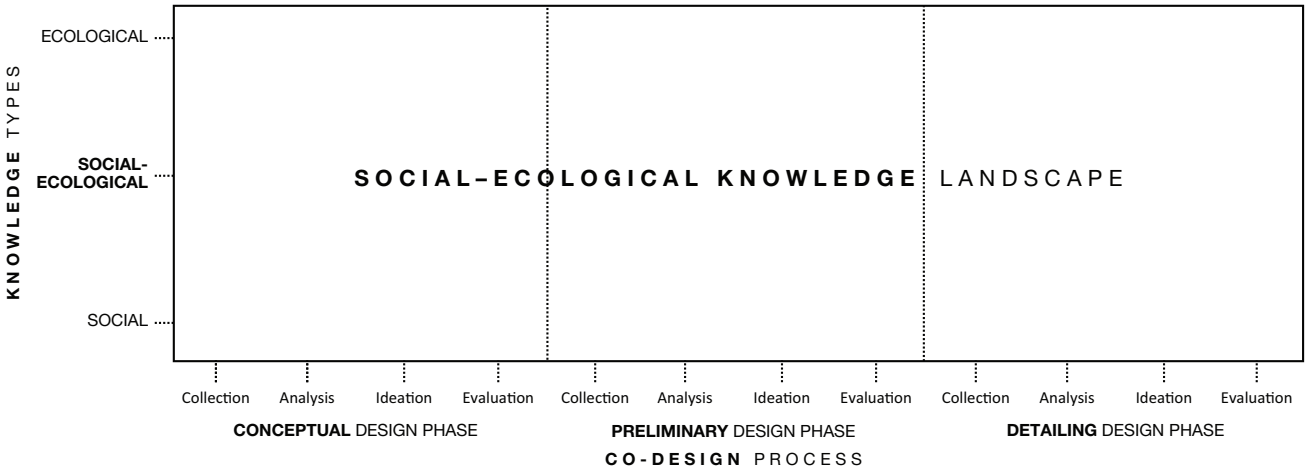

Figure 3. The social-ecological co-design processes framework.

Drain & Sanders, 2019; Nguyen, 2022; Szebeko & Tan, 2010). It contributes to studies on the resilience of social-ecological systems.

3. Method and Cases

A case study approach was used to compare two urban park co-design processes in the Atacama Desert in Chile. This section briefly introduces the cases and methodological approach.

This study analyses two co-design processes of public space projects that the author had previously analysed (Gaete Cruz et al., 2021, 2022b). The two cases were selected due to their resilience approach and collaborative design processes. Both cases are big-sized urban parks. In their design, multiple actors contributed knowledge and collaborated. The designers, experts, stakeholders, and citizens involved belonged to the public, the private, the third sector, and academia. These cases are some of the few examples of this in the country.

3.1. Kaukari Urban Park

Kaukari Urban Park is a naturalisation of the riverbank of the Copiapó River in Copiapó City (Figure 4). The urban park is 60 ha wide and develops along the river for 3.5 km in the middle of the city. In the design processes, multiple actors were involved. The process studied consists of a conceptual phase (2009–2010), where the municipal regulation plan was developed; the preliminary design phase (2011–2012), where the urban park was further designed; and the detailing phase

Figure 4. Picture of Kaukari Urban Park. Source: Courtesy of Tomás Gómez.

(2013–2014), where the construction documents and plans were developed. Many participatory sessions were undertaken with citizens throughout the process. Two public ministries had a strategic role; one (Ministry of Housing and Urbanism) focused on the urban park, while the other (Ministry of Public Infrastructure) focused on the riverbank restoration.

All interviewees considered Kaukari Urban Park an integrated social and ecological park. As defined early in the process, the riverbed urban park provides social and ecological urban solutions. This was done by integrating social and ecological knowledge provided by relevant actors such as the landscape architect and hydraulic engineering design teams and was driven and supported by the public entities involved in the process (Ministry of Housing and Urbanism and the Ministry of Public Infrastructure). However, as reported, such a solid and integrated stakeholder cohesion was complemented by a rather conventional and informative citizen participation process within a non-participative and top-down social scenario (Gaete Cruz et al., 2021).

Even though there was a general sense of urgency to restore the riverbed due to the drought (dry from 2005 until 2012), an initial lack of agreement on how the vast area had to be addressed was reported. Some initiatives that reveal such a lack of compatibility are the Rock Without River music festival on-site, the Active River water mirror, and playground structures to be installed in the river. The Kaukari Urban Park riverbed restoration can host festivals, playground areas, and other functions.

The project was designed based on community participation, which was reportedly shallow and conventional, achieving informative and consultive collaboration levels (Gaete Cruz et al., 2022b). This can be observed in the designed project with generic recreational functions and areas: multifunction squares, football fields, multi-sport fields, public toilets, extended planters, tree-lined boulevards, and promenades. This was reported to have changed in recent years as citizen participation evolved, and a wider diversity of cultural, sports, and economic functions were incorporated into the original project. One interviewee reported: "We now involve citizens in the decision-making processes of the park.''

Climate change awareness was said to have evolved in the community. There was a lack of trust in such a different approach to river flooding defences. The project support started to change after implementing one park section, and two catastrophic flooding events occurred in the city (2015 and 2017). This happened towards the end of the process, requiring the project to be adjusted. As one of the interviewees commented: "We had to improve the river's capacity dramatically…after the floodings.''

Ecological restoration and naturalisation of the river were central aims of the project, so river inflow knowledge was a central research concern and project outcome. During the design process, the caring capacity of the project was defined considering the available knowledge. However, the water volume had to be updated after the design process due to the improved climate change awareness acknowledging uncertainty. Even though the riverbed restoration played a central role in the design, it may have shadowed other ecological restoration opportunities identified in the early research phase, such as the existing greenery and trees in the desertic valley, the tailing dumps, and the possible nearby rainwater drainage, amongst others.

3.2. Antofagasta Seaside Park

Antofagasta Seaside Park is a public space throughout the 35-km-long city (Figure 5). CREO Antofagasta, a public-private citizen partnership with a living lab approach, led the project. First, many actors were summoned during the partnership's initial years in a relationship-building process (2012–2014). Then, a public contest for ideas defined the design consortium based on a proposal. Finally, the consultancy occurred (2017–2021).

The interviewees valued Antofagasta Seaside Park due to the initial collaborative approach. Stakeholders from diverse backgrounds and sectors (public, private, third sector, community, academia) were involved in an open process where the problem was defined and analysed. From this early set of participative activities promoted by the CREO Antofagasta NGO, a partnership was built for developing this and other urban development projects for the city. Interviewees valued the shared understandings as outcomes of the process. Some interviewees reported trust issues due to the lack of communication in the following phases (Gaete Cruz et al., 2022b). However, most interviewees valued that the leading designers were recognised as high quality, so there was a sense of expectation about the resulting project.

The general community supported the project due to the collaborative collection that had taken place over a couple of years. Industry associations, academics, and community and sports organisations reported this. A general sense of awareness had been built regarding the seaside's socio-cultural value and urban functions and the need to integrate the existing interventions (restaurants, sports fields, fishing areas, seaside sports structures, greenhouses, commercial areas, artificial beaches, amongst others). With a conflict matrix method, conflicting areas and activities were collectively recognised.

Neither interviewee did not report climate change awareness, and there was no mention of the sea level rise in the design process. However, interviewees reported that many natural and ecological hotspots were recognised and spatially protected early in the process with the built structures and didactic signages. This was the case with water springs, birds nesting, fishing, and rocky seashell areas.

The design team reported some iterations regarding diminishing the breakwater defence structures in the beach areas. This demonstrated a will to use fewer

Figure 5. Picture of Antofagasta Seaside Park. Source: Courtesy of Nicolás Sepúlveda.

materials and intervene at the seaside less. They reported having opted for an overall discreet intervention of the coastal areas focalising major structures only on the two artificial beaches to be built.

3.3. Case Study

This study uses a case study approach to analyse a contemporary, complex, and context-sensitive phenomenon of co-design for resilience (Yin, 1994). We chose two cases and analysed their co-design processes retrospectively. This approach allows the analysis of processes from practice and develops new knowledge (Ridder, 2017). We aim to produce both specific and generalisable knowledge for science and practice. We took an instrumental approach and developed a framework that structured the analysis and interpreted the results (Stake, 1995).

The study builds on primary and secondary data that the author obtained in fieldwork conducted in Chile in 2019 and 2020. Primary data consisted of 27 semi-structured in-depth interviews with key actors of the cases studied. To make the sampling extensive, the interviewees were selected from diverse sectors such as the public, private, third sector, academia, and society (Ridder, 2017). Secondary data were written reports, social media, press, project plans, and images.

The interviews aimed to collect the participants' perceptions regarding the processes they were involved in. They were asked to define the processes and their involvement. Explicit questions regarding the social and ecological knowledge and aspects of public spaces are designed to capture perceptions of the social-ecological systems. The interviews and data underwent a content analysis with the Atlas Ti software. A coding system was developed to classify data based on the framework of this study (Table A1 in the Supplementary File).

The author has previously studied both cases. The enablers and barriers to collaboration and design were analysed from an evolutionary resilience approach (Gaete Cruz et al., 2021). Then, the levels of collaboration of the diverse actors in the different design steps were assessed by analysing the co-design activities (Gaete Cruz et al., 2022b). The acknowledgement of the relevance of knowledge integration and co-production in co-design processes was made evident. From there, another study analyses how interdisciplinary and transdisciplinary knowledge integration occurs in co-design processes, especially if framed as multi-stakeholder design processes (Gaete Cruz et al., 2023). This study analyses the types of knowledge integrated throughout the process and validates the co-design phenomenon's results and overall complexity.

The author of this study was partially involved in the two co-design processes. In the first case, she was the project leader within the leading architecture design firm Teodoro Fernández Associated Architects. In the second case, she was the design leader of the CREO Antofagasta NGO during some time of the co-design process. The key roles in both processes allowed access to data and interviewees that would have been impossible otherwise. Additionally, valuable insights were gained due to her previous involvement in the cases and connections to relevant practitioners and organisations. We acknowledge that such involvement might bring legitimacy issues, so we addressed it through verification and triangulation. The study of these co-design processes has been iterative and from diverse conceptual approaches, as reported in previous academic publications (Gaete Cruz et al., 2021, 2022b). The analysis and results of this study were shared and verified with some interviewees for clarification and validation purposes.

4. Results: Social-Ecological Knowledge Integration

4.1. Social-Ecological Knowledge in the Cases

We classified the main stakeholders, design teams, and experts involved in the two processes according to their main knowledge contribution. The interviewees were asked to report on the knowledge or information that may have played a role in the co-design processes. The questions were kept open for them to reflect on the main aspects discussed and how they evolved when collectively prioritised. Sometimes interviewees referred to the design outcome and how the designed project considered, disregarded, or neglected certain aspects.

The interviews were complemented and verified with secondary data. This was done in two steps. First, a classification of the stakeholders, and then the design teams and experts. Table A2 in the Supplementary File shows the main stakeholders involved in the cases studied, and Table A3 the main disciplines and experts involved in the design consultancies.

In Figure 6, the stakeholders are classified according to their main knowledge focus (Table A2 in the Supplementary File). Different actors took an integrated social-ecological approach in the two cases. In Case 1, the leading stakeholders were reported to be interested in the urban park's social and ecological functions. In Case 2, not all leading stakeholders aimed for a social-ecological approach. However, this was a primary concern for the leading NGO CREO Antofagasta, the architectural firm, and some community organisations. Interestingly, no stakeholder was reported to pursue predominately ecological aims.

Figure 7 shows the design disciplines and expert studies for each design consultancy (Table A3 in the Supplementary File). This data was collected from reports and other secondary data and verified with the interviews. In Case 1, the leading design teams were urban landscape designers and hydraulic engineering design. They have played one of the most critical roles in the design process, combining river tide and urban park requirements in integrated spaces. It is worth noticing that social aspects

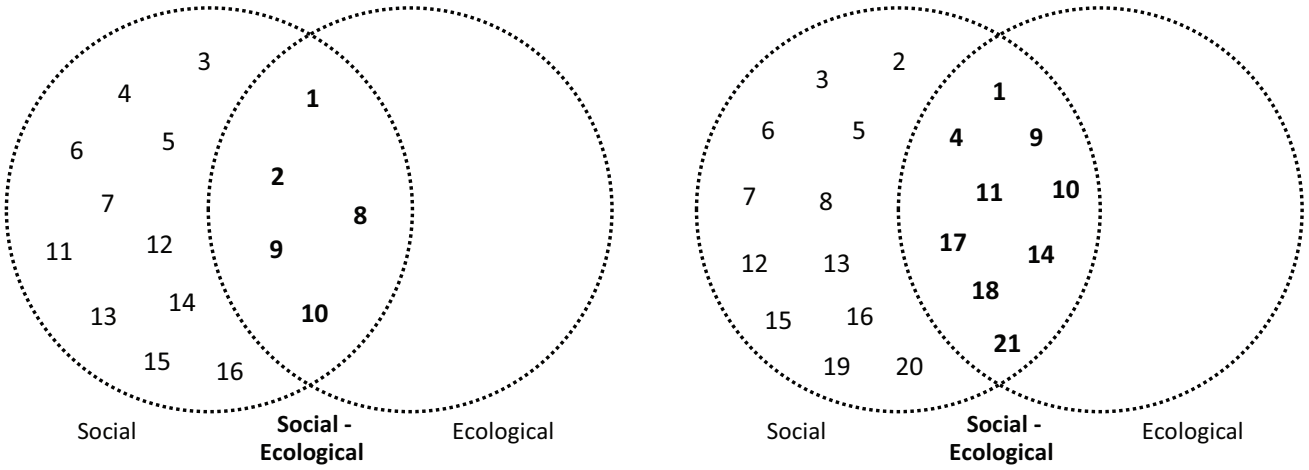

Figure 6. Classification of the stakeholders involved in the co-design processes according to their main knowledge focus.

