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Analyzing commons: complex dynamics leading to sustainably governed urban commons

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As a concept, urban commons offer new perspectives on collaborative urban design and the participatory management of urban resources. In many cases, citizens create urban commons as bottom-up initiatives, although they often cooperate with local governments or private proprietors, particularly if a long-term perspective is targeted for their project. Urban commons therefore shed light on the tension between bottom-up initiatives and the public and private sector in urban governance. This article aims to better understand how the interrelation between different variables, such as the implementation process, accessibility of the community, ownership structure, etc., can help to constitute sustainable governed commons. To do so we investigate three case studies of commons in different urban settings by means of field research and interviews with activists. Each case study is evaluated in terms of sustainable governance by identifying enhancing or constraining variables, external conditions, and internal challenges. By analyzing the specific strategies for the different commons using the overarching categories of scale, permeability, and organization, we identify variables that, when combined, can lead to a sustainable managed urban commons. Comparing the different examples makes it possible to assess the limits and possibilities of sustainable urban commons governance.

KEYWORDS

urban commons, sustainable urban commons governance, urban commons initiatives, self-organized groups, collaborative urban design

1. Introduction

Collaborative city making has become a buzzword in urban planning in many European cities today. Over the last years, the COVID-19 pandemic has drawn focus to civil engagement and awareness of public and common goods in cities. In some cases, this newfound awareness has resulted in projects, such as temporary play streets, which can be defined as commons. Urban commons are examples of projects mainly organized by citizens to preserve or reclaim urban resources, such as empty spaces, houses, or streets, as commons goods. They always operate in a field of tension between bottom-up structures, municipal administration, and private proprietors, and either succeed or fail. Urban planners increasingly promote and support participatory processes. City governments in Europe encourage civil society to engage in urban development as they profit from the volunteer work and increasing identification of citizens with the urban realm. Consequently, it is important to investigate the concept of urban commons and the implications of their sustainable governance for urban development.

Urban commons are a heterogeneous phenomenon based on different processes and spatial conditions. Spontaneously appropriated places such as bridges or streets can constantly be used by new people without clearly communicating the rules of appropriation or limiting the group of participants. In contrast, there are projects that are constituted by a fixed core team that decides on the rules for governing the commons, including its accessibility or exclusivity. For example, a group of commoners decides to convert an empty factory building into a venue for artists, where a carpenter who is not involved in the social artistic context might not receive a studio.

Because of this, it is difficult to make uniform statements about how urban commons can be defined successful and might play a part in sustainable governance and inclusive urban development. However, different aspects of the projects can be explored to show how commons themselves can be sustainably managed and how they can contribute to long-term participatory governance practices in cities.

This article investigates how the interrelationship between *organization*, *scale*, and *permeability* under varying conditions constitutes sustainable urban commons.

As part of this question, we would like to explore various dependencies such as: the role of local authorities in the *organization* of a commons, the influence of the original initiative or social movement on the commoning activities, how commoners create rules for using the commons and how decision-making sovereignty can be passed on to newcomers, the correlation between permanence and the *permeability* of the community or the spaces themselves, the influence of the *scale* of the project (e.g., size of the community) and the spatial conditions on the community processes.

We consider three interrelated hypotheses. First, we maintain that commons are more sustainably governed, the more clearly structured and anchored the organization is in a social movement and the more long-term the rights of use for the resource are. Second, we claim that sustainably governed urban commons are easily accessible spaces (both at a physical and organizational level) that allow new commoners to participate in and continue the project. Third, we argue that commons are more resilient when they strike a balance between the scale of the spatial resource and the size of the community.

To answer these questions and verify the hypotheses, we first define our understanding of urban commons and sustainable governance. We then present our methodology, including an analysis matrix consisting of three categories with associated variables that may lead to sustainable urban commons. This matrix is based on 12 case studies from Germany, Belgium, France, and the Netherlands.

Next, we examine three case studies selected from the above-mentioned collection with regard to two different perspectives on sustainable governance, using the matrix to compare them in an illustrative manner.

This paper aims to provide two new perspectives on sustainable governed commons:

We first claim that there are dynamics resulting from different combinations of factors (such as securing of the resource, clear rules, and permeable commoning processes)

that help maintain urban commons from a cross-generational perspective or, in contrast, factors (such as scarce resources, an inaccessible community, unclear rules, insufficient funding and external support) that prevent this. Second, we conclude that there are related factors (such as geographical reach, support of local authorities, foundation of a social movement) that help commons impact their urban context beyond the lifespan of the commons themselves.

2. Theoretical framework

As the definition of both commons and sustainable governance represents a broad spectrum, we will first explain our understanding of urban commons and relate this to our two perspectives on sustainable governance in order to embed our own approach.

2.1. Urban commons

The concept of the commons as a local and self-organized form of governance for collectively owned resources between the state and market (Ostrom, 2011) has been extended to urban space in recent research on urban commons.

In the context of protests against austerity and neoliberal governance in cities, David Harvey characterizes the urban commons as contested urban spaces created through collective, non-commodified, and political action that require both physical and symbolic change. He describes the social and cultural dimension of the commons as an “unstable and malleable social relation.” That is to say, they are socially defined and understood as an activity: commoning as a social practice (Harvey, 2013). Both ephemeral spaces, fought for from below, and more stable, institutionalized spaces (or spaces linked to local governments) are thus defined as urban commons.