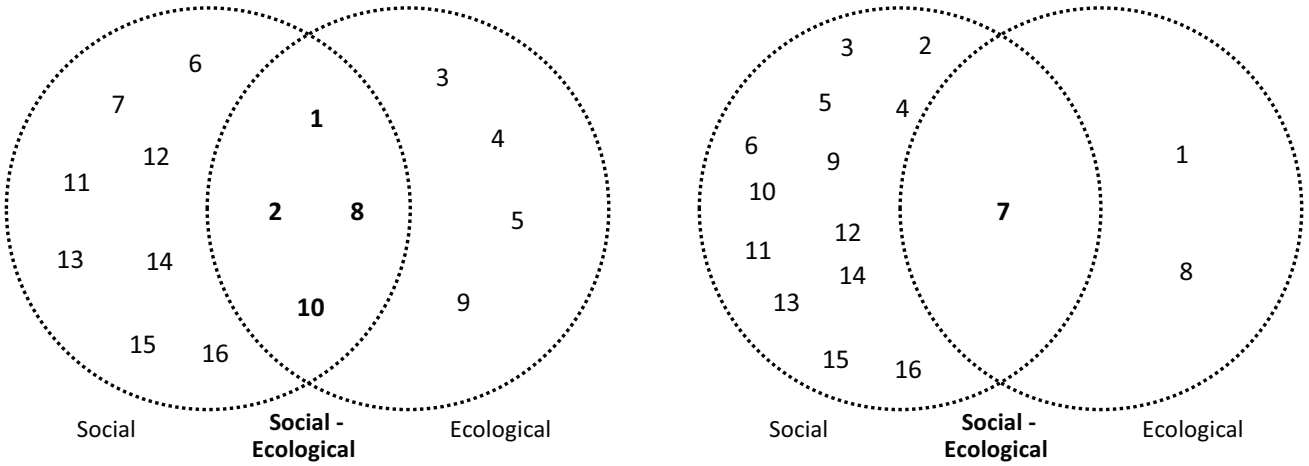

Figure 7. The design teams and experts involved in the co-design processes are classified according to their main knowledge focus.

were mainly reduced to public consultancies about the possible recreation functions of the park. Also, technical engineering projects were classified under the social category because they aim to address human needs. For Case 1, the leading design teams, and public organisations (Ministry of Housing and Urbanism and the Ministry of Public Infrastructure) aimed for a social-ecological integrated approach. This was confirmed by some interviewees that the design teams of architects and hydraulic engineers "had a common idea on the naturalisation and restoration of the riverbed" and that they "developed a way of working together throughout the design process." This was also confirmed by the public servants that commented: "They had to convince the higher authorities to work together with the Ministry of Housing and Urbanism." In Case 2, only the urban designers aimed for social-ecological knowledge integration. This may explain why they reported difficulties getting the engineers on board with such an approach. The public servants interviewed commented that they "tried to convince the neighbour public entities to commit to the project." This is further explained in the following sections.

The interviewees were asked for the informal knowledge gathered to complement the analysis of the design teams and experts involved. According to the interviewees, both cases initially aimed to collect information from citizens and citizen organisations. For both cases, this social-ecological knowledge was reported to have been collected in the conceptual phase. It influenced the following phases in which more conventional design disciplines played a more relevant role.

For Case 1, only a low amount of informal knowledge from citizen participatory studies was reported. Much of what was reported consisted of public space requirements such as football fields, traditional dance squares, market areas, open-air auditoriums, kiosks, and skate squares. Although these requirements are very relevant, they are rather conventional and generic.

Case 2 had much more informal social and ecological knowledge brought to the process. The informal social knowledge reported to have been gathered consisted of requirements for recreation and commercial functions (fishing market areas, delimitation of car parking areas, distributed cafeterias, and snack bars, amongst others), the experiential usage knowledge from citizens, sports organisations (bodyboard, surf, swimming, water polo), and local fishermen, and the existing commercial uses and activation hotspots. This was complemented by social-ecological knowledge from the historical evolution of the seaside, the experiences of the annual Sea Festival to test and promote water sports, and the value of several sports waves for surf and bodyboarding. This is in addition to the ecological knowledge of bird nesting zones, the biodiversity in the rocky seaside areas, the water spring as ecological hubs in the desert, and the natural rock pools throughout the seaside.

Social, ecological, and social-ecological knowledge was recognised to have been relevant in the co-design processes. Both cases dealt with social awareness building, social activities, and social spaces. The processes considered ecological site-specific values spatially, and conservation and restoration areas were combined with urban functions. Some sense of awareness of the climatic crisis was observed in both cases. The following section explains how knowledge integration evolved throughout the processes.

4.2. Social-Ecological Knowledge Integration Throughout the Co-Design Processes

Co-design processes can be understood throughout the three phases in which the project is developed. Figure 3 shows how social, ecological, and social-ecological knowledge was (or was not) integrated into the two cases throughout the different phases.

The design processes started with the conceptual phase, and collaboration was fostered to integrate social and ecological knowledge from multiple actors. According to Figure 8, in Case 1, social and ecological knowledge was integrated. As reported by interviewees, this mainly occurred amongst the design teams and the two public entities involved. On the other hand, in Case 2, social and ecological knowledge was integrated, but the design teams lost the social-ecological integrated approach in the following phases.

In the preliminary phase, one first design is developed, which is further technically detailed in the final phase. In Case 1, this phase sustained the social-ecological knowledge integration achieved in the previous phase. The leader of the architectural firm reported to "have worked in the same office with the hydraulic engineering team." The engineering design leader commented: "We worked together, and both disciplines developed the plans and proposals together."

On the contrary, in Case 2, the preliminary phase was challenging and failed to maintain social and ecological knowledge integration. Interviewees within the architectural design teams reported having problems "working with the engineers because of their conventional ways" and no "flexibly or willingness to make any extra coordination work." This aligns with the miscommunications and mistrust reported by industrial and society interviewees.

Towards the end, the project's technical aspects are defined in the detailing phase. Expert designers conventionally do this, so collaboration with other actors may only occur if fostered by them. How social-ecological knowledge integration happens in the previous phases determines how the technical design decisions respond to them. However, in co-design processes, knowledge influences the technical details of the projects implemented and the space's future use, management, and cooperation. Other actors may play relevant roles in preparing the future implementation of the projects.

In Case 1, the Ministry of Housing and Urbanism started with the "governance of the park" meetings to open the operation decision-making to interested

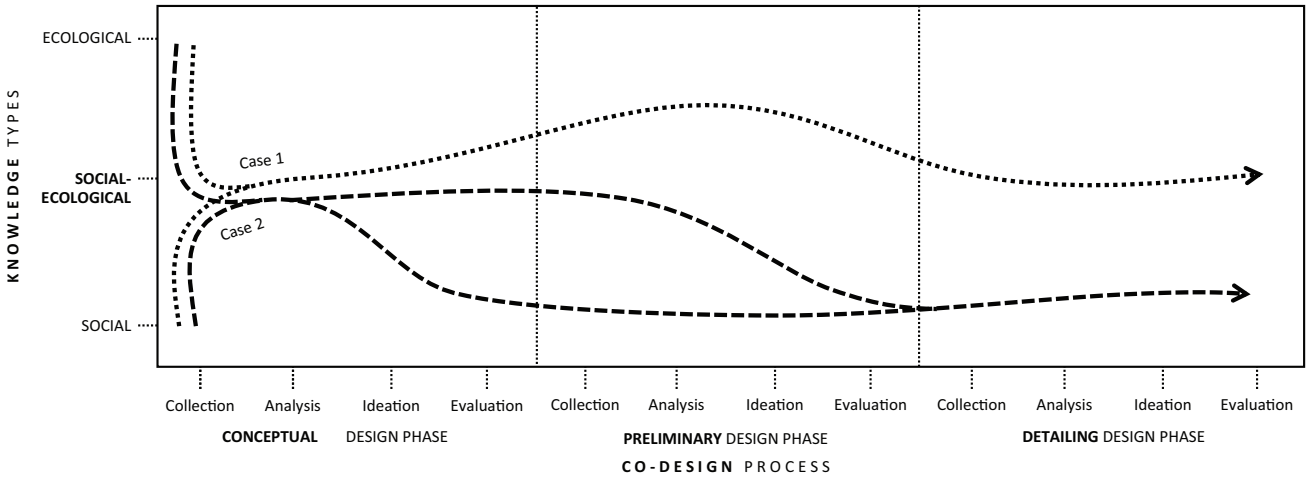

Figure 8. Social, ecological, and social-ecological knowledge in the co-design processes of Kaukari Urban Park (Case 1) and Antofagasta Seaside Park (Case 2).

people. They "invited public servants, cultural organisations, NGOs, academics and citizens" and reported that this measure improved the project's legitimacy and social knowledge towards the end of the process. This allowed them to verify some functions and sports that could be changed in the project to suit the current needs better. Similarly, the floodings that occurred towards the end of the design process also prompted changes in the final project. An additional design change had to be done to the hydraulic design for the river to contain more significant amounts of water to safeguard the city in extreme weather events.

Moreover, in Case 2, the leading NGO organisation changed its executive director, and the project leader assumed its leading role. This was said to improve the communication and involvement of the relevant actors in the first phase and to improve the process and the project definitions in this final stage.

5. Discussions and the Three Dimensions of Public Spaces as Social-Ecological Systems

In this study, we adhere to the conceptualisations of cities and their public spaces as social-ecological systems under uncertainty. Urban design practices should be collaborative to address such complexities. In doing so, social, ecological, and social-ecological knowledge are integrated. We have taken a co-design approach to analyse two co-design processes from practice.

According to the results, all three types of knowledge play a role in public space design. In the processes studied, there were different trajectories due to how the integration evolved from the initial collection of knowledge to the development of the projects where the leading design teams had a predominant role in knowledge integration. In Case 1, the leading design teams worked integrated, which was reported from the processes, the practices, and the project. In Case 2, the design teams did not maintain the initial integration. Even though the project did not address many ecological aspects, they were reported to have protected most of the ecological values mentioned.

Knowledge integration is crucial when co-designing social-ecological systems. Conflicting knowledge and polarisation were observed in the cases studied. First, there were conflicting agendas and aims amongst the diversity of stakeholders involved in the projects. Then, the projects to be implemented generated conflict among the different actors. In Case 1, the citizen and social media were sceptical of the project and its implementation. In Case 2, the inclusiveness of the conceptual phase was challenging to maintain in the following phases, so the project was mistrusted and had to change over time. The idea of knowledge integration speaks of selection. Conflicting knowledge needs to be addressed and therefore prioritised. This is especially relevant when integrating social, ecological, and social-ecological knowledge. From the knowledge collected, some aspects were disregarded or not addressed in the final designs.

Four design steps were used to conceptualise the design cycles. The first three steps are crucial to knowledge integration. The first step contributes to collecting data, information, and knowledge. The analysis and synthesis are crucial in prioritising different forms of knowledge. In this step, selection occurs with conflicting knowledge, which leads to knowledge integration. This was the case of some stakeholder or citizen knowledge and requirements that could have been considered in the projects. The ideation step is where new knowledge is produced. In some cases, social-ecological knowledge was produced as design strategies or designed projects.

Social and ecological knowledge was reportedly integrated into both processes studied. We found that knowledge is attached to its institutions. A collaborative approach to urban landscape design facilitates knowledge integration. A social-ecological approach to knowledge may contribute to opening design not only to spaces, functions, and flows but also to less conventional

forms of knowledge. In these cases, many involved actors and stakeholders pursued urban and social aims rather than ecological ones. The fact that the Natural Environment Ministry of Chile, currently in charge of promoting climate adaptation projects throughout the country, was not involved in the cases may suggest why the projects privileged urban requirements over ecological ones. This may be why ecologically focused projects are still exceptional in the country. In this study, we found that there is no perfect process and no perfect social-ecological project.

In the conceptual phase, the problem is defined and agreed upon, which allows for defining the main criteria and objectives to which the project should respond. The fact that social-ecological knowledge was present and increasing in this phase influenced the following phases. In the embodiment phase, the first design proposals are ideated, so if relevant knowledge was integrated before, it is used. The detailing phase is often technically oriented, but it is also when the implementation, use, management, and further operation can be fostered.

Findings suggest that the social-ecological systems approach to public space design may widen urban design's focus on spatial layouts and essential functions. As suggested by the interviewees, the physical and spatial dimensions were combined with dynamic and institutional ones. We found that an urban landscape project should consider physical and temporal (dynamics, flows, and activities that can be unexpected) and that they depend on their institutional systems. We confirmed that public spaces could be conceptualised as social-ecological systems. The physical dimension of public spaces considers their spaces with urban and ecological elements. The dynamic dimension involves flows, activities, mobility, and ecological biodiversity. The institutional dimension refers to the actors, their rules, and their interactions. Urban social-ecological systems should be conceptualised, analysed, and designed as interdependent spaces, dynamics, and institutions. Doing so may contribute to the awareness of social and ecological conflicts and uncertainties and open possibilities for urban resilience and adaptation.

Social-ecological systems should be studied across space and time, considering the actors at stake. This should happen not only during the design process but also throughout the whole span of the lifecycle of public space, including the previous and the implementation and operation phases. The more the awareness of unpredictable functions flows, and dynamics, the more flexible and transformable spaces will be incorporated into the design. Designers should define the crucial elements of their social-ecological systems while keeping them open for future change.

6. Conclusions

We analysed knowledge integration throughout the co-design processes of two big-sized public spaces. We wanted to answer how is sometimes conflicting social-ecological knowledge integrated into public space co-design processes. We wanted to know who contributed and integrated, what kinds of knowledge, and when this happened.

To answer the research question, we developed an analytical framework to analyse social-ecological knowledge in co-design processes. The two cases had been previously studied (Gaete Cruz et al., 2021, 2022b). This study conceptualises social-ecological systems and knowledge in co-design processes and focuses on the contents of the projects.

This study connects various bodies of academic literature. It builds on co-design literature following the author's previous studies (Gaete Cruz et al., 2022a, 2022b, 2023). This study is a step towards uncovering the roles of knowledge in co-design processes, which is especially relevant in social-ecological systems literature. According to the main findings, more stakeholders and design teams should hold a social-ecological integrated approach. Ecological expertise and design approaches should be fostered to improve urban resilience in contexts where innovation is rare.

The findings of this study should be contrasted by analysing other cases. The difficulty in grasping and communicating knowledge made it difficult for interviewees to relate to the object of study. There may be limitations to the framework's applicability and findings in other contexts. The trajectories express knowledge integration but must differentiate between interdisciplinary and transdisciplinary approaches. Further studies could focus on the roles of knowledge within and beyond disciplines. Also, the roles of tacit and explicit knowledge could be studied. This would be especially interesting if analysed in the different design steps.

Analysing social-ecological knowledge in co-design processes allowed us to discuss generalisable and context-specific findings and contribute knowledge for practice. This study contributes an analytical framework to study co-design as a social-ecological knowledge integration process. We found that multiple forms of knowledge were integrated (social, ecological, and social-ecological) throughout the three design phases (conceptual, preliminary, and detailing). This knowledge integration occurs in the collection, analysis, and ideation design steps. Stakeholders, design teams, experts, and citizens contribute and integrate knowledge in these steps. This study advances the conceptualisation of knowledge integration in co-design.

Further research should aim to understand how integrating sometimes conflicting social-ecological knowledge may improve resilience. Approaching social-ecological systems as unfolding in space, dynamics, and institutions may allow the assessment of urban resilience. This study is the baseline for analysing public space projects and the embodied resilience of their design strategies. The author is currently assessing the resilience of public space design strategies.

Although the cases are framed in the Latin American context, findings may be useful elsewhere. The framework may be used for social-ecological systems research, and findings may provide guidelines for co-design practice.

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Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

A Comparative Study of Polarization Management Around Energy Transition-Related Land-Use Conflicts in The Netherlands

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Abstract
The Dutch national government has decided to push the implementation of the "energy transition" it aspires to by inviting clusters of municipalities (so-called RES regions) to develop a regional energy strategy (RES). However, since the new renewable energy land-use claims compete with a growing number of land-use demands, RES implementation confronts land-use conflicts, resulting in complex trade-offs for conflict resolution and planning around polarization. In the Dutch context of land scarcity and a rich planning tradition that arose specifically to deal with this and ensuing conflicts, the need for integrated landscape management seems obvious. This article offers a comparative case study of two RES-related land-use conflicts and their management in South Limburg, focusing on the question of how far these cases display elements of an integrated landscape approach (ILA). The ILA is applied as an analytical framework to evaluate the land-use conflict management processes of the case studies by assessing which elements of ILA are present and whether their relative presence and quality help to resolve the conflicts. Based on document and media content analysis and 15 interviews, this article analyzes the different land-use claims, objectives, and landscape values identified in two RES areas and how they overlap or compete, resulting in conflicts or synergies. Our findings show that the ILA provides useful guidelines for tackling RES-related land-use conflicts, but does not pay sufficient attention to the political dimension.

Keywords
energy transition; integrated landscape approach; land-use conflict management; land-use conflicts; renewable energy development; the Netherlands

Issue
This article is part of the issue "Planning Around Polarization: Learning With and From Controversy and Diversity" edited by Oswald Devisch (Hasselt University), Liesbeth Huybrechts (Hasselt University), Anna Seravalli (Malmö University), and Seppe De Blust (ETH Zürich).

1. Introduction

If the Netherlands wishes to meet its national climate goal of reducing carbon emissions by at least 49% in 2030 and 95% in 2050 (Rijksoverheid, 2019), large-scale renewable energy development, like solar and wind farms, is likely to make an increasing claim on already scarce land resources. The National Program Regional Energy Strategy sets out the Dutch national government's plan to generate 35 TWh of renewable electricity on land by 2030. To achieve this goal, 30 clusters of municipalities (so-called RES regions) have been established within the existing twelve Dutch provinces. This way, the national government aims to incentivize local governments, residents, businesses, grid operators, and civil society organizations to jointly develop a regional energy strategy (RES) and identify RES search areas for renewable energy development. The RES aims to be an important guiding document that determines how much renewable electricity each RES region can contribute to the national target, recognizing that each region faces unique opportunities and limitations (Stuurgroep RES Zuid Limburg,

2020). On 1 July 2021, the RES Zuid Limburg 1.0 was submitted to the state for the South Limburg region. The RES is supposed to be updated every two years based on national agreements and new insights and developments. However, it is important to note that the RES for each region has no formal status until it is approved by municipal and provincial democratic bodies.

Given the significant spatial implications of the energy transition, the RES can also be seen as a spatial transition that may lead to land-use conflicts. Land-use conflicts occur when "there is incommensurability between different land uses" (Boonstra, 2009, p. 10), which happens when forms of land use are mutually exclusive (Boonstra, 2009). Incommensurability outlines an "essential difference between interests and values" since "interests can be made commensurable (often financially) but values cannot be measured with a common scale" (Boonstra, 2006a, p. 2). Brown and Alessa (2005) introduced the concept of landscape values for land-use planning: People who develop a degree of place attachment to an area, are more likely to resist changes in land-use that disrupt this attachment, due to identification with, or dependency on these places. Alessa et al. (2008, p. 29) define landscape values as "those values people associate with the places where they live, work, visit, or otherwise attach meaning to." Building on this, Brown et al. (2015, p. 196) identify land-use conflicts as "differences in landscape values and land use preferences.''

In the Netherlands, RES-related land-use values are competing with multiple other land-use claims. Being one of the most crowded countries globally in terms of population density and economic production per square kilometre, the Netherlands experiences an increase in spatial pressure, which is expected to grow towards 2050 (College van Rijksadviseurs, 2020; DenkWerk, 2020). Several competing demands claim extra space, which will lead to difficult choices. To account for a rising number of households, an estimated 1.6 million new homes are needed, of which 10 to 12,000 are needed in Limburg, the Dutch province with the smallest growth in housing supply (Hubers, 2021). Provinces must also acquire tens of thousands of hectares of new nature to reach biodiversity targets, and land needs to be allocated differently to adapt to the impacts of climate change (van Dinther, 2020). Additionally, if farmers want to preserve farmland for producing food and work less intensively and more organically, a larger space is needed (Berezow, 2017). The transition to a circular economy requires not only technology and expertise but also land as companies request the necessary space and infrastructure to achieve this (Leunissen, 2020).

The energy and spatial transition are particularly complex for the RES region of South Limburg, intending to contribute 1.3 TWh to the national task, made up of wind-on-land (0.17 TWh), large-scale solar on roof (0.71 TWh), and solar on land (0.45 TWh); only 0.056 TWh is yet realized (Stuurgroep RES Zuid Limburg, 2021). Several land-use restrictions are in place, embodying a protected National Landscape and Natura 2000 area and the second most urbanized area of the Netherlands. These restrictions are illustrated by the Provincial Zoning Plan Limburg (*Provinciale Omgevingsvisie* in the original, also known as POL14), which currently forms the provincial spatial vision and is reflected in regional and local policy. The plan considers the national landscape of South Limburg unsuitable for the placement of wind turbines and, therefore, excludes this area for wind energy, except for the urbanized area.

Considering that change in the social and physical environment is inevitable and a catalyst for conflicts, the focus should be on conflict management instead of conflict avoidance (Boonstra, 2009; Brown & Raymond, 2014; Keough & Blahna, 2006). As land-use conflicts deal with incommensurable values, conflict resolution is not applicable because it aims for commensuration (Boonstra, 2006b). Therefore, management better indicates the efforts made to bring values together and reach mutually beneficial outcomes in land-use planning (Keough & Blahna, 2006). Nonetheless, managing land-use conflicts and competing objectives is complicated and context-specific, as it deals with social dynamics, complex natural systems, uncertainties, and long-time scales (Petrescu-Mag et al., 2018; Sayer et al., 2013).

Reflecting the wider shift to governing by governance (Jordan, 2008; Stoker, 1998) and horizontal coordination for joint problem-solving (Bowen et al., 2017), the Netherlands decentralized spatial planning, increased regional partnerships as instruments for realizing state policy, and privatized key elements such as the energy system (Kuindersma & Boonstra, 2010; van Dinther, 2021). The RES is an example of this, making provinces and municipalities responsible for guarding the spatial quality, collaborations, land-use conflict management, and decision-making processes.

Due to this decentralization of power and responsibilities, participative approaches for land-use planning and conflict management are increasingly used to secure legitimacy and support (Boonstra, 2006b). Many scholars encourage inclusive participation of stakeholders in decision-making to encompass a diversity of values, prevent collective protests and safeguard natural resources (Keough & Blahna, 2006; Mann & Jeanneaux, 2009; Reed et al., 2017; Sayer et al., 2017). By assembling stakeholders and recognizing their aspirations for the landscape within an effective facilitation and negotiation process, sociocultural, economic, and environmental goals can be aligned (Keough & Blahna, 2006; Reed et al., 2017; Sayer et al., 2013).

Provinces and municipalities struggle to reach their climate goals as land-use conflicts emerge, which are challenging to reconcile. In North Limburg, in 2018, a conflict around the construction of a wind farm in Venlo resulted in a political dispute, lawsuits, and damage claims; the same month, environmental group Schinnen-Spaubeek declared to do "anything to prevent" energy parks being developed, after learning that land

near De Horse industrial estate is marked as a search area for the RES (Claessens, 2021). These debates are not surprising considering 46% of Limburg inhabitants affirmed in research for the new Provincial Zoning Vision that energy development should not be at the expense of the landscape (Provincie Limburg, 2020). Considering the diversity and complexity of the land-use demands involved, the Dutch context of land scarcity, and a rich planning tradition that arose specifically to deal with this and the ensuing conflicts, the need and the opportunity for integrated landscape management are present.

The integrated landscape approach (ILA) received increasing attention in the recent scientific literature (Arts et al., 2017; Esch et al., 2017; Ros-Tonen et al., 2018). As developing countries face the effects of competing demand for natural resources and increasing pressure on nature the most, the landscape approach arose as a "decision support solution" for the growing number of development issues, e.g., conflicting claims (Horn & Meijer, 2015, p. 7). ILA is internationally regarded as an answer to current and future global challenges by reconciling competing objectives for natural resources (Freeman et al., 2015; Reed et al., 2020; Sayer et al., 2017; van Oosten et al., 2021). It is an alternative approach to conventional sectoral land-use planning by removing silo-thinking and acknowledging that land comprises multiple cross-sectoral objectives (Arts et al., 2017; Horn & Meijer, 2015; Reed et al., 2015). This article adopts the definition of ILA as employed by Sayer et al. (2013, p. 8349), i.e., as "processes, tools, and concepts for allocating and managing land within a landscape of competing land uses, to achieve social, economic and environmental objectives" to analyse RES-related planning around polarization. Sayer et al. (2013) synthesized the consensus on landscape approaches and good practices in "Ten Principles for a Landscape Approach to Reconciling Agriculture, Conservation, and Other Competing Land Uses," which are used in this article to examine RES-related land-use conflict management.

This article uses a comparative case study approach to analyze how far the management of RES-related land-use conflicts in the RES region of South Limburg displays elements of the ILA and whether the relative presence and quality of these help resolve the conflicts. We chose two case studies for comparative analysis: the RES search areas Abdissenbosch and Akerweg, both located in the municipality of Landgraaf, part of the conurbation called Parkstad in the Dutch province of Limburg. Parkstad is the second most urbanized area in the Netherlands, with a high population and building density. Both cases sparked a need to reconcile competing land-use claims. These finalized cases are suitable for comparison, as they operate in a similar governance context.

Considering the energy transition is just starting to unfold, research has yet to identify and evaluate the emerging challenges for land use. Given the complex and pressing nature of land-use conflicts that arise from the energy transition, effective management strategies are urgently needed. This research contributes to this field by presenting a comparative case study that examines the effectiveness of the ILA in managing polarization and conflict around energy transition-related land use. By shedding light on the potential of the ILA to facilitate collaboration and coordination among stakeholders with varying values and interests, this study emphasizes the importance of considering local contexts and unique challenges when implementing land-use management strategies.

2. The Integrated Landscape Approach

The landscape (level) theory is particularly relevant for this research, as competing land-use claims may result in wicked problems, demanding a more integrated and interdisciplinary approach with a better understanding of complex social dynamics and natural systems. Furthermore, interpreting the landscape as a socio-ecological system (Denier et al., 2015, p. 26), allows for studying land-use conflicts and their management on multiple scales and levels, supporting better problem formulation, and preventing a type III error—solving the wrong problem (Hoppe, 2010).

Following the definition of ILA as employed by Sayer et al. (2013), the landscape approach is called "integrated" because it brings together stakeholders of different sectors and integrates their pursued objectives to establish more sustainable development. Horn and Meijer (2015) created a useful overview that shows the integrated nature of ILA by placing the different stakeholders and their primary objectives within a 3-set Venn diagram (*people*, *planet*, *profit*). We will address this as the 3P-diagram hereafter. In Figure 1, the ILA can be seen right in the middle, incorporating the three domains and their associated stakeholders. ILA aims to develop a shared vision among stakeholders and improve understanding of the landscape conditions (e.g., ecosystem health) and needs (e.g., biodiversity). By increasing knowledge of the dynamics in a landscape and the ecosystem services, ILA intends to support long-term sustainable planning and decision-making to reduce the harmful impacts of human activities (Horn & Meijer, 2015).

The 3P-diagram is a practical tool to map the stakeholders and their objectives identified in the case studies and illustrates which objectives overlap or compete with each other. However, it remains unclear which objectives are linked to which actors, as they are displayed separately, which we have added in our application of this tool (see the 4P-diagram in Figure 6). A plethora of landscape frameworks and initiatives arose over the years across various sectors, resulting in knowledge fragmentation and redundant re-inventions (Reed et al., 2015). Following an intergovernmental and inter-institutional process, Sayer and colleagues' guidelines were developed and accepted broadly by scholars and practitioners (see Arts et al., 2017). Figure 2 illustrates Sayer et al.'s (2013) ten principles and the objectives they

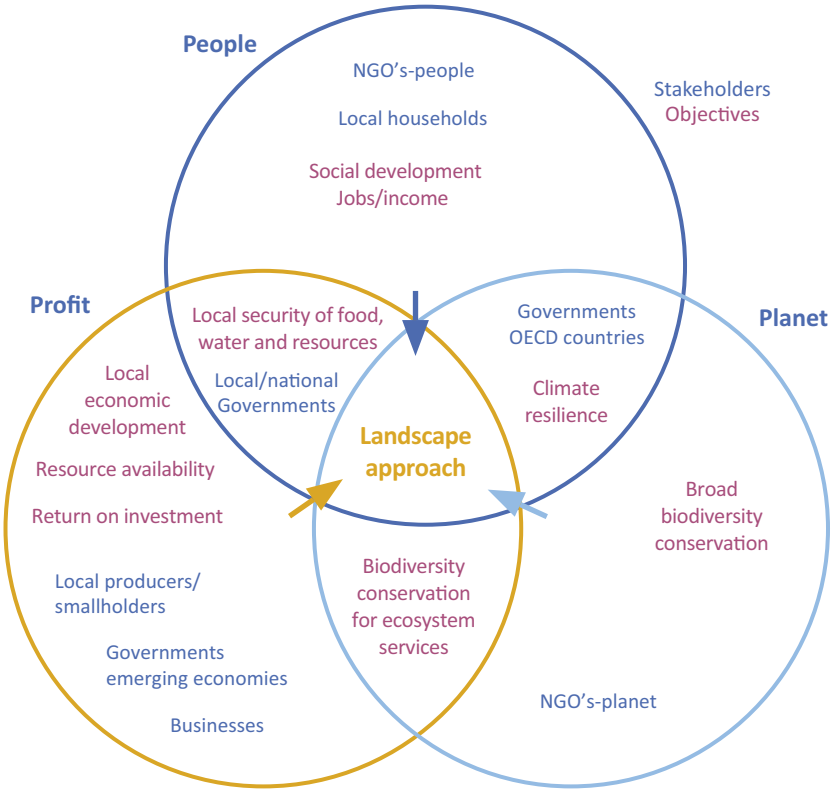

Figure 1. ILA 3P-diagram based on Horn and Meijer (2015).

pursue. They are applied to the case studies of this article to investigate land-use claims and the complex act of collectively managing the competing social, economic, and environmental objectives, trade-offs and synergies within the landscape, the role of public participation and the inclusion of stakeholders, and the role of sustainability in the planning, management, and decision-making processes related to land-use conflicts.