In contrast, research in the field of architectural theory focuses on the spatial characteristics of the commons (De Angelis and Stavrides, 2010; De Angelis, 2013; Pelger et al., 2016). The term spatial commons was introduced by the philosopher Lieven de Cauter, which he distinguishes from public and private spaces as a “third space.” In his definition, they are neither public spaces in the sense of political spaces nor part of political negotiation, nor are they part of private space in the sense of home. They belong to everyone and to no one (De Cauter, 2014). This space, configured as a common, is constantly in process: It has to be produced again and again in both the material and immaterial terms (Stavrides, 2016).

In the practical examples of selected commons within an urban setting, we bring the different aspects together by looking at commons that have emerged from social movements in the broadest sense and examining their spatial configuration, as well as the organizational processes that underpin them.

In this article, we use the term “urban commons” as it is used in broader discourses, but we refer to the spatial, political, and social aspects of the commons.

2.2. Definition of commons

In order to properly describe and categorize our case studies, we use the theoretical concept according to which commons are constituted by the following three elements: the resource, the community, and the institution (see Kip et al., 2015). These elements go back to Ostrom's eight principles on how commons can be managed sustainably and equitably in a community (Walljasper, 2011). In relation to our case studies on urban commons, the three terms have following meaning:

In our work, the "resource" is the physical urban space that is appropriated or contested by the commoners. We do not consider immaterial resources that are an element of other commons (e.g., air or water). Urban space is usually owned by a private person, company, or the state. It can vary in type and size and also in the nature of its physical accessibility.

Within the context of this paper, the "community" is often formed by an initiative or social movement at the beginning. Over time, this group might be joined or replaced by new active commoners who define the common resource and constitute the commons through their common activities. The amount of people who take part in the community may vary during different periods of time and for different projects.

The "institution" regulates the process of "commoning." By setting certain rules or limits, the commoning becomes possible. These restrictions might not always be officially declared and can be defined simply by doing or by way of silent agreement. Within this regulation, an important aspect is how the access to the community is organized. This determines whether someone can join easily or whether there is a closed group of people.

Within all three elements, a yield can be generated through the collective use of the group and is shared by all. This yield is the collectively created space itself (Stavrides, 2016), which emerges from the constituting element of the resource, the social fabric of the group that originates from the element of the community that sustains the space, and the rules created by the group that relate to the element of the institution (Pelger, 2021). We argue that the generation of this yield already contains an aspect of sustainable governance. If it is possible to create this yield again and again in both the material and the immaterial sense, we can speak of sustainable governance.

2.3. Sustainability in relation to commons

Sustainability "meets the needs of the present without compromising the ability of future generations to meet their needs" (World Commission on Environment Development, 1987) and includes ecological, economic, and social aspects that are in balance with each other. We look at this definition of sustainability from a cross-generational and long-term perspective.

Consequently, the principle of commoning already incorporates ecological, economic, and social aspects of sustainable governance. The commons as self-managed spatial resources in collective ownership oppose the commodification (Harvey, 2013) of urban space as well as the privatization and unequal distribution

of space. The socio-cultural aspect is inherent in the collective production of space, as is the careful use of resources as a principle of urban subsistence (Pelger, 2021).

We argue that there are two perspectives of sustainable governance within urban commons:

1. Commons are sustainably governed when a community succeeds in constituting a space and maintaining it as long as the community needs the space. However, these do not necessarily have to be the same people but can also be a constantly self-renewing community. From a cross-generational perspective, this means that the commoners succeed in building organizational structures to transfer their project ideas to subsequent users if the commons does not cease to exist once the founding initiative has been dissolved.
2. Commons contribute to sustainable governance when they achieve a permanent impact on the quality, use, or regulation of the built environment in their surroundings, such as the immediate neighborhood or the whole city, although the commons themselves might not exist very long. Urban commons are important actors in urban governance processes. Due to their activities, commoners negotiate and contest the allocation of urban resources with governments and private stakeholders. In this case, the urban commons project itself does not necessarily have to last over generations. The urban commons can already have a sustainable impact within the city by initiating other sustainable developments. This means the commons itself does not need to last forever to have a long-term positive effect on the place where it exists. The urban commons may also create new initiatives by bringing activists together.

The above-mentioned perspectives of sustainable governance in the context of the urban commons have not been investigated yet. Past approaches (Ostrom, 2011; Kip et al., 2015) focused primarily on the concept of commons regarding their characteristics and distinctness from other projects. With growing pressure on increasingly scarce urban resources and the displacement of urban commons, the differentiated consideration of which of the factors constituting the commons contribute to their permanence comes into focus.

So far, there is little research on collaborative processes and governance practices within commons, especially with regard to their sustainability. Feinberg et al. conducted a comprehensive literature review on the diversity and challenges of urban commons. In their research, they highlight the need to further study the institutions that affect urban commons on the one hand and the individual and collective behavioral mechanisms that play a role in their emergence and governance on the other (Feinberg et al., 2021). In addition, the ownership regulations applicable to commons need to be examined more closely, with a focus on access or use rules.

There are a few studies that focus on sustainability criteria within commons, such as a study exploring co-produced resilience processes and their success when embedded in collaborative forms of governance based on the case study of R-Urban in Colombes (Petrescu et al., 2016).

In their research on urban lake communities in Bangalore, Ostrom and Nagendra apply a framework of social and ecological factors to examine the outcomes of collective action and the ecological performance of the same. The framework helps to identify combinations of “factors that act as barriers and facilitators for collective action and environmental restoration” (Nagendra and Ostrom, 2014).

We argue that in the field of urban commons, a systematic understanding of how internal and external dynamics contribute to sustainable governance is still needed due to a lack of comparison of different case studies with each other, which is necessary to identify factors that affect the sustainability of commons. Furthermore, there is a need for practice-based representations of how commons function to bridge the gap between theory and practice (Radywyl and Biggs, 2013).

By comparing different case studies, this paper aims to enhance the collective knowledge about the various ways urban commons function and the relevant variables affecting their sustainability. Practical examples are used to show how commons can be governed sustainably. A further objective of the work is to develop a method that can also be used by others, as a tool for further research, for instance.

3. Methodology, analysis categories, and variables

In this research, we focus on variables for the sustainable governance of urban commons in a European context using a comparative analysis system, which are explained in the following. In our methodological approach, we combine different research tools to conduct an iterative analysis. Based on empirical field research on twelve case studies,¹ we created a matrix showing the variables that play a role in the creation and maintenance of commons. This matrix is used as an analytical tool to compare specific case studies and exemplify the correlation of the variables in their impact on sustainable governance.

With a focus on sustainable governance criteria, we selected² three specific cases from the larger pool of studies according to the two perspectives of sustainable governance that we introduced before. For this purpose, we chose one case study (Kunststad) in which the community succeeded in stabilizing the space for the commoners in the long term (maintenance of a common related to demand), another case study (Keimzelle) in which the

group abandoned the project after a period of about 8 years (no demand, no maintenance), and a third case study (Grands Voisins, 2023) that acted in a limited time frame from the outset but achieved an impact at different levels beyond its own existence, thus contributing to sustainable urban governance (impact on context). These examples form the basis of this article as three comparative case studies (Flyvbjerg, 2011), which will be described in detail in Chapter 4.

The larger pool of case studies comprises spatially and organizationally different examples of contemporary spatial urban commons in a local and cultural context in Germany, Belgium, the Netherlands, and France that were established within the last 10–20 years. An important part of the field research was carried out in 2018 by students at the University of Hannover. The students visited and examined cases in Germany, the Netherlands, and Belgium in order to identify the specific commoning aspects.

We chose a combination of spatial mappings, interviews, and literature research to investigate our case studies. Spatial practices (movements, activities, user counts, etc.) of different users were mapped to understand how the spaces are used and perceived by the users. This was based on the assumption that spatial practices are shaped by the structure of existing space on the one hand and create new space on the other (Giseke et al., 2021). This research was supplemented by guideline-based interviews conducted by the authors with the initiators of the commons, who are considered experts here (Meuser and Nagel, 1991). The interviews focused on their practical knowledge (Giseke et al., 2021) to gain an internal perspective and learn more about regulations, organization, and financing, as well as their perception of the sustainability of their project.

After evaluating and discussing the individual case studies,³ a systematic matrix was developed in a deductive, iterative process. Because spatial and social aspects correlate with each other and can only be explained in combination, the matrix contains spatial, numerical, organizational, and social criteria according to which the case studies are categorized. By analyzing how these variables correlate, we identified three overarching analysis categories within the researched projects: scale, permeability, and organization (Figure 1).

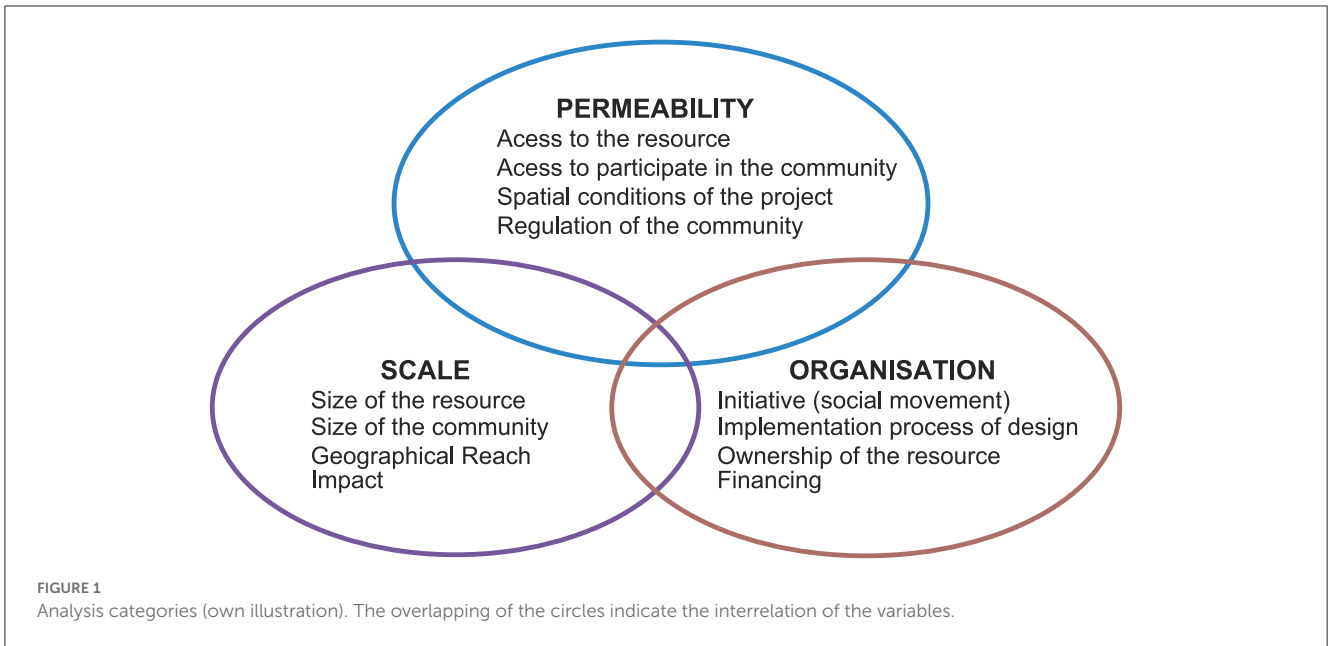
These categories make it possible to summarize the different variables, taking into account spatial and social aspects. This is why they differ from the three elements mentioned in the theory section because the categories of analysis are framed in such a way that they interweave aspects related to the resource, community, and institution. They thus illustrate their varying interdependence, which leads to different types of sustainable governance.