The ILA has received both praise and criticism. One common critique of the approach is the assumption

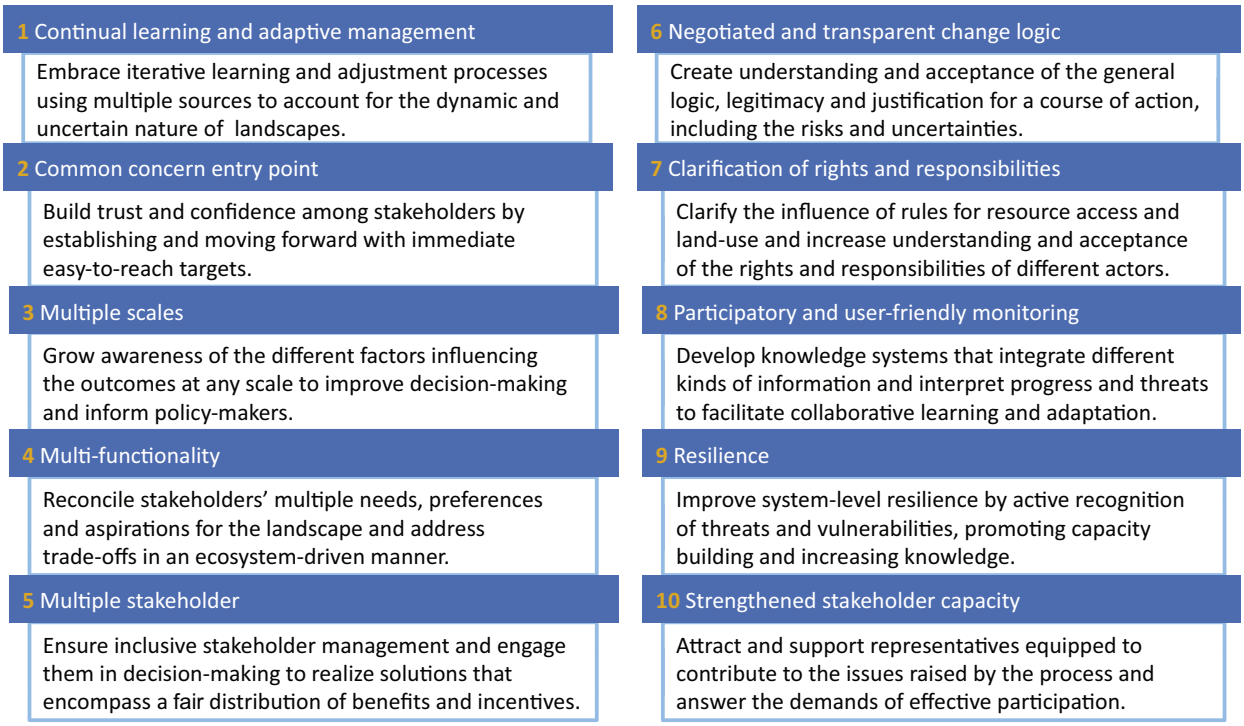

Figure 2. Objectives of the ten principles outlines by Sayer et al. (2013).

that competing objectives can be integrated at the landscape level and that all stakeholders share the same desire to achieve sustainable development (Arts et al., 2017). However, in reality, stakeholders often hold different and incommensurable values, and achieving consensus may be difficult or even impossible. Additionally, ILA may face challenges in measuring progress and outcomes in a wicked problem domain, where simple performance assessment and analytical evaluations may not be adequate (Sayer et al., 2013). Another obstacle to successful cross-sectoral integration is the bureaucratic structures of modern administrations, which often operate in sectorial silos with distinct decision logics (Arts et al., 2017). Such structures and institutions can limit collaboration and coordination across different sectors and make it difficult to achieve meaningful integration of objectives. Finally, Sayer et al. (2013) note that less developed countries may lack the resources and capability to cultivate long-term multi-stakeholder engagement. Advanced economies may achieve greater success by leveraging good governance practices and a more powerful civil society. Overall, these criticisms suggest that the ILA may face significant challenges in practice.

3. Methodology

The article is based on exploratory research investigating land-use claims and conflicts in relation to the RES South Limburg. A comparative case study approach using qualitative research methods was adopted to recognize the context-specific factors influencing land-use claims, conflicts, and their management in South Limburg as they operate within a socio-system (Patten & Newhart, 2017). The research was conducted from June to August 2021.

A preliminary screening of potential cases in South Limburg was done through desktop research on the RES search areas identified by Stuurgroep RES Zuid Limburg. Then, media content analysis was performed using the media search engine LexisNexis and the online archive of the regional daily newspaper *De Limburger* to identify competing land-use claims and land-use conflicts in these search areas and to analyze land-use claims and objectives. The media affirmed that Parkstad faces challenges in achieving its RES targets with emerging land-use conflicts. The municipality of Landgraaf frequently featured in regional news about the developments of the energy park Abdissenbosch and solar park Akerweg. Both initiatives display a need to reconcile competing land-use claims. Landgraaf takes a frontrunner position in Parkstad, carrying out the RES while neighboring cities such as Heerlen and Kerkrade have not decided yet on concrete locations. For that reason, two finalized cases in Landgraaf were selected for comparison, being well suited for this purpose due to their similar governance contexts. In total, 26 media reports were examined for land-use claims, objectives, and values, in addition to patterns and relationships related to Sayer et al.'s (2013) ten principles.

To complement the media analysis, document analysis was performed based on government publications, records of council meetings, and other official reports related to the energy transition and the case studies. The online city council archive was used, providing a rich source of data. It contains amendments, political questions to the college, decision lists, motions, city council information letters, and commitments made by the college. We analyzed all council meeting notes and documents from 11 April 2018—15 July 2021. In addition, we analyzed the recorded council meetings of 25 February 2021 and 16 June 2021 as they covered the political discussion on the energy parks and the RES targets. Moreover, the websites of the identified actors were investigated for (research) reports and perspectives. In total, 55 documents were included in the analysis of land-use claims, objectives, and values in addition to patterns and relationships related to the ten principles.

Finally, we held 15 semi-structured in-depth interviews to analyze the context and dynamics behind the land-use claims, conflicts, and conflict management in the case studies. We used purposive sampling based on the previous document and media content analysis and an additional online search, and selected actors based on their (potential) knowledge about the case study. Nearly all interviews were conducted online and followed an iterative approach, allowing for supplementary questions in the following interviews.

For analyzing the landscape claims, objectives, and values involved in both cases, the typology of 14 landscape values classified by Brown (2004) served as the basis for mapping the actors' landscape values. We added *climate*, *well-being*, and *ecological* as standalone landscape values to adapt to the specific contexts and data of the case study. Furthermore, a clear distinction is made between *biological* values, where stakeholders admire areas because of the existence of plants and animals, and *ecological* values, where biodiversity and the ecosystem play a more prominent role. As a result, 17 spatially-representative landscape values are identified (see Figure 3). For most actors, the research found several landscape values, without specifying ranking. For this reason, we included all the identified values to account for completeness and prevent bias. Also, actors often used ancillary issues (von der Dunk et al., 2011) when voicing their conflicts. Therefore, the values are depicted in alphabetical order in the table, as no rank order is implied or should be inferred.

For the analysis and easy visual representation of overlapping and competing land-use claims, we customized Horn and Meijer's 3P-diagram to show the interconnected nature of the various land-use claims in the case studies. Considering land claims are made to achieve land-use objectives, the identified actors and their objectives were placed in the corresponding circles—*people*, *planet*, and/or *profit*. The resulting diagrams for each case study illustrate which objectives

Landscape values	Description
Aesthetic	Area valued of the attractive scenery, such as sights, smells or sounds
Biological	Area valued because it provides places for a variety of plants and animals
Climate	Area valued because it can help meet climate ambitions
Cultural	Area valued because people can continue to pass down wisdom, traditions and a way of life
Ecological	Area valued of its significance on biodiversity and support of the ecosystem
Economic	Area valued because it offers economic opportunities
Future	Area valued as they allow future generations to know and experience the areas as they are now
Heritage	Area valued because they have natural and human history
Intrinsic	Area valued for their own sake, now matter what others think about them or whether they are used
Learning	Areas valued because they can be used to learn about the environment
Life-sustaining	Areas valued because they help produce, preserve, clean and renew air, soil and water
Recreational	Area valued because it offers recreation activities and experiences
Spiritual	Area valued because they are sacred, religious, spiritually important
Subsistence	Area valued because it provides for necessary food and materials to sustain people's lives
Therapeutic	Area valued because they make people feel better, physically and/ or mentally
Well-being	Area valued because it supports or protects human well-being
Wilderness	Area valued because they are wild

Figure 3. Predefined landscape values and their descriptions.

overlap or compete. The area where all three circles overlap depicts reconciled objectives and a shared vision among stakeholders. Since politics forms a critical domain of external influence, affirmed by the case studies, the customized 3P-diagrams were then extended by adding a fourth P—politics—creating a 4P-diagram. Politics is displayed as an external sphere and not presented as a fourth circle, since the model aims to provide a simplified and easy-to-understand representation. The 4P-diagrams illustrate how the political actors connect to the other actors and how their objectives and (political) decisions influence the process.

For the analysis of the conflict management in these cases, Sayer et al.'s (2013) ten principles for an ILA were used as an analytical framework to map and analyze the land-use conflict management process of the Abdissenbosch and Akerweg area. Thereby, we analyzed how and why the competing land-use claims resulted in land-use conflicts or synergies. We determined 21 process indicators connected to the ten principles to assess the realization of the principles in the case studies. These process indicators were established by identifying the elements for a successful reconciliation process by studying descriptions of the ten principles, the identified objectives, and their related challenges and opportunities. The land-use conflict management process of Abdissenbosch and Akerweg was analyzed and described by qualitatively scoring the performance of the process indicators on a Likert scale and comparing the results (see Supplementary File 3). Document analysis, media content analysis, and interviews were used to obtain the data.

4. Results: Land-Use Claims, Conflicts, and Management in Two RES Areas of Landgraaf

4.1. The Case Studies

The first case study in Abdissenbosch is a former landfill site known as Kreupelbusch, located on the northern outskirts of the municipality, next to the border with Germany (see Figure 4). As the landfill was finished off with a covering layer, excavating may go no deeper than 60 cm (Arcadis, 2019). The Kreupelbusch area fulfils various functions: former landfill, landfill gas extraction, nature, recreation, and energy development. Despite its history and recent developments, the area falls in the protected Gold-Green nature zone and is positioned between Natura 2000 areas Brunssummerheide and Tevenerheide. Nevertheless, the area was located as a search area for wind turbines in PALET 1.0 and the concept version for RES but was later adjusted in the final version.

The second case study is located on the northeastern outskirts of Landgraaf (see Figure 5). The area consists of three separate parcels of farmland totaling approximately 9.6 hectares and is surrounded on the right by forest considered Gold-Green Nature (Kronos Solar,

Figure 4. Abdissenbosch map captured using Openstreetmap on PDOK.

2020). The area falls outside of Natura 2000 and the Nature Network Netherlands, but is designated as a "silence area" and has medium, high-to-very high archaeological expectations (Provinciale Staten van Limburg, 2019). Within the PALET and RES, the area is located in the search area for large-scale solar energy generation (Bos, 2021). However, resulting from the zoning plan, the following uses are assigned for the area: sustainable agriculture; control and prevention of soil erosion and flooding; preservation and development of the natural, landscape, cultural-historical, and archaeological values present; protection of the adjoining nature reserve, the so-called buffering; opening up of the individual plots; recreational co-use (Kronos Solar, 2020). Therefore, within the rules of the current zoning plan, it is not permitted to realize a solar park at this location, and a planning permit must be applied for.

4.2. Land-Use Claims, Objectives, and Landscape Values

Eight of the 17 predefined Landscape values were identified for the Abdissenbosch area (see Supplementary File 1): *biological*, *ecological*, *climate*, *well-being*, *economic*, *aesthetic*, *recreational*, and *learning*. The advisory group counts the most landscape values (4x), which may reflect the fact that the group consisted of people from diverse backgrounds, representing different interests. In addition, two of the values identified for this group—*recreational* and *learning*—were not identified for any other group. The landscape values

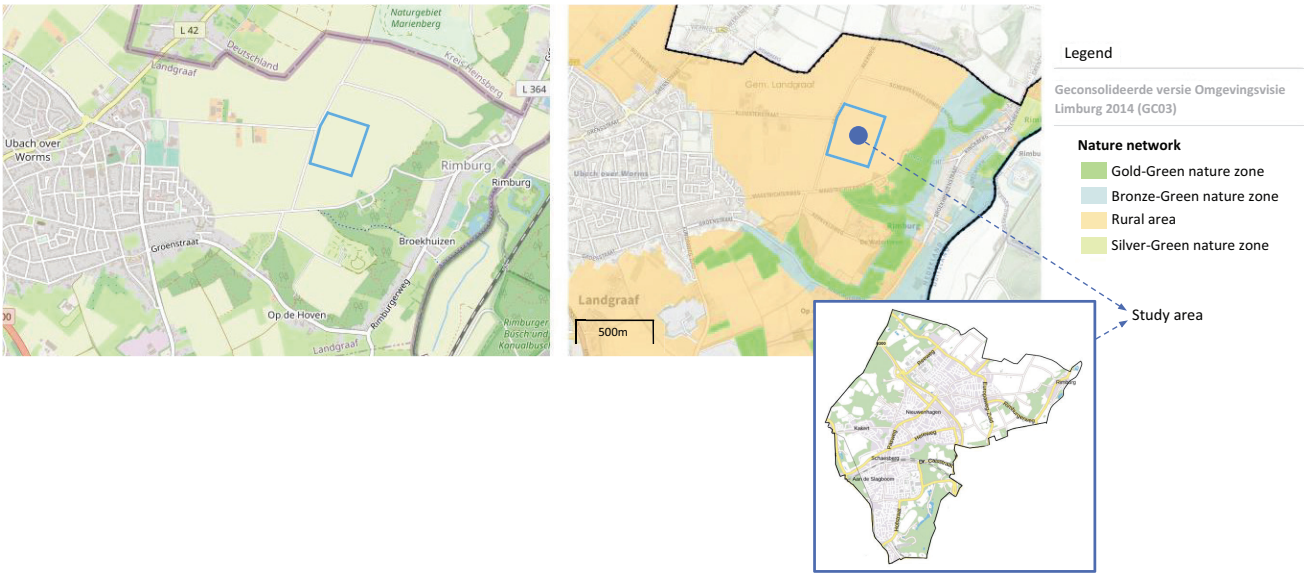

Figure 5. Akerweg map captured using Openstreetmap on PDOK.

cultural, *future*, *heritage*, *intrinsic*, *life-sustaining*, *spiritual*, *subsistence*, *therapeutic* and *wilderness* were not identified for any stakeholders making claims on the Abdissenbosch area.

In the Akerweg case, eight of the 17 predefined Landscape values were identified (see Supplementary File 2): *biological*, *climate*, *aesthetic*, *economic*, *subsistence*, *recreational*, *ecological*, *and well-being*. The political parties share many values with local residents, which may reflect that they represent the population and a variety of different interests. The value *well-being* was identified exclusively for the political parties SP, VVD, OPL, and Progressieven, taking place on a local level and social scale (Gemeente Landgraaf, 2021a, 2021b). For six (out of 11) actor groups, the value *biological* was recognized, covering all 4 Ps, playing out on a local level as the actors claim to share the importance of nature and farmland conservation, and deer protection. The landscape values *cultural*, *future*, *heritage*, *intrinsic*, *learning*, *life-sustaining*, *spiritual*, *therapeutic*, and *wilderness* were not identified for any stakeholders making claims.

Comparing the two cases shows that seven of the eight recognized landscape values are similar (i.e., *biological*, *climate*, *aesthetic*, *economic*, *recreational*, *ecological*, and *well-being*) but that the value *learning* was exclusively found for Abdissenbosch and the value *subsistence for* Akerweg. In both cases, the value *biological* was recognized as being the most prominently present, compared to the other values. However, the landscape value *aesthetic* appeared more dominant for Akerweg. The landscape values *cultural*, *future*, *heritage*, *intrinsic*, *life-sustaining*, *spiritual*, *therapeutic*, and *wilderness* have not been identified for any stakeholders in either case.

4.3. Overlapping and Competing Land-Use Claims

Figures 6 and 7 illustrate the use of a 4P-diagram in which land-use objectives overlap or compete with each other. In both cases, the research identified that the energy development objectives of the municipality, province, and initiators compete with residents because they desire pleasant scenery and with local parties due to environmental and well-being protection. For the Abdissenbosch area, the *planet* actors *Natuurmonumenten* ("nature monuments") and Natuur en Milieufederatie Limburg Limburg (Federation for Nature and Environment Limburg) directly opposed the energy development objectives due to the Gold-Green

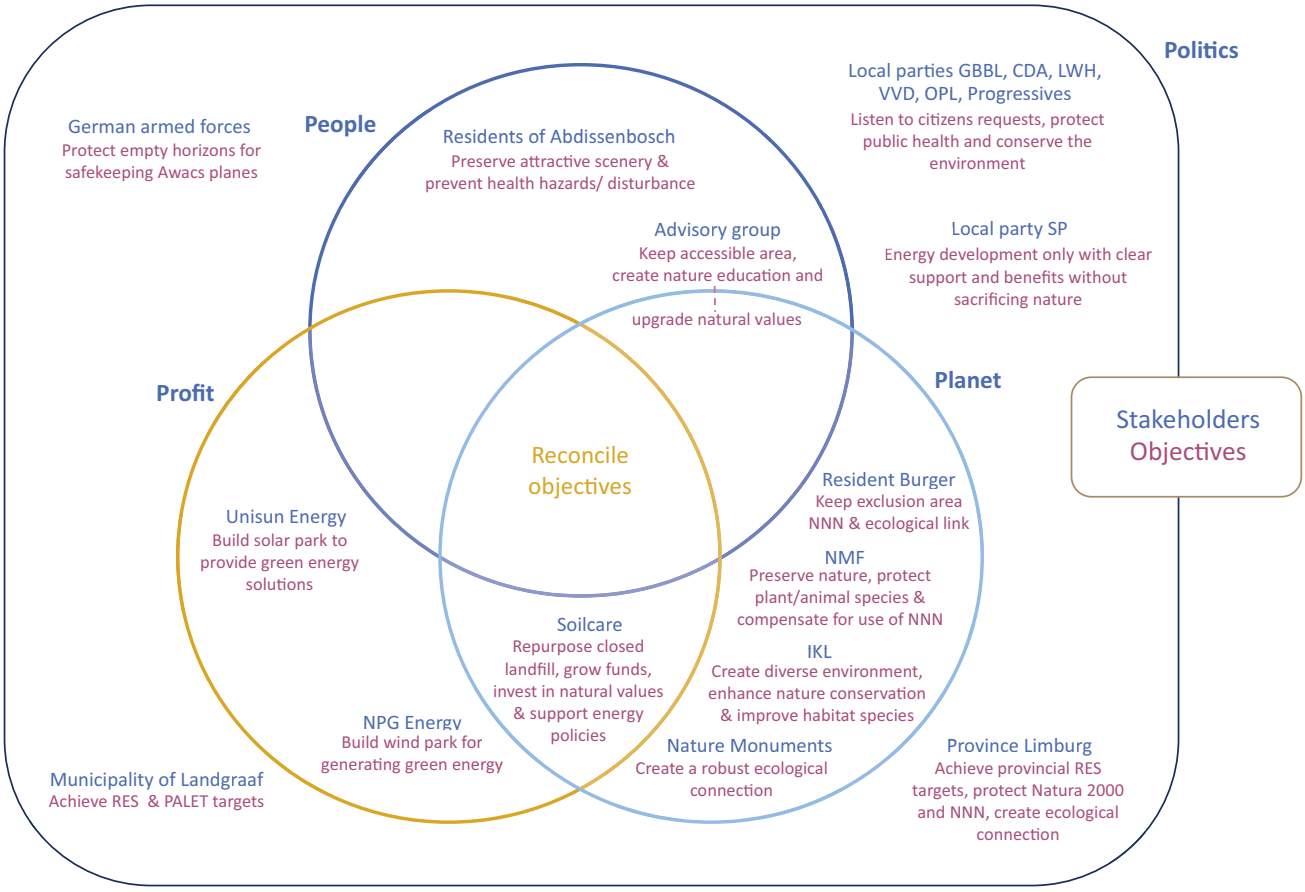

Figure 6. 4P-diagram of Abdissenbosch and overview of stakeholders and their objectives. Notes: CDA stands for Christian Democratic Appeal, GBBL for Common Citizens Interest Landgraaf, LWH for List Wiel Heinrichs, IKL for Landscape Organisation Limburg, NMF for Nature and Environment Foundation, OPL for Senior Party Landgraaf, SP for Socialist Party, and VVD for People's Party for Freedom and Democracy.

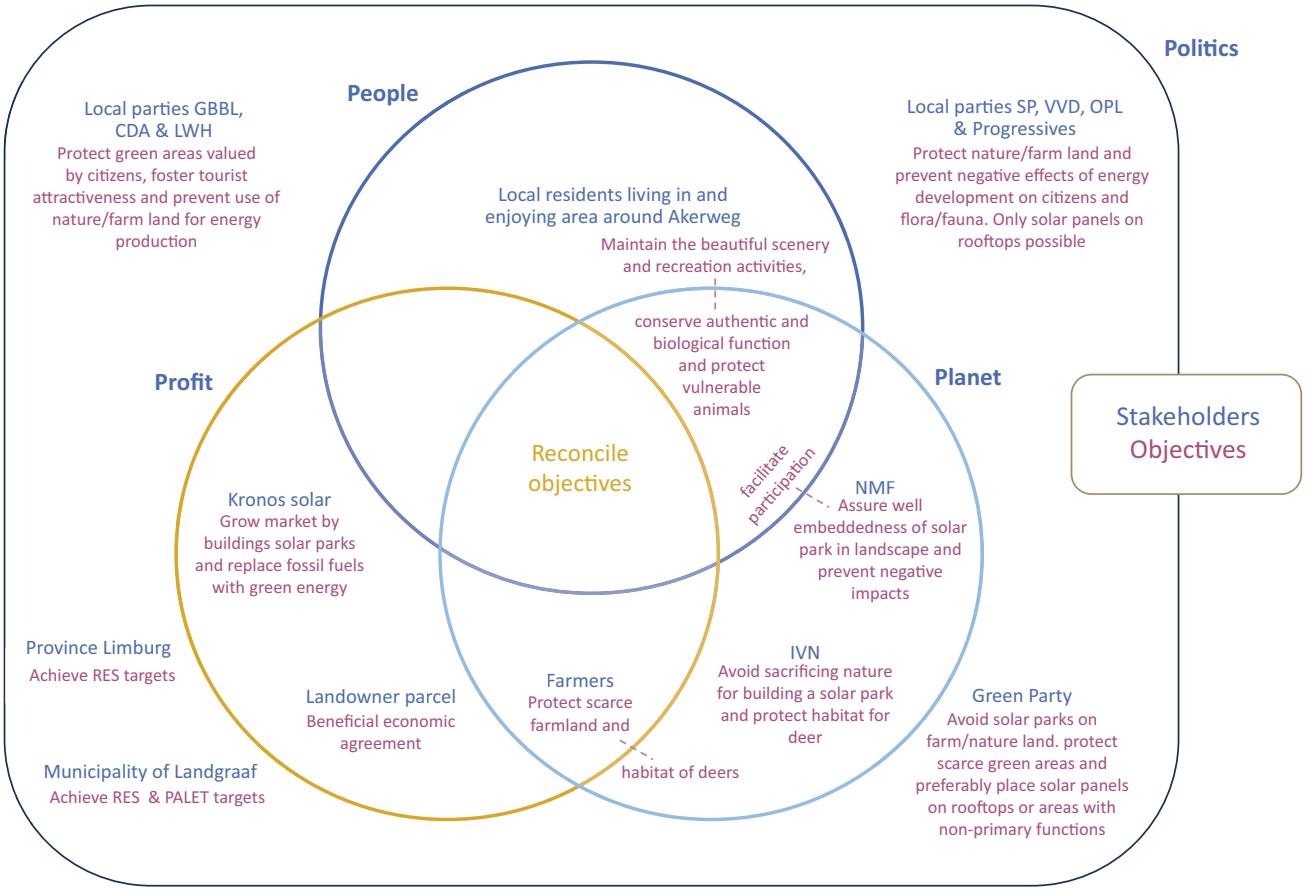

Figure 7. 4P-diagram of Akerweg and overview of stakeholders and their objectives. Notes: CDA stands for Christian Democratic Appeal, GBBL for Common Citizens Interest Landgraaf, IKL for Landscape Organisation Limburg, LWH for List Wiel Heinrichs, NMF for Nature and Environment Foundation, OPL for Senior Party Landgraaf, SP for Socialist Party, and VVD for People's Party for Freedom and Democracy.

status and ecological connection, when in the Akerweg area they stated conditions for the construction of a solar park. However, the data did not reveal any *profit* actors opposing energy goals in the Abdissenbosch case, whereas for the Akerweg, the desire of farmers to preserve farmland did conflict with the solar park plan. In addition, initiator Bodemzorg (which means "soil care") in the Abdissenbosch case overlaps with *planet* because of its (mandatory) goal to invest in natural values and therefore stands closer to the environmental objectives of residents, local parties, and environmental groups. In comparison, initiator Kronos Solar of Akerweg is placed solely in *profit*. Nevertheless, our research found there to be no overlapping objectives among *profit* and *people* for both cases.

Many of the identified land-use claims are recognized to be related to sustainability, but the corresponding landscape values are playing out on various scales and levels, affirming Giller et al.'s (2008) theory. Research shows that for both cases the circle *planet* contains the most actors' land-use objectives which are related to nature preservation and animal protection and that all the political parties link to *planet* by their ambition to protect the green areas valued by citizens. These biological landscape values manifest on a local level. The land-use claims of the province, municipality, and initiators also relate to sustainability with their renewable energy goals but differ from each other by their landscape values: The province and municipality value the two areas because they can help meet regional and national climate ambitions; initiator Kronos Solar has an economic landscape value; initiator Bodemzorg has, besides their economic landscape value, also an ecological landscape value because of their regional task to keep the environment around the old waste site safe. In the Abdissenbosch case, the province has three different sustainable land-use objectives competing with each other: achieving climate goals through the RES targets, conserving important nature zones, and enhancing the ecological connection with the Heidenatuurpark.

4.4. Land-use Conflict Management

The land-use conflict management process of Abdissenbosch and Akerweg were analyzed and described qualitatively, scoring the performance of the process indicators on a Likert scale and comparing the results (see Supplementary File 3).

For both cases, the research identified that no evaluation or documentation had taken place to establish learning for the future. Nevertheless, two respondents stated that continual learning about the energy transition and its challenges and opportunities does occur through various regional bodies such as the Parkstad incubator for energy projects, the wind energy acceleration team, the management committee on sustainability, and management and working groups of RES (South) Limburg. Nevertheless, two other respondents argued that more international and best practice studies concerning multi-functionality should be undertaken or reviewed, such as the combination of solar parks and agriculture in Germany, which is particularly interesting for a small country like the Netherlands. In addition, the research found that more attention is needed to attract and engage young people in the energy transition and participation processes. A difference between the cases is that the Akerweg initiator did not have the same opportunities for acquiring interdisciplinary knowledge, continual learning, and adaptive management to counter local opposition as in the Abdissenbosch case. Nonetheless, more parties were involved in the research process and discussions for the Abdissenbosch case than in the Akerweg case due to the additional environmental requirements, which enabled more interdisciplinary learning.

Four interviewees reflected that the preparations and actions to build trust were similar for the two cases. However, there was a striking difference since, in the Akerweg case, the information meeting was online due to Covid regulations instead of real-life (interviews 2 and 8; see Supplementary File 4). Additionally, residents of the Akerweg area spoke of immediate discussions and protests on Facebook and WhatsApp Groups, even before the information meeting. This was not the case for Abdissenbosch, and four interviewees attested that citizen involvement and protest were lower than for the Akerweg area, as the latter has an authentic landscape and many recreational users. From interview 5:

> There, people did stand up. I completely missed that involvement at Abdissenbosch. The right questions were asked online. People understood and knew what it was about….Kreupelbusch is a bit of a no-man's land, so there are not that many people who are worried about that.

However, unlike the Abdissenbosch case, Akerweg missed the chance to increase trust and support for the solar park and possibly create a common concern entry point through an advisory group.

Considering Abdissenbosch has gone through the whole process in a participatory manner, multiple scales (i.e., ecological, social, economic) were targeted to influence the outcome positively. This differentiates from the Akerweg case that could not finish the research, planning, and implementation steps and did not have the chance to create an advisory group, missing a vital opportunity to address the social scale adequately. Since the Kreupelbusch area is a former landfill and Gold-Green exclusion area, close to Natura 2000 zones, with strict building conditions, it received much attention for the environment, biodiversity, and possible adverse effects (interviews 9 and 10). Therefore, the initiators expected the solar park to be a sensitive topic and spent ample time raising awareness of the different factors influencing the outcomes at various scales. On the other hand, the Akerweg area was located in a search area for solar energy development and was previously agreed on by the city council for exploration. Kronos Solar, therefore, did not anticipate much trouble, even more considering the business case offered various possibilities for benefits and biodiversity improvements (interview 8). Hence, in the Akerweg case, the political and societal influences that negatively impacted the outcome were not (adequately) anticipated.

Lastly, it remains unclear for both cases if and to what extent the ecosystem services and their interactions, flows, feedback, and synergies were covered in ecological research. The mandatory ecological quick scan looks merely at whether protected species and natural areas occur in or near a planning area to not violate the Nature Protection Act. Merely if important natural values or protected species are identified or expected, further research and possible mitigation measures are required. Since the list of protected plants was abbreviated when the Nature Protection Act replaced the Flora and Fauna Act, these can be written off almost immediately (interview 12). In addition, certain animal species are sometimes treated carelessly in the ecological quickscan and done in the wrong season (interview 12). Moreover, it has not been identified for both cases if multidisciplinary research has been reviewed or done to investigate the consequences of energy parks on ecosystem services.