We regard the matrix (Figure 2) as a tool that allows us both to show the complexity in which the factors constituting commons interact and to compare different projects with one another. At the same time, it provides a basis to explore how the combination of specific variables can lead to sustainable urban commons governance and how this influences their impact on urban development.

1 The places we investigated together with the students were: *Lesezeichen Salbke* in Magdeburg, *Platzprojekt* and *Dornröschen Brücke* in Hannover, *Keimzelle* in Hamburg, *Wirgarten* in Erfurt, *Holzmarkt* in Berlin, *Luchtsingel bridge* and *Villa Hogvliet* in Rotterdam, *NDSM Kunststad* and *Van Beuningen Plein* in Amsterdam, and *Drimaster Park* in Ghent. Later on we added the case of *Grands Voisins* in Paris.

2 The selection was made according to the strategy of information-based selection (Flyvbjerg, 2011). This involves maximizing the use of information from small samples and individual cases. Cases are selected based on expectations about their information content. Thus, three very different examples were selected to obtain information about the importance of different circumstances for case progression and outcome (maximum variation cases).

3 We updated all information continuously based on interviews with the initiators and current media reports until 15 March 2022.



SCALE		PERMEABILITY		ORGANISATION	
Size of the physical space	< 100 sqm 100 - 1.000 sqm 1.000 - 10.000 sqm 10.000 - 50.000 sqm 50.000 - 100.000 sqm	Access to physical space	open access = public open access = common space (not public) controlled access	Initiative/Impuls (Social Movement)	Residents Citizens Creative scene City / Administration
Size of the community	5-10 persons 10-20 persons 20-50 persons 50-100 persons 100-200 persons open community & free access	Access to participate in community	open to everybody/ individual appropriation easy participation (defined group gut participation easily possible) participation regulated (criteria for access to group and co-determination)	Implementation of design	No design - only appropriation Design by users Design by architects with open user group Design by architects with specific user group Design by architects
Geographical reach & networking	local neighbourhood city-scale supra-regional social scene/ artist scene	Spatial Conditions	easy to find visible and easy recognisable spaces openly accessible clearly limited spaces separated spaces	Ownership Structure	no property temporary use agreement property owners or long-term leaseholders
Timeframe	temporary (1-5 years) intermediate (5-15 years) cross-generational duration (15 -30 or more years)	Organisational form	Spontaneous Loose group Association or cooperative	Funding/Financing	state-funded privately financed non-profit combination of all/some
				Role of local authorities	supporting neutral hampering instrumentalisation

FIGURE 2
 Matrix of commoning variables (own illustration).

3.1. Scale

There is an ongoing debate among researchers concerning the appropriate scale of the commons, meaning the scale at which a common can function well in the long term. In their study on diversity and challenges of commons, Feinberg et al. identify group size and scaling-up as key challenges in terms of organization (Feinberg et al., 2021). The authors summarize that larger groups (if not well-organized) can be chaotic, while Parker and Schmidt claim that smaller groups are more sociable and binding (Parker and Schmidt, 2017). At the same time, however, it may not always be possible to manage the commons effectively due to the limited number of commoners (Nagendra and Ostrom, 2014).

Furthermore, the additional layers of administration, which are necessary to scale up a commons, can discourage some initiatives (Radywyl and Biggs, 2013).

We argue that commons are more resilient when they achieve a balance between the scale of the spatial resource and the size of the community, which may also be related to the time frame of the project. Therefore, the category of *scale* used in our research combines four interrelated variables: the *size of the physical space* for the given spatial resource in square meters, the *size of the group* specified by the approximate number of active members within the community (visitors and temporary users are not counted), and the *geographical reach* to which the community relates—this might be a single neighborhood, city-wide, or a specific venue (e.g., gallery,

refugee camp, etc.)—and the *timeframe* of the project as expressed by the duration of the project's existence, which can be temporary, intermediate, or cross-generational.

3.2. Organization

The organization of commons is crucial for sustainable governance. There are many different variables that define how commons are produced and, above all, organized. As Negri and Hardt claim, we need to learn more about “not only preserving the commons but also struggling over the conditions of producing them” (Negri and Hardt, 2009: p. 171). Feinberg et al. identified various problems that might occur in commons projects concerning their organization, such as over-regulation, which might disempower some of the citizens due to strong hierarchies, or “finding the appropriate level of autonomy regarding the local authorities” (Feinberg et al., 2021: p. 10).

We claim that commons are more sustainably governed, the more clearly structured but not over-regulated they are and the more long-term the rights of use for the resource are. Furthermore, being anchored in a social movement provides an initial *impulse* and increases the motivation of the commoners.

In particular, commoners are most important for any commons and its sustainable governance. They are the people who appropriate the resource and initiate the projects. The first *impulse* often comes from a social movement but may also originate from an initiative or a loose group of people. Their activities, efforts, and persistence determine to a large extent whether a commons will be sustainable. Within our collection of cases, initiators were either residents, neighbors, creatives, architects, or city administrators, who were the first to create a special place for special needs. There are differences in the spatial *implementation of design*. In some cases, there is no design needed as the found space is simply appropriated and used, whereas in other cases, the space is established by the commoners. In the cases where specific design plays an important role, the design is either executed by architects in cooperation with the commoners or by the commoners themselves.