For the Abdissenbosch case, it was recognized that the reconciliation process occurred largely within the advisory group, differing from Akerweg, which did not get the chance to go through this process. Kronos Solar did not yet consult the residents about their wishes and how they felt things could be improved, even though there were many possibilities for reconciliation and multi-functionality because of the abundant space (interviews 8 and 15). Nevertheless, another significant contrast between the cases coming out of this research is the difference in value and use of the area, which complicated the reconciliation process for Akerweg. Additionally, it was mentioned that many people from the constituency of the GBBL use the area for recreation and that two best-known former aldermen live in the neighborhood that runs into the Akerweide area, holding external political influence over the decision-making process (interview 14). Moreover, since the Akerweg area is agricultural land, objectives competing with farming were found to be difficult to reconcile, as there has been growing discussion about limited agricultural

land in Landgraaf: "For years, farmers have been fighting over every square meter" (interview 14). Regardless, for both cases, our research did not find the use of multiple resource assessment and if (understanding of) the ecosystem services and their trade-offs were investigated and included in the decision-making process.

The research found differences in use and value between the two cases impacts the amount of interest and the demand for participation. According to the interviewees, the former dumpsite has a negative past with hardly any neighbors and few users, limiting interest in involvement in decision-making processes (interviews 3, 5, and 14). In the Akerweg case, the area is considered vital for recreation for residents and visitors outside the neighborhood and multiple stakeholders actively shared their opinions from the beginning (interviews 4, 6, and 7). According to a resident of Abdissenbosch, "it was much easier to be critical" in the Akerweg case, as the meeting was online, and people could submit questions via WhatsApp instead of saying them in person (interview 5). Moreover, the research indicates that it is more difficult to develop trust when the conversations are not face-to-face. "We have remained at a distance as the big developer coming to collect bags of money," stated Blijleven (interview 8), affirmed by the two residents of Ubach over Worms (interviews 4 and 6) and the online petition (Geuskens, 2021). Nevertheless, the initiator of the Akerweg case could not alter the concerns by walking through the entire multiple-stakeholder participation process, as done for the Abdissenbosch case.

The research recognized resistance to energy development plans and low acceptance of solar parks in highly used and highly valued areas. For both cases, the results reveal a group of residents that do not accept or understand the need for large-scale energy projects, the climate targets in general, and the sense of urgency. A difference between the cases is how in the Akerweg area, the high visibility of the solar park and the large number of people anticipating a hindrance in the landscape negatively impact the acceptability. Additionally, the Akerweg solar park initiators could not create understanding and increase the acceptability of their plans as the participation process was suspended in the preliminary stage. Nonetheless, for both cases, political interference influenced the decision-making process, around the same time close to the elections, as the city council protested the solar park in the Akerweg area and voted against wind turbines to allegedly gain votes of the neighborhood.

Regarding clarification of rights and responsibilities, the research found a difference between the cases because, in the Abdissenbosch case, the rights and responsibilities of various actors were communicated (to a certain extent), particularly in the advisory group, while in the Akerweg case, the interviewed residents declared minimal clarification and no advisory group was established. Nevertheless, in both cases, the research identified resistance to the energy transition responsibilities of the municipalities.

Regarding participatory and user-friendly monitoring, the Akerweg area did not receive the same opportunity as Abdissenbosch to share broad knowledge with stakeholders, monitor their activities, measure progress, and communicate the results. Nonetheless, the research recognized that more research and monitoring overall is required to establish the impact solar and wind parks have on the environment, as the developers and government officials interviewed declare missing this knowledge (interviews 3, 7, 10, 11, and 12). Kempenaar of Unisun Energy attest that presently, no research is being conducted by them or in combination with partners into the effects of their solar parks, but stated being open to it: "I have always said, you get carte blanche from me….You can come and look and research every year" (interview 11).

The Akerweg case did not receive the same opportunity as Abdissenbosch to finish its assessment of drivers empowering or hindering resilience, create more awareness of threats and devise a landscape plan to improve the area's resilience. Nevertheless, the research found that the concept and theory of "resilience" have not been applied directly in both cases' assessments, plans, or designs.

The Akerweg case did not receive the same opportunities as Abdissenbosch to strengthen stakeholders' capacity for effective participation through the advisory group or other means. Nevertheless, for both cases, the research did not identify that the stakeholders' skills and abilities were cultivated utilizing cultural or financial factors.

5. Discussion and Conclusion

Our comparative case study of two RES-related land-use conflicts and their management in South Limburg started with the question of how far these cases display elements of the ILA and whether the relative presence of these elements helps to resolve the conflicts. Our exploratory research found that various land-use claims related to different landscape values competed in the two studied RES areas. When they are (believed to be) incommensurable, they result in land-use conflicts. For both cases, multiple stakeholders used environmental and animal protection objectives, besides others, to oppose renewable energy objectives. By performing extensive land-use conflict management, competing land-use objectives can be reconciled to a mutually beneficial outcome, as we have seen in the Abdissenbosch case. On the other hand, the Akerweg case shows that when land-use conflict management gets interrupted in a preliminary stage, it reduces the possibility of reconciliation. In both cases, sustainability criteria affected land-use conflict management and the outcome. In the Abdissenbosch case, ecological conditions set by the province and the ecological requirements of

the advisory group resulted in a nature-inclusive solar park that improved the area's resilience. Contrastingly, in the Akerweg case, environmental concerns of the neighborhood and local parties due to anticipated negative impacts of the solar park and worry of losing scarce green/farm areas resulted in the annulment of the solar park.

In the Abdissenbosch case, an extensive participatory land-use conflict management process ensured reconciled objectives, a shared vision among stakeholders, an improved understanding of the landscape conditions, and enhanced resilience. The land-use conflicts were managed by multiple-scale awareness, inclusive stakeholder engagement, transparent and open communication, and addressing trust and power imbalances. Sustainability was a vital criterion in the process as the initiator had to meet obligatory requirements set by the province to improve natural values, protect endangered species, and preserve the ecological connection. In addition, the advisory group members demanded nature conservation, improvement of the biotopes in the area, and nature education. In addition, the achievement of the RES targets was a criterion for the municipality and the province to support the solar park. This shows how the strong presence of ILA elements supports integrated land-use conflict management with sustainability-related polarization.

In comparison, in the Akerweg case, there was no extensive participatory land-use conflict management process, and the land-use conflicts were therefore not managed. Sustainability criteria did play a role in the start of the process and impacted the outcome as the residents and local parties used nature conservation and animal protection objectives to state their opposition to the solar park. The RES targets and ambition for an energy-neutral region did not possess enough weight to influence the decision-making process, which could be explained by the fact that the energy transition-related responsibilities of the municipalities and the logic and justification of the solar park proposal were contested. This shows that the absence of ILA elements hinders integrated land-use conflict management with sustainability-related polarization.

The ILA, the 3P-diagram of Horn and Meijer (2015), and the analytical framework proposed by Sayer et al. (2013) have proven to be valuable for our analysis. Adjusting the 3P-diagram to a 4P-diagram made visible the role of political actors in land-use conflicts and how their objectives relate to other actors. However, as *politics* is displayed as an outer layer instead of a circle, it is not immediately apparent how the political actors connect with the other circles. This is especially problematic since political resolution is a likely route in RES-related land use conflicts and because the RES lacks binding status. Nevertheless, the 4P-diagram gives a useful, albeit simplified, overview of the identified land-use objectives and to what extent they overlap or compete. Applying Sayer et al.'s ten principles as guidelines and indicators to our comparative research shows that land-use conflict management needs to be sufficiently integrated to succeed. The lack of an integrative approach, on the other hand, may create additional obstacles throughout the resolution process and makes it more difficult. Therefore, the ILA can be a good starting point for future RES-related land-use conflict management.

However, our research also identified two major challenges for RES-related land-use conflict management. The first one concerns the limits of inclusive participation in land-use conflict. Confirming the literature (e.g., Arts et al., 2017; Mann & Jeanneaux, 2009), achieving inclusive participation with people from all backgrounds and ages is difficult, and especially young people are often underrepresented. Therefore, it could be an opportunity for the RES to more explicitly involve the younger generation, as they might change the dynamic of the negotiation process. Overall, it is clear that rather than focusing on whether participation is needed, the burning question in these conflicts nowadays is (and should be) how participation can be done well.

Another challenge is that the very process of implementing the energy transition through RES areas is still contested. Due to the voluntary character of the RES, both residents and political parties may question the RES targets as compulsory. As two interviews and a city council meeting reflected, the sense of obligation was not shared by everyone, and fingers were also pointed at other municipalities. However, when every municipality argues that another can compensate for their failed efforts, it may easily result in underachievement. This reflects the ambiguous status of the RES as a guiding document in such a complex issue.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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Article

Planning Around Polarisation: Components of Finding Common Ground Based on Regeneration Projects in London and Gdańsk

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Abstract
Various forms of public participation in urban design and planning—as presented and discussed in literature—have recently been challenged by the needs and expectations of different stakeholders, including those coming from the private sector. This comes with a redefinition of the public good and the roles and responsibilities of municipal authorities in post-liberal times. As a result, contemporary participatory processes need to evolve to accommodate not only the wishes and ideas of the local communities, but also those of institutional stakeholders including investors, developers and land owners. This is also accompanied by the demands, expressed by all partners in this process, associated with having a much stronger influence on the final shape of the development policies and planning regulations. The gradual democratisation of spatial planning results in more engagement of stakeholders in the process. The article focuses on the co-design method as a way to bridge the polarisation of interests and find a consensus. The article focuses on identifying co-design components leading to the successful bridging of divisions and the realisation of large-scale regeneration initiatives that could be replicated. The authors have selected examples of large-scale regeneration areas in London and Gdańsk for a qualitative assessment, given the growing polarisation in both Polish and British societies. The discussion will focus on aspects of inclusivity, partnership working in co-design and political risks associated with co-design.

Keywords
co-design; large-scale urban regeneration; participatory urban planning; polarisation in urban development

Issue
This article is part of the issue “Planning Around Polarization: Learning With and From Controversy and Diversity” edited by Oswald Devisch (Hasselt University), Liesbeth Huybrechts (Hasselt University), Anna Seravalli (Malmö University), and Seppe De Blust (ETH Zürich).

1. Introduction

The design and delivery of liveable and beautiful places catering to contemporary lifestyles and community well-being is a joint effort of private and public investment. Albeit final success expressed in vitality and vibrancy depends upon public response to their spatial environment. In short, creators’ ambitions and users’ needs should be addressed simultaneously. The authors seek to identify specific engagement techniques that have proved to enable crosscutting fragmentation of objectives and aspirations to deliver positive regeneration outcomes on the ground based on examples from Gdańsk and London.

1.1. Large-Scale Urban Regeneration in Contemporary Cities

21st-century cities face a wave of large-scale urban regeneration initiatives driven by the global (United Nations, 2015) and national agendas for sustainable development and post-pandemic socio-economic changes (Batty, 2022; European Environment Agency, 2021; Pasquinelli et al., 2022, Rusul et al., 2022). Collective responses to an area’s critical mass of economic, social, and physical decay (Amirtahmasebi et al., 2016) are triggered by specific urban functional or material deficits (Haag et al., 2007). Urban regeneration projects are considered an efficient tool to improve

urban competitiveness, increase urban housing quality, and balance the wealth gap. A sustainable urban renewal project considers not only economic but also public health, and environmental as well as civil requirements above the entire life cycle (Wang et al., 2016).

The role of the public sector is critical in addressing those deficits, given the complexity of issues and ownership fragmentation. The larger the area, where property owners lost interest in adapting their built structures to changing demand, or even in maintaining them in a functional condition, the more necessary for public sector intervention to catalyse the renewal (Altrock, 2018). The public sector's role may vary from that of an active participant in urban regeneration, as leader, provider of the regulatory framework, landlord, or channel for community involvement, to that of promoter of environmental benefits for all (Amirtahmasebi et al., 2016).

Alternatively, partnerships of stakeholders, including the public and private sector entities, may be established to deliver commercial and non-profit development with mutually beneficial outcomes. Their life cycle involves pre-partnership collaboration, partnership creation and consolidation, partnership programme delivery, and partnership termination and succession (Williams, 2003). This article explores experiences from a range of public sector involvement scenarios, from the statutory regulator to voluntary partner. It focuses, however, on the process of capital investment where the final success of regeneration initiatives depends on their long-term operation and management.

1.2. Participatory Planning

Town planning in democratic countries has evolved throughout the 20th century, from expert-created plans towards a participatory process with a strong emphasis on citizens' involvement. Evidence ranges from observations of self-organising communities driving the development of cities (Jacobs, 1961) through research regarding community engagement in urban and regional planning and development (Arnstein, 1969; Forester, 1982; Papadopoulos & Warin, 2007) to the development of a wide range of methods of involving end users in place-shaping processes (Manuel & Vigar, 2021; Wilson & Tewdwr-Jones, 2020; Wilson et al., 2019).

The general acknowledgement is that, in the case of planning policies, representative democracy is not sufficient to deliver adequate public benefits, including beautiful places, and a wider society approach based on multi-layered, interdisciplinary participation in the creative architectural processes is needed (Jenkins & Forsyth, 2010). Substantial involvement of a wide range of stakeholders, from property owners to accidental users, could be conducted through deliberative engagements and co-design, prioritisation of collaborative rather than competitive advantage amongst landlords (Healey, 1998; Papadopoulos & Warin, 2007). The partnership approach has a particular affinity with the networking mode of governance, with key benefits perceived as synergy, cultural transformation, budget enlargement, confidence building, and risk minimisation, and with different modes of governance required at each stage of a partnership's existence (Lowndes & Skelcher, 1998).

Urban planning practice evolved through the 20th century from expert-driven decision-making to participatory processes. Research evidence confirms that linking the public and the government facilitates community buy-in and processing in the implementing or operating stage of regeneration programmes, stresses the role of appropriate techniques and communication channels to build consensus and leads to better decisions (Wang et al., 2016). Those techniques develop with social and technological progress. The recent pandemic contributed to the radical progress in using digital participation tools ranging from the use of social media, virtual reality, virtual models, and video conferences to collaborative creations.

Participation in planning has evolved from community engagement seeking community feedback and incorporating it into the policy to co-design and co-production. Co-design is focussed on policy aspects and can be defined through three components: (a) process, which must be iterative and innovative; (b) principles that prioritise the creativity of participants, their expertise in their own lives, and policy that is designed by people with relevant lived experience; and (c) practical tools—telling, enacting, making (Blomkamp, 2018). Co-production goes a step further and describes the partnership approach to the delivery of public services, sometimes encompassing the whole policy process from design to implementation (Bracci et al., 2016).

Co-design and co-production, as with every collective undertaking, are founded on the principle of a mandate for representation and decision-making on a matter. The problem is that governance structures often make de facto-binding decisions, but unlike elected representatives accountable to their constituencies, their participants lack authorisation (Parkinson, 2003). Large-scale regeneration initiatives face several dilemmas concerning collaborative planning and delivery, especially in the context of economic, social, and spatial polarisation observed throughout Europe. In the last decade, the UK (Koch et al., 2021; Silver et al., 2021) and Poland (Horonziak, 2022) have been experiencing widening political, cultural, and economic divisions, which form a background for the selection of case studies for this research.