The *ownership structure* of the spatial resource refers to the degree to which the rights of use are secured at the site. These rights are essential for establishing commons and sustainable governance. Hence, ownership might include (not) having property rights, holding a temporary use agreement, or being a long-term leaseholder. If the commoners do not have any rights to the property (be it as owners or renters) in most cases the commons is a public space that was transformed into a commons. As property owners or long-term leaseholders, the community has legal protection defining its right to use the space. This can either be a long-term lease or the group itself is in possession of the property.

If the owner of the resource is the city, the role of the *local authorities* is very important with regard to securing the space. Independent of ownership, local authorities may help to promote and support a project; they can be neutral but not supportive or they can act against the project. Very often, urban politics use urban commons as a flagship for innovative urban development and consequently instrumentalize them without necessarily supporting them.

The *financing* of urban commons is organized in different manners: non-profit, state or private funding. Often there are several different funding sources. Depending on the project, the role of the local authorities and the question of money might be key factors in terms of the sustainable governance of the urban commons.

3.3. Permeability

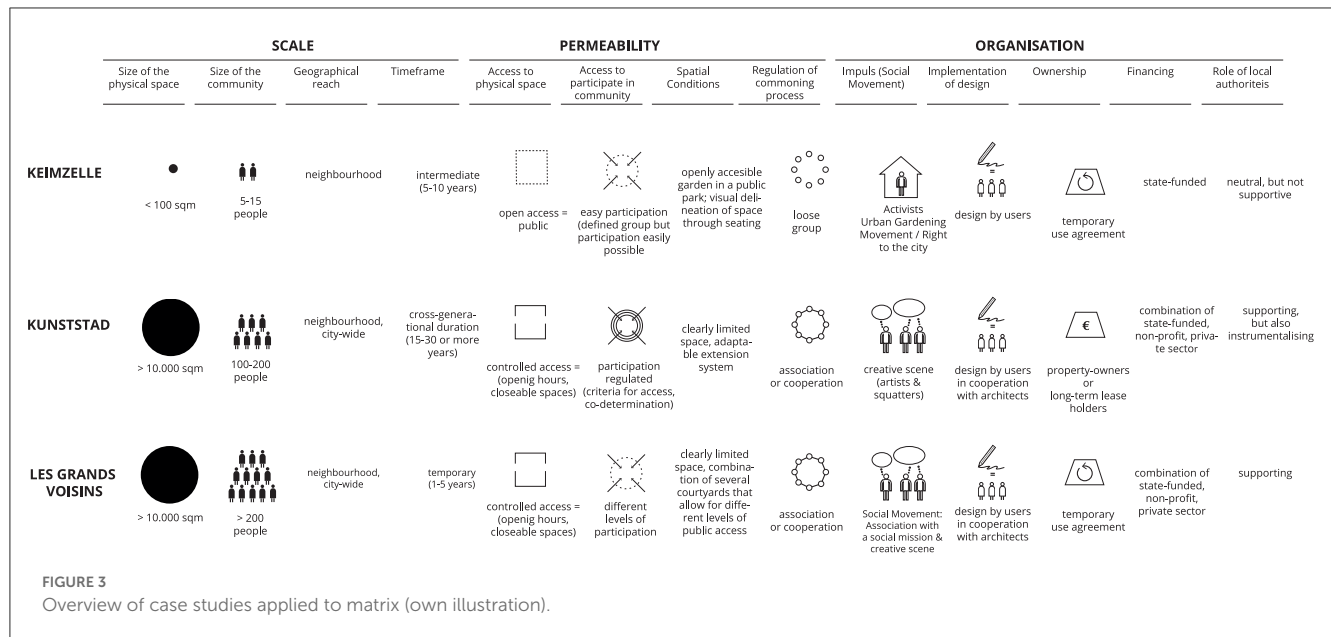
The permeability of the community is decisive for maintaining a place as a common, as well as for the question of how sustainable governance can be achieved beyond the common itself (e.g., through the transfer of knowledge or regulations). The question of the form of organization and the openness of the community is crucial here. On the one hand, an unstructured organization can promote openness to change and possibilities, but on the other hand, it entails greater vulnerability, for example, to forced changes from outside. At the same time, a structure that is too inflexible can prevent potential adaptations. It also poses the risk of participants taking on fixed roles that ultimately disempower them by involving them in unproductive or non-self-determined decision-making processes (Radywyl and Biggs, 2013).

Athenian architect and researcher Stavrides describes the essential quality of the commons as a space that remains open to newcomers and is thus constantly being reproduced. He maintains that this very quality distinguishes it from enclosed privatized spaces and public spaces (Stavrides and Heyden, 2017).

Threshold spatiality sustains the character of common space as commons, as a form or condition through which people constantly negotiate their relations and subsequently develop rules, uses, etc. [...] Common space becomes not only something to be shared but a factor shaping sharing itself. It can exist as long as people continue to (re)produce the various forms through which historically-specific institutions of commoning articulate social space and time (Stavrides, 2016: p. 25).

In our analysis, we name this quality the permeability of a commons. We argue that sustainably governed urban commons are easily accessible spaces with transparent decision-making that allows newcomers to participate and sustain the project. As this quality or condition includes several spatial and social parameters, we examine the following variables: the *accessibility of the space* and its *spatial conditions*, the openness of the community (i.e., whether newcomers are allowed to *participate in the community*), and the established *community form* that describes how the group is organized and how they make decisions.

We use three criteria to distinguish the degree of *accessibility to the resource* in the selected projects: the space is openly accessible to everybody at any time and is a public space (managed by public authorities), the space is openly accessible to everybody at any time but is owned and managed by the commoners (common space), or access to the space is controlled, meaning the site can be closed (e.g., fenced off or locked) and is only accessible during



opening hours defined by the commoners (common space with access restrictions).

Regarding the *spatial conditions*, important features include the location of the space within the urban structure (is it easy to find and easy to reach?), its recognizability (is the space visible and easy to recognize as an open space, and is the space inviting for newcomers?), and the spatial setting (is it a clearly delimited space?).

Permission to *participate in the community* can be differentiated into several levels: participation according to appropriation of the space, which can happen spontaneously as long as people have access to a space, and a form of participation that grants the commoners the right of co-determination. We distinguish between the individual and collective appropriation of an open space (in this case, participants become part of an undefined group of commoners that appropriate the space at different times and in varying formations) and activities of a defined group of commoners organized in a way that allows for easy participation (e.g., open group meetings or voluntary work activities where newcomers can participate without any requirement). Additionally, we draw a distinction between these and regulated participation. In this case, access to the group is clearly defined by criteria newcomers must fulfill to become part of the community, use the space, and have the right of co-determination (e.g., membership in the association or cooperative, a monetary contribution, etc.).

Within the *organization forms* of commons, we differentiate between communities that are formed spontaneously, communities that are a loose group of people who know each other but have no juridical regulation (e.g., a group of neighbors, a group organized via Facebook), and communities with a legal basis and permanent members, such as an association or cooperative. In terms of regulation, whether there are no rules, there are unwritten rules, or the group has laid down its rules in a document (e.g., a governance code) also plays a role.

4. Case studies

We selected the following three projects from a total of twelve case studies, incorporating different aspects of sustainable governance: *Kunststad* in Amsterdam, *Grand Voisins* in Paris, and *Keimzelle* in Hamburg (Figure 3).

We compared these three cases using the categories and variables from the analysis matrix. This comparison illustrates the correlation between the defined variables and highlights the differences between the projects. The variables interact differently in each of the cases. Therefore, the projects contribute to sustainable governance and to shaping the urban space collectively and sustainably in different ways.

4.1. Kunststad/NDSM Wharf

“A project like this starts with the people, not with an idea or vision. It’s all about the people (and the size of the community) who are committed to do something cool here” (Eva de Klerk, initiator Kunststad).

Kunststad⁴ (Art City) at NDSM Wharf in Amsterdam is a project in a former shipbuilding warehouse that was converted into a cultural space. This project was initiated in the late 90s by a group of skateboarders and theater makers who won a public tender for the temporary use of the East part of the wharf,

4 This chapter is based on the following sources: interviews with Eva de Klerk, one of the key initiators of Kunststad, the book *Make Your City. De Stad Als Caso/The City as a Shell* (De Klerk, 2018), the article “The Architects’ Role in the Transformation of the NDSM Ship Wharf, Amsterdam” (Havik and Pllumbi, 2020), interviews with neighbors and passers-by, and various observations on site by students of the University of Hannover in 2018.



FIGURE 4
Two women in front of the entrance of the Shipbuilding Warehouse at NDSM Wharf (photograph by Agnes Müller).

which was advertised by Amsterdam's planning authorities. It is an example for a user-based design and activation of an abandoned building, developed over a long period of time. The character of the wharf and its surroundings has inspired many artists, cultural entrepreneurs and small scale companies and still invites appropriation today (Figure 4).

The Kunststad initiative grew out of a group of skateboarders, female builders and theater makers who were evicted from buildings on the south bank of the IJ and were therefore looking for affordable artist spaces in the city. They joined forces to form the *Kinetisch Noord* work group, which applied for the competition launched by the Amsterdam-Noord (North) authorities in 1999 for the temporary⁵ cultural use of the warehouse. Their strategy ("The City as a Shell") proposed a city within the shell of the old shipwharf building and won the competition, thus enabling the process of transforming the site into a cultural hotspot. The basic principles of their strategy were using the existing building structure and including existing social networks to create self-made city and an affordable working environment with a high degree of self-determination in which users could shape their own environment.

In order to act as a formal partner with the building owner, the Noord district, the *Kinetisch Noord* group was transformed into the non-profit *Kinetisch Noord Foundation* and negotiated a ten-year rental agreement with the district. The project received a one-off subsidy for the elimination of overdue maintenance from the city and additional funding from *Broedplaats Fund*⁶ to develop their concept for the 20,000 sqm shipbuilding hall. The Fund decreed that the board of *Kinetisch Noord Foundation* should

⁵ The temporary period was initially supposed to be 5 years but was then extended to 10 years.

⁶ *Broedplaats Fund* is a fund launched by the city of Amsterdam to support artists. The total amount of funding was 15 million Dutch guilders. Although the fund is primarily oriented toward artists, the initiators advocated a mix of uses to bring in artisans, shipbuilders and non-profit organizations such as the "Ker en Buurt" foundation from the neighborhood and a flea market.



FIGURE 5
The open space next to the studio structure on the right inside the Shipbuilding Warehouse at NDSM Wharf (photograph by Agnes Müller).

be composed of non-users rather than users, which resulted in different external interests being represented within the board and thus eventually influenced the project.