This article focuses on co-design processes involving place-specific planning policies and design code practices, which shape the implementation of large-scale regeneration initiatives.

1.3. Polarisation in Urban Planning

Polarisation is defined by the *Cambridge Dictionary* as "the act of dividing something, especially something that contains different people or opinions, into

two completely opposing groups" (Polarization, n.d.). Social polarisation, expressed in inequalities in income, well-being, and access to capital and opportunities, has a significant impact on economic and political development resulting in reduced growth (Keefer & Knack, 2002). Complex spatial-economic structures of cities are composed of multiple physical, legal, or social layers, which are sensitive to divisions. Polarisation extrapolated into urban development reflects in skewing decision-making in policy-making, planning, management, and investment towards the extremes, leaving very little middle ground for consensus (Koch et al., 2021).

Urban development is, in principle, the field where a range of diverse interests and objectives of particular groups of stakeholders meet. Elected councils deliver specific manifestos for their constituents. Civil service represents a technical and evidence-based approach to the delivery of manifesto pledges and focuses on compliance with the appropriate processes. Developers and landowners concentrate on the profitability of their investments. Local communities seek to share benefits from new developments and upgrades to their living environment. In an ideal world, there should be a common landing zone for the interests of all stakeholders so they can agree on relevant policies, partnership working and joint investments.

2. Method

Polarisation and participatory planning have become global phenomena and practices in the 21st century. The article focuses on the identification of co-design components leading to the successful bridging of the divisions and the realisation of large-scale regeneration initiatives which could be replicated.

To identify the effective tools of participatory planning, the authors selected examples of large-scale regeneration areas in London and Gdańsk and conducted a qualitative assessment, given the growing polarisation in both Polish and British societies. All examples dealt with large-scale development areas with multiple stakeholders, fragmented ownership, and the council's low-level property interests.

To set out the comparative parameters, the qualitative review identified the context of polarisation, planning focus, mandate, and technical tools applied to the co-design process to manage the divisions. Key findings were extrapolated into possibilities for the application of particular components of co-design in other local contexts.

2.1. Context of Polarisation

Traditional and general lines of polarisation between individual stakeholder groups could be defined as follows:

- Councils with a focus on public benefits;
- Landlords with an interest in property value uplift;
- Developers on the profitability of their investments;
- Local communities on maintaining existing neighbourhood character and potentially seeking upgrades to public services and infrastructure.

However, each locality also has its particular division lines which divide social groups, and areas of common interests. These are individual matters which have been identified for each case. Key areas examined encompass economic, social, and political divisions, as well as matters of trust affecting the ability to find consensus.

2.2. Mandate

Participatory planning, especially co-design and co-production raise concerns over their democratic legitimacy. The governance networks related to the participatory development of plans often make de facto binding decisions, which is not true for deliberative polls mainly because, unlike elected representatives accountable to their constituencies, their participants lack authorisation (Parkinson, 2003). Moreover, the following statement regarding politics in general, but relevant to planning policy as well, applies:

> The multiplication of veto points makes it harder for normal people to influence politics, but actors with substantial resources can use them to navigate institutional complexity. This creates incentives for empowered representatives to accept capture by powerful organisations, to collude with each other and to shirk their duty to represent normal people. (Hutton Ferris, 2019; see also Page & Gilens, 2017)

The mandate of participating parties was identified and appraised against the relevant division lines. This assessment took into account the context of particular planning systems in Poland and the UK.

2.3. Building Bridges Across Divisions by Co-Design

The concluding section of the assessment focuses on the identification of common drivers for change against identified division lines. The success in planning around polarisation was scrutinised through lenses of bringing the polarised positions closer or as a means to avoid deeper divisions of interests. The review of co-design included criteria of timing and frequency, outreach and technology applied to facilitate dialogue with stakeholders. The evidence was based on real-life case studies.

3. Results

3.1. Old Kent Road, London

The Old Kent Road project is located within the London Borough of Southwark, which is an Inner London

Borough, the eldest part of London, situated on the southern bank of the River Thames. The Old Kent Road is an area of 281 hectares designated as the Old Kent Road Opportunity Area in the London Plan (Mayor of London, 2016, 2021). It is currently an extensively developed area dominated by retail parks, warehouses, and housing estates. As part of the Bakerloo Line Extension corridor, the Old Kent Road area is expected to accommodate substantial growth through major regeneration-managed planning policies of the emerging Area Action Plan Supplementary Planning Document. This diverse part of Southwark, with 43% of residents being born abroad, has a higher proportion of low-skilled workers and lower levels of employment than the rest of the borough and London's average (London Borough of Southwark, 2016a). The deprivation levels place Old Kent Road ward in the top 10 in the UK.

The polarisation underpinning the Area Action Plan for Old Kent Road Opportunity Area runs between existing residents and businesses and developers. The main focus was gentrification. Central location in the global city with a prosperous economy continuously drives property and rent prices up. Low-cost industrial uses became a rarity in Inner London, where the vacancy rate is as low as 4% (London Borough of Southwark, 2016b). Residential properties are also in high demand, and sales and rental prices are the highest in London. Residents and businesses fear being priced out of the borough, similarly to other regeneration areas such as Elephant and Castle. Seventy-two percent of the 3000 residents of this neighbourhood left the area in the period between 2010 and 2016 (Almeida, 2021). They were priced out of the area, the borough, and even London. The vast majority of new flats were sold to investors from East Asia (Lees & White, 2019).

Initial engagements concerning developing the principles for accommodating growth in the Old Kent Road Opportunity Area were based on the voluntary participation of local council members, organisations operating in the area, local businesses, and residential communities. Between 2015 and 2017, the leaflets were circulated to over 15,000 addresses in the area, reaching out to all residents and occupiers of commercial units.

The Community Forum has been set up to provide a platform for engagement with a regular schedule and set up agendas. The Forum channelled residents' views through people willing and acting to participate in the processes informing design development. Additionally, in February 2017, the Old Kent Road Business Network was to directly liaise with local businesses for evidence and feedback. However, the level of active participation in walkabouts, workshops, and presentations was low compared to the theoretical outreach.

The next stages of plan development focussed on ensuring that initially underrepresented groups had their say in shaping the future of the area. One such group was young people. In 2019, a dedicated Youth Outreach Programme was established. Ethnic groups were contacted and encouraged to voice their views by adding information stalls at local cultural festivals.

In June 2020, the Old Kent Road Community Review Panel was established, based on sortition methodology (Courant, 2019). The twelve members of the Panel were carefully selected from volunteers to reflect the socio-economic composition of the area. The panel is run independently from the Council and provides the platform to voice the opinions of the local community as a whole, not only of the loudest and most active residents.

The Old Kent Road Area Action Plan applied a broad selection of technologies to engage local communities in the process of plan development (see Figure 1). Classic tools such as walkabouts, mailings, consultation events and workshops with the use of pen and paper, public presentations, and exhibitions were applied throughout the process. The ambition of wide outreach drove the application of digital tools such as a consultation hub, online ideas-sharing platform Dialogue, aerial photography, and a 3D virtual model (London Borough of Southwark, 2020a).

Figure 1. Different techniques of co-design applied to engage with the local communities of Old Kent Road. From left to right: (a) output of a workshop with young people (London Borough of Southwark, 2020a) and (b) the digital model of the area allowing for a birds-eye as well as human view analysis (London Borough of Southwark, 2020b).

Preparation of the Old Kent Road Area Action Plan has taken ten years from early engagement to the planned adoption. The co-design process was iterative and innovative, based on principles of creativity and the expertise of participants, and applied a range of different techniques. The representation was the weakest point in the first phases of engagement. The polarisation of positions and antagonism between key stakeholder groups were carefully navigated by the Southwark Council. They worked very hard to secure local buy-in to the proposals and to engage with as many groups and points of view as possible. The borough council was not shy to change its engagement strategy to champion broad inclusivity and to reach out to sections of the community that were difficult to reach. They also employed innovative digital tools enabling direct co-design.

3.2. East Croydon Station, Croydon

Croydon is an Outer London borough, the second highest populated with 379,000 inhabitants. In the regional context, it acts as a leading sub-centre of outer London, with ambitions to become a metropolitan centre in its own right. East Croydon Station is in the top ten busiest interchange rail stations in the UK with excellent and fast connections with multiple central London destinations, Gatwick Airport, and Brighton.

The East Croydon development area, with approximately 10 ha, is part of the Croydon Opportunity Area designated in the London Plan (Mayor of London, 2004, 2016, 2021) located around the railway station. It has a fragmented ownership structure and has remained vacant for almost a decade. The station needed expansion and a second entrance to maintain the comfort of access for passengers. A comprehensive and mixed-use redevelopment of the central area around it was essential for accommodating growth and delivering the vision of a vibrant multifunctional metropolitan centre.

The lines of polarisation run through the traditional objectives of stakeholders' interests:

- Land use: Developers were aspiring for high-profit schemes that, in the context of London and central Croydon, meant high-density developments driven by residential towers. Given the economic crisis of 2008, the demand for commercial spaces and offices had been declining. The nearby town centre suffered from a high level of vacancies.
- Public realm and connectivity: The station was near capacity and had a single entrance to the platforms. Surrounded by private land, it had no opportunities to deliver a well-connected new entrance independently. Moreover, the severance of the railway line isolated residential areas from the commercial and cultural centres.
- Scale: Whilst tall buildings are widespread in the commercial town centre west of the station, the east side comprises established residential terraces seventy or more years old. The threat of negative impacts of tall buildings on the living environment and the influx of new residents putting pressure on local services were threatening established local communities.
- Delivery Timing: Each of the landlords was working towards different time scales, with critical urgency for the station upgrade and delivery of affordable housing for residents. Residents were expressing frustration as several visions were produced, including the ambitious and imaginative Third City Vision by the British architect Will Alsop (Alsop, 2007), whilst no change was observed on the ground.

The East Croydon Masterplan (London Borough of Croydon, 2011) was focused on bridging the polarised interests of developers to deliver a strategic piece of infrastructure for the residents and businesses. To secure political support for the project, all local Councillors and the chair of the Planning Committee were briefed during dedicated sessions, in addition to the option of participation in consultations directed to the general public. Additionally, two public workshops were organised to gather community views on the master plan's objectives, priorities and policies.

The main engagement focus throughout the project was on landlords, which in this case were also lead developers for their respective sites to ensure their buy-in and, in consequence, delivery of change. The establishment of governance for the master plan where each land owner had a platform to raise issues, negotiate design solutions and where the Croydon Council had an opportunity to get formal commitments for delivery was a key to success. The co-design process was supported and moderated by the architectural studio commissioned by the Council. The project board, entirely composed of landlords established a level of trust between parties, allowing for taking higher levels of risk stemming from dependencies between the delivery of particular components in different ownership.

Reaching out to the local communities was achieved through public exhibitions enabling interactive discussions with the project team and making formal representations. Over 1130 people attended, which is nominally 5% of the ward population; however, this number includes many residents not living in the neighbourhood.

Although local communities were consulted, their influence over the final design was relatively low. Even councillors and their representatives had limited opportunities to challenge developers and planners outside the standard planning policy and planning permission decision-making processes. Their views were embedded into the initial set of principles guiding further design and planning (see Figures 2 and 3).

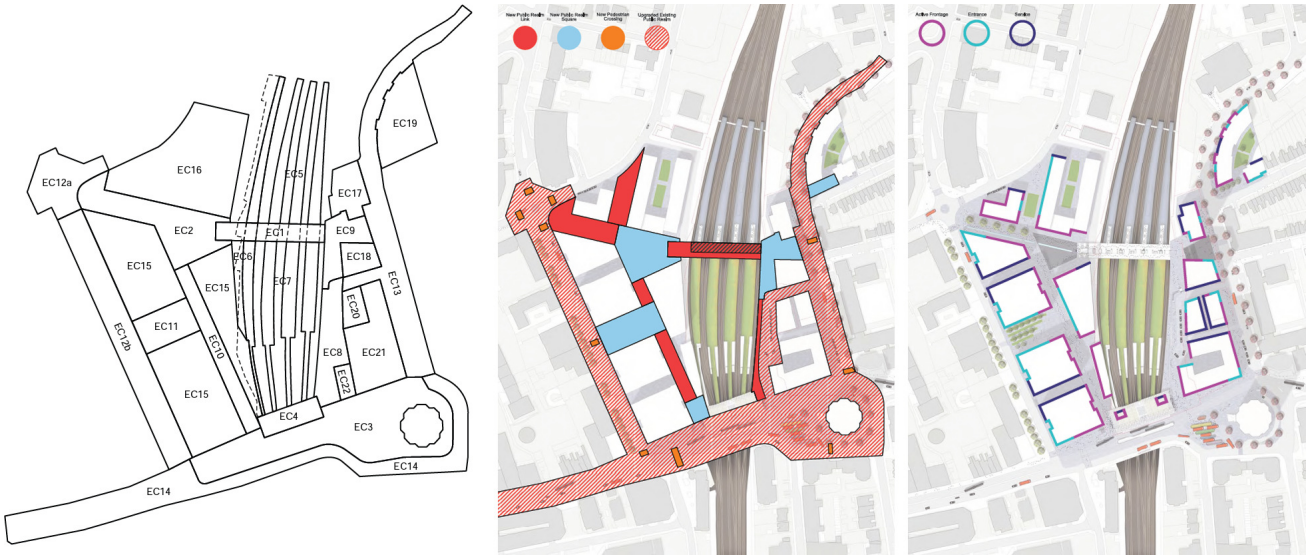

Figure 2. Diagrams illustrating components of the East Croydon Masterplan. From left to right: (a) components of the East Croydon Masterplan, (b) public realm components of the East Croydon Masterplan, and (c) the development components of the East Croydon Masterplan. Source: London Borough of Croydon (2011).

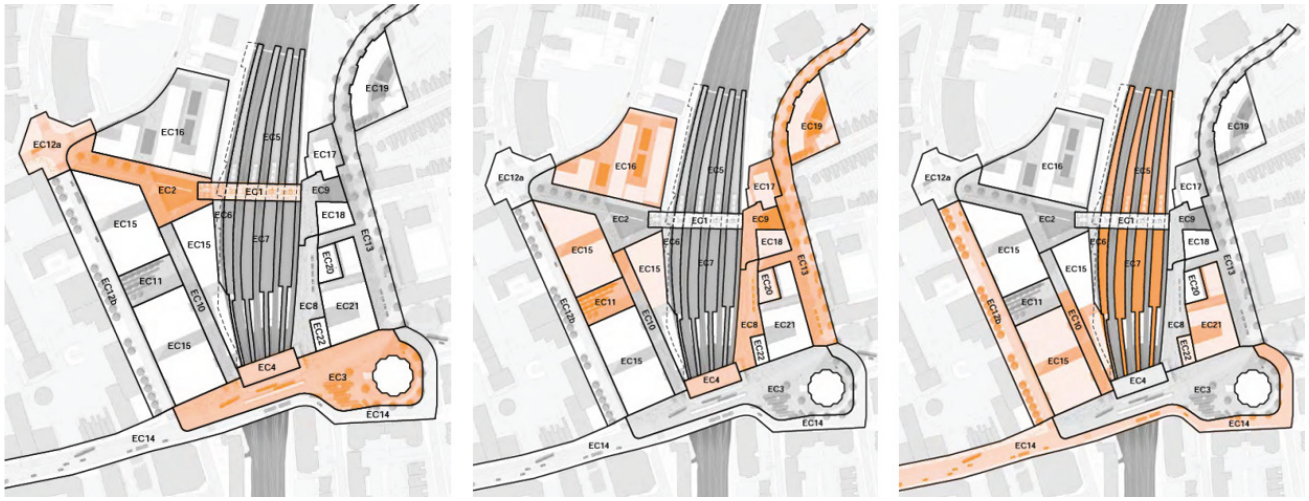

Figure 3. Diagrams illustrating the phased implementation of the East Croydon Masterplan components. From left to right: (a) components to be delivered now, (b) components to be delivered soon, and (c) components to be delivered later. Source: London Borough of Croydon (2011).