A multi annual (10 year) operational plan that clearly described the organization, planning, and funding was co-created by the community (all the people involved at the time). The community created an organizational structure to manage the warehouse that was divided into three actors: the board of *Kinetisch Noord Foundation* (six external members), a working organization group (seven people), and the association of users (~200 people in 20 clusters). The board of *Kinetisch Noord* functions as the corporate body with a working organization holding the contract and conducting negotiations with the City District Amsterdam Noord (SDAN). *Kinetisch Noord* is responsible for implementing basic infrastructure, dividing the space, renting, and communicating with the tenants. The association of users unites all tenants of the space and is organized in several clusters with different responsibilities, in which tenants with complementary artistic interests work together and take care of their workspaces.

The design process to spatially adapt the old warehouse was developed by the first group of users in cooperation with architects,⁷ taking into account the existing physical structure and the wishes of existing and new users. They developed a spatial layout dividing the hall into five building clusters on the basis of disciplines and professional practices and with varying degrees of openness to the public: theater workshops in the east wing of the hall (1) and spaces for large-scale exhibitions, flea markets, and theatrical performances and a New Babylon tower on the northern strip (2) (Figure 5), spacious work spaces for steel and ceramics work and art transports along the southern façade (3), and a youth cluster with a skate park on the west side (4).

The fifth and central element is the *Kunststad*. A framework for the self-built lots (5): a two-story supporting structure within which the users were free to construct their own working spaces

⁷ *Dynamo Architects*.



FIGURE 6
Two-story supporting structure with ateliers inside the Shipbuilding Warehouse at NDSM Wharf (photograph by Shuguang Zou).

or rent a prefabricated lot with walls and a ceiling (Figure 6). They integrated internal streets, aligned with the skylights of the shipyard building, as communal spaces furnished with seating and work-in-progress artwork.

Between 2004 and 2007, the future tenants designed and built 12 theater spaces, 80 studios within the steel frame, two self-built towers, and a skate park. The construction costs were covered by the grant plus a loan of which the interest costs are reimbursed by the rental income from the users plus the private money of the users. The hall of the former shipbuilding warehouse is accessible to the public from 8 a.m. to 10 p.m., whereas the studios and workshops rented by the artists are not open to visitors.

To become part of the community, applicants must go through an application process. The group set up criteria: space is given to people who are not able to pay high market prices and who are supportive toward self-organization. Therefore, free places are allocated on the basis of income and a waiting list. In order to provide for as many small studios as possible, a person may rent a maximum area of 100 sqm. There is also an agreement that the self-financed studios are “privately owned”: the value of the studios is jointly determined (and evaluated every 10 years) to prevent speculation and to keep the space affordable for the next generation.⁸

The outreach of the project in terms of a growing community has been successful. The project started with a group of 50 people

in 2000. In 2018, when Kunststad celebrated its 10th anniversary, the group comprised around 200 artists and creative entrepreneurs in the studios and workshops inside the old warehouse. There are still more than 10,000 sqm available for additional work space to be built by future tenants under the former skatepark on a third level of the “Casco-framework” of the Kunststad. Thus, the project is capable of attracting users for the long term but also ensures the involvement of new members. In the project’s 20 years of existence, about 40 % of the participants have been exchanged.

In summary, the philosophy of “De Stad as Casco” and the operational plan have not been fully followed. This was due to the complex negotiation processes between the different actors and the different expectations that characterized the NDSM experimental process. The city of Amsterdam has played a decisive role in the implementation of the project. On the one hand, the financial support from the city made the project possible, while on the other hand, the municipality took advantage of the project as part of its development strategy accompanied by the commercialization and commodification of the entire area. It also imposed certain governance criteria on them that partly contradicted its own principles of self-organization. Although the initiators were aware of the temporary use from the beginning of the project, they accepted it in order to gain the support of the municipality and thus realize the project (Havik and Pllumbi, 2020) but they were not aware of the danger of losing self-governance because of the funding criteria to have external people in the board of the foundation. After 15 years of temporary use, the foundation succeeded in removing the time limit on the tenancy agreement with the municipality and in purchasing the building, thus securing the use of the space on a long-term basis.⁹ But the governance is still at stake.

In relation to the introduced perspectives of sustainable governance, we argue that the following variables of our matrix have led to the project succeeding in maintaining the space for the community over a period of more than 20 years. The project emerged from a movement of the well-connected and organized subcultural scene that has managed to represent its interests locally to secure affordable spaces for the cultural and social scene and to implement these spaces together with existing and future users. In doing so, they were supported financially and strategically by the local authorities, allowing the project grow to the point of gaining supra-regional significance. This impact certainly played an important role in the long-term safeguarding of the site with the city of Amsterdam. Furthermore, the project intended an organizational structure that regulates the commoning process in a way that it can be passed on to the next generations of commoners. However, this has been accompanied by deviations from the original goals of the project, which were more oriented toward commoning principles than the project is today. The combination of these factors makes Kunststad an example of a community which managed to maintain a space which can adapt to its needs over a 20-year period.

Despite the success of the project, it has had effects on the area that can be viewed critically.

⁸ Every ten years, the group assesses the value of the studios. In the beginning, the value was determined on the basis of the material costs of 250 guilders per sqm. Today, a studio is worth 50 % of its initial value.

⁹ The lease of EUR 1.8 million is being paid over a period of 50 years.

The project was a successful driver for the long-term development of the entire surrounding harbor area, which is now largely marketed and developed under the control of investors without Kunststad being able to influence this.¹⁰ As much as the project itself has fought for affordable rent for art spaces, it has also indirectly and undeliberately contributed to the yield-oriented marketing of properties in the neighborhood. However, this can be seen more as a consequence of land speculation in general than of the project itself.

At times, this speculation has also become a threat to the project, which could only be overcome by changing the fixed-term rental agreement into an open-ended lease.

4.2. Keimzelle

“One unburdens (...) projects by relieving them of the claim that they are only successful if they last forever”¹¹ (Anke Haarmann, initiator of Keimzelle).

In 2011, an initiative consisting of activists from different backgrounds (politics, culture, urban planning, etc.) planned to establish a farm with an urban community garden on a former parking lot at the old cattle market in Hamburg. This farm was intended as a lighthouse project. But when the space at the cattle market was not available at first, the initiative started a smaller urban gardening project called “Keimzelle¹²” (engl.: germ cell). The garden was close to the cattle market, embedded in a small neighborhood park at the west end of *Öhlmühlenplatz* in the vibrant, multicultural, and dense *Karolinenviertel* of *St. Pauli* (Figure 7). One main aim of Keimzelle was to create within this multicultural neighborhood a meeting place without language barriers to bring different people and cultures together through gardening activities.

The Keimzelle project and the activists behind it were part of the “Right to the City” network and the social movement, which 56 initiatives in Hamburg have joined. As part of this movement, they took an active part in organizing political events, podium discussions, etc. Furthermore, Keimzelle has founded a network called “Solidarisches Gemüse” (engel.: solidary vegetables), which connects intercultural and urban gardens in Hamburg. This network can be seen as part of the global “Urban Gardening” movement. Additionally, the initiative was integrated into Hamburg’s cultural scene. This helped them acquire public funding for art in public space to develop Keimzelle. They also received municipal funding for the redevelopment of the neighborhood from a local fund.

10 Today, Kinetisch Noord owns the NDSM shipyard building, but has only a 5% say in decision-making for the entire NDSM area (Havik and Pllumbi, 2020: p. 301).

12 This chapter is based on following sources: interviews with Anke Haarmann and Harald Lemke, both initiators of Keimzelle, the book “Die Keimzelle” (Haarmann and Lemke, 2021), interviews with neighbors and passers-by and various participant observations during the existence of Keimzelle by students of the university of Hannover in 2018.



FIGURE 7
“Hochbeetrichtfest” festival at Keimzelle (photograph by Keimzelle).



FIGURE 8
Mobile garden beds at Keimzelle (photograph by Keimzelle).

Despite coming from large social movements, Keimzelle itself was a small community, led by a core group of about 5–15 activists meeting regularly to work in the garden and with changing people joining temporarily. The activists intentionally did not found an association and strove to build a structure in which everyone could participate equally. Ultimately, this did not work out due to invisible hierarchies, which apparently prevented newcomers from participating. The legal basis for using the Keimzelle site was an agreement between an activist of Keimzelle and the city of Hamburg (Grünpatenschaft), which owns the area.

The project contributed to the positive atmosphere of the park through the distinctive self-made design and the diverse vegetation in the 85-square-meter urban garden. The spatial setting changed as time went on. At the beginning of the project, there was no delimitation, the raised garden beds were mobile, which made the project appear public and accessible (Figure 8). Over time, the



FIGURE 9
Roofed space for information and discussion at Keimzelle
(photograph by Keimzelle).

garden beds were bordered by sitting elements or boxes which were intended to provide a place to stay and mark the entrance, but at the same time could also have been perceived as a boundary by outsiders.

Beside the political activities and the idea of strengthening urban agriculture in cities as an alternative means of producing food, the Keimzelle project had an important social and communicative aspect in the commoning process. The activity of gardening as a “global cultural technique” became a means of communicating in public space. Activists, people from the neighborhood, passers-by, and homeless people communicated by sharing herbs, vegetables, and flowers from the garden (Figure 9). The initiative ran a Facebook account and project website providing information about the idea of the project and their activities on site. They offered activities such as exchanging books, collective cooking, seeding and planting together, a summer festival, lectures, and (political) discussions.

As it was not possible to realize the project at the cattle market, the activists started Keimzelle as a first step and hoped it would “grow like a seed” and flourish over time, transforming into a large, social, urban vegetable garden and farm at the old cattle market later on. This goal was not achieved because Keimzelle could never move to the old cattle market. Hence, the project could not increase its physical space and as a result the size of the active community. Finally, the alternative location at Ölmühlenpark was also removed in 2019 by the initiators themselves after 8 years.

Reflecting on the question of how sustainably governed the project was, we argue that from a temporal or cross-generational perspective, the project did not last very long and, at a first glance, did not change the place or neighborhood in a sustainable manner. Otherwise, the social movements behind the project were big and well-known and influenced the project in terms of creating a space for political discourse within the urban garden. Hence, its political reach extended across the city and helped to build identification with the neighborhood.

The 24 h access to the site and its diverse activities had a lot of potential to integrate very different interest groups and neighbors. The garden could be accessed by the public at any time as there were no fences or other barriers. It could be used by everyone for gardening, recreation, or as a meeting point. Vegetables and books were stored on open shelves to share. This openness could have enforced a more stable appropriation of the space.

However, the core group was not able to expand or pass on the project to next generations. Although the initiators wanted to grow, it did not prove easy to expand the group of commoners without having more space to offer where people could develop own ideas. Many people passed by Keimzelle, joined the project for days, weeks, months, or even several years. But no one, except the core group, stayed because people moved on to other projects or cities, did not have enough time to stay involved, or could not develop their own ideas within the project. In addition, the project was very demanding because of very simple practical problems. For example, Keimzelle did not have any access to water and organizing access to the fire hydrants to get communal water and fill the water tanks was a recurring challenge. Especially in the summer, watering the plants was a daily chore. Therefore, the initiative planned a fountain as a social project but because of old war mines in the area, there were not allowed to realize that idea. Finally, the initiative was exhausted from organizing numerous events, community activities, and just keeping the plants alive