3.3. Grunwaldzka Avenue Belt Study, Gdańsk

Gdańsk is one of the major Polish cities with a population reaching 485,000. Its linear urban structure was shaped by natural conditions associated with the presence of the Gdańsk Bay coast and a line of forested hills. The main transportation axis of the city is associated with the Warsaw-Gdynia railway line as well as with the main road spine—Grunwaldzka Avenue. The space between these two lines, as well as adjacent areas, was for many years zoned for pure commercial development, which resulted in the creation in the 1990s of a "big-box'' type of development. Numerous supermarkets and other commercial structures were created. This situation changed only in the last decade when the new mid-rise and high-rise office structures were introduced. In consequence, three separate office complexes were constructed. They recently started to be reshaped as mixed-use developments. At the same time, the original commercial structures have become obsolete and were slated for redevelopment.

Recent changes in demand for offices and housing in Poland (also resulting from the Covid-19 pandemic) resulted in the emergence of the demand for housing and mixed-use structures that could substitute the above-mentioned commercial structures and also contribute to massive densification of the entire area. This resulted in several planning applications calling for changes in zoning provisions. Since many of these potential projects (as submitted in 2020 and 2021) may result in changes in the

city landscape as well as in the necessary improvements of the transportation systems, the Mayor of Gdańsk decided to commission a special-purpose urban study on the future of the entire Grunwaldzka Avenue Belt, covering approximately 620 ha and aimed at creating the comprehensive vision for the area in line with transit-oriented development principles (see Figure 4).

At the same time, this study should serve as a vehicle for integrating various needs and expectations of the diversified group of stakeholders: local communities, individual citizens, local councils, land owners, investors, and developers. This was conceptualised as a participatory co-design process, allowing each stakeholder to become an active part of the debate. In addition, this process allowed taking into account the opinions and expectations of the various municipal and state authorities, including infrastructure providers and managers. In 2022, both professional planning studies (conducted by the Gdańsk Development Agency) and the above-mentioned participatory process (managed by the Office of the Gdańsk City Architect) were delivered, which resulted in acquiring various transformation determinants for the entire site. In the coming months, a participation-led urban development vision creation process will be planned, which should allow for balancing the expectations and needs of all involved stakeholders. This will be conducted with the use of both electronic and physical models of the particular parts of the study area and will involve various experts and specialists as well as representatives of all involved parties.

Although still in the implementation phase, this study can become a point of reference for similar (although of lesser importance for the urban future of Gdańsk) urban transformation sites. This includes both the way the process is shaped, the way the opinions of the diversified group of stakeholders are taken into account, and the mode of co-design of the key development area of the city.

4. Discussion

The examples of planning around polarisation lead to several conclusions that have the potential to be universally applied. It should be noted that whilst direct engagement between land owners, developers, and local government was widely practiced, community views and interests were often solely channeled by their statutory representatives. Politicians acted on one hand as channels of communication between residents, businesses, and planners, representing them at the decision-making

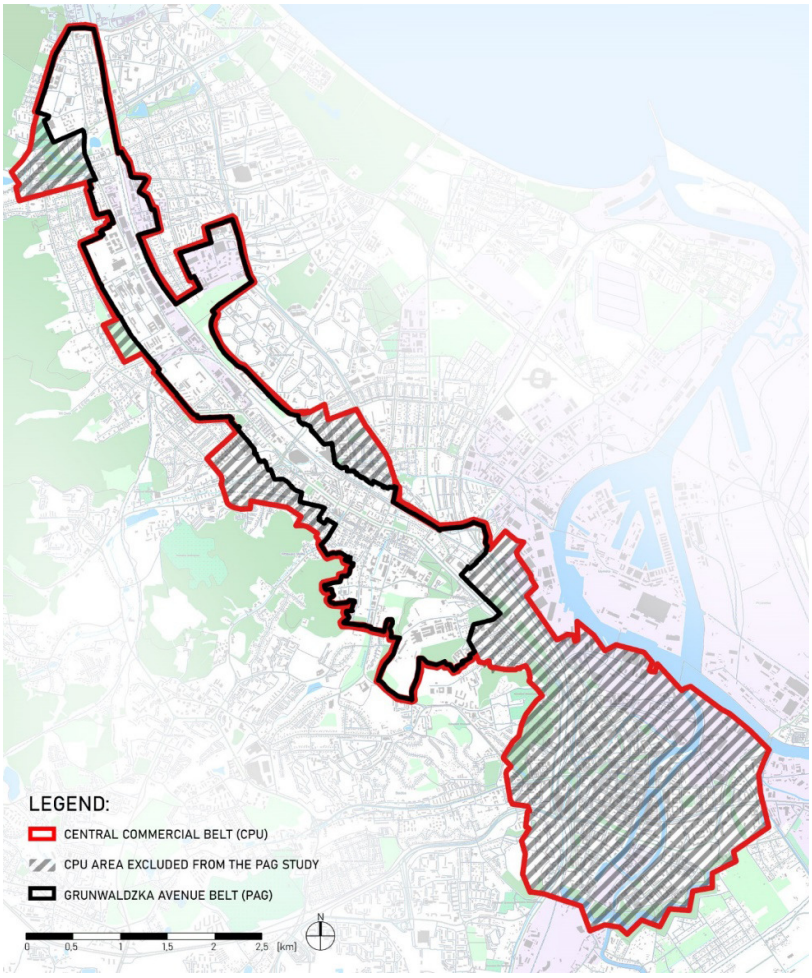

Figure 4. Grunwaldzka Avenue Belt (PAG) in the structure of the City of Gdańsk. Source: Office of the City Architect (2022).

forums such as planning committees making decisions about planning applications or at the local council sessions debating the adoption of planning policies.

The presented case studies identified three areas critical for bridging the divisions in the process of co-design: inclusivity, efficient partnership working, and political influence.

4.1. Inclusivity

All case studies had to address the matters of mandate and representation. Parties with weak or no legal interest were in general responsible for the final success of the regeneration initiatives, whilst difficult to reach and often internally polarised.

The example of the East Croydon Masterplan demonstrated that narrowing the group co-designing to landlords and the Council vastly accelerated and simplified the process. The major drawback is a low level of community participation. Also, relatively little attention was paid to building trust between developers and residents of surrounding neighbourhoods. In consequence, polarisation between existing and new communities is likely to deepen. Given the stark contrast in the spatial character of the established and newly built areas, divisions are likely to exacerbate.

The case of Southwark demonstrated how the borough council acted as a medium between the existing business and residential communities, and developers and regional authorities. Engaging local communities in drawing the future of their neighbourhoods was the most challenging task. Both the inclusivity of the process and the representativeness of collective positions remained at the heart of the council's activities. Significant efforts were made to reach out to local communities, including those ready to voice their views, and those not keen on participation and without trust that their voice would be considered. Southwark, through trial and error, explored methods of engagement and innovated in this respect by setting up the Community Development Panel. Ultimately, however, the interests of local communities in dialogue with developers and authorities were represented by the council. Statutory planning powers were applied to leverage fair deals and align competing objectives.

In the case of Gdańsk, the key challenge was to balance the interests and positions of stakeholders with legal interests and residents. Moderation of co-design sessions was led by urban design professionals using a range of techniques. Open discussions over the future of the large-scale area helped to identify conflicts and polarised expectations, and therefore to mediate between them. Ultimately the balancing act was a political decision.

Co-design should be founded on the inclusivity of all stakeholders, as each has a specific role in the regeneration projects, from planning to enjoying the use of final products. Whilst not everyone is capable or interested in taking part in the initial planning and design stages, everyone will be affected by the changes introduced in the long run. Therefore, it is essential to reach out widely. It does not mean that a council needs feedback from every resident or business, as this is unrealistic and costly. Based on selected examples, it is evidenced that targeted actions bring more credible results. Setting up panels composed of groups representative of the area founded on the sortition method (Courant, 2019), similar to the opinion poll focus groups, may be particularly useful in areas with low levels of activism.

4.2. Partnership Working

In the past, polarisation could be routed to silo thinking, where stakeholders have little trust and knowledge about specific objectives, costs, and incentives to cooperate. The greater the differences between the groups, and the greater the uncertainty about the other group, the larger the gains to stubbornness, or continued disagreement about collective decisions; as a result, the formation of consensus is impeded (Keefer & Knack, 2002). Trust based on knowledge, transparency, and openness between collaborators, expressed through their willingness to share information and resources, is essential to address the isolation of stakeholders and bring them closer so they can effectively deliver change or project (Pennink, 2017).

All analysed cases illustrate that dialogue between stakeholders is fundamental for finding common ground. Trust and commitment were fundamental for success. Setting up partnerships is relatively easy when the stakeholders have legally confirmed interest in the process.

Polarisation of interests in the urban regeneration initiatives is relatively easy to identify and therefore mitigated. An example from Croydon demonstrates that once all parties directly responsible for the development in the area gather around one table, and trust is built, the planning policy can be agreed upon and adopted quickly and its implementation progresses according to this plan. Regular engagement and binding decision-making throughout the co-design process were crucial for the success. Partnerships established at the planning stage were continued through the design and construction phases. Ten years after the East Croydon Masterplan's adoption, the development components have been completed, are under construction, or in meanwhile use. The prime objectives of the landowners were addressed in principle; however, whether the area will become a vibrant and integral part of the town centre remains to be seen. The polarisation of scale, urban character, and lifestyles between high-density schemes at East Croydon and the Victorian terraces of their neighbours suggest that differences may be irreconcilable. Co-design is processed in an introverted way, with little attention to weaving into the surroundings.

In the case of Southwark, the sizeable area of the plan, with its complex issues and high dependence on

external factors, in this case from the Greater London Authority extending the Bakerloo underground line, resulted in a prolonged process and convoluted partnership working. Policy and design details have been gradually confirmed through different planning documents: the London Plan, through high-level policies in the new local plan. Following these directives, an area action plan and design codes for particular schemes enabled fixing key development parameters. In the same time stakeholders have been working on achieving consensus about more detailed matters on sheme-by-scheme basis. Regular communication and exchange of feedback between the stakeholders and the council gradually built trust that the agreed direction of travel is managed.

Since the co-design process in the case of Gdańsk only started in 2022, the first results still have to come out, but it can already be stated that the needs of both local communities and interested land owners and developers were addressed and that it seems possible to find a common ground regarding the future development scheme. Both parties must share the vision of shaping vibrant urban districts, with mixed-use and medium-rise character architecture.

All examples demonstrate that regular communication, follow-ups and updates after an engagement, especially co-design sessions, allowing every stakeholder to see the progress, is essential for the successful planning and implementation of regeneration initiatives. It is essential that updates are honest and therefore include information about challenges and how they are to be addressed.

4.3. Political Risks

In the age of digital communication and social media, it is observed that the exchange of information and trust can be purposefully distorted through echo chambers or filter bubble techniques. Echo chambers defined as "a bounded, enclosed media space that has the potential to both magnify the messages delivered within it and insulate them from rebuttal" (Jamieson & Cappella, 2008, p. 76) can be observed as a result of applying internet algorithms—filter bubbles (Pariser, 2011). Similarly, individuals often choose conscious filtering of information using their personal social and professional biases (Jamieson & Cappella, 2008).

In the 21st century, a rise in affective polarisation is observed based on the strong emotional distinction between "we" and "them" (Silver et al., 2021). This ideological polarisation extends not only to culture or ethnicity but also to science. Recent research identifies that through psychological science rejection, people can implicitly disregard scientific facts that are inconsistent with their political identity; they may dispute specific scientific claims, distinct research fields, science in general, or the entire political system and elite (Rekker, 2021). Affective polarisation, especially concerning the approach to climate change, affects urban development through political leaders adding or abandoning sustainability agendas from their policies and investment plans, regardless of higher government-level commitments or local community views (Reiljan, 2020).

In the case of Croydon, where the master plan had relatively low support from residents, the example of East Croydon and other developments in the Opportunity Area strengthened the resistance of local communities to the intensification of urban development. In the demographic situation where the ageing population owns their houses and becomes ready to downsize, the natural next step would be for them to move to apartments in their neighbourhoods, preserving their networks of friends, and access to familiar facilities and infrastructure. Emotional reaction to high-density developments in the central areas ignited strong resistance against the changing character of the suburbs. The Croydon Plan 2018 attracted thousands of representations protesting against intensification policies. The campaign was led by local politicians who very efficiently organised a very large group of residents. Emotional narratives to preserve the character of the area despite of changing needs of its residents were the drivers. Apartment buildings in the Croydon suburbs are resisted despite their potential to address issues with housing for young families and for the elderly in particular.

5. Conclusion

Polarisation of interests can be bridged by partnerships involving co-design in planning and design and coordinated delivery. Collective creation can strengthen the sense of ownership and belonging. Involving local communities is critical as they are essential components of vibrant neighbourhoods, both existing and new ones after construction. Engaging them in planning and design and ensuring the views guiding development are representative of the area remains crucial for the final success. Developers create divisions when they compete with each other. This usually occurs when their involvement ends when the project is completed. Local governments have the ability and instruments to moderate cooperation between developers and champion the interests of local communities in the planning process. However, it is a multifaceted and lengthy process, if conducted with care. Building trust takes time, and relationships between the local communities and their councils are particularly complex.

Polarisation of opinions is very challenging to manage and its impact on planning and delivery of change in the built environment is indirect, yet can be expensive and stall progress, leading to a decline in the quality of urban areas. Local politicians have the authority and skills to influence local communities.

Sustainable growth poses particular challenges for urban planning as net zero targets require changes in counting the economics of the construction industry, priorities for new infrastructure and property developments.

Tackling climate change affects lifestyles and business models and polarises societies. Planning around this particular polarisation requires targeted research and a good understanding of related local concerns.

The literature on co-design focuses on the process, principles, and methods. Lessons learnt from the case studies presented in the article demonstrate that certain aspects, such as inclusivity of co-design, trust as a basis for partnership working and consideration for the local political risks, require particular attention. Those three elements create context enabling effective co-design and further implementation of the agreed plans.

Conflict of Interests

The authors declare no conflict of interests.

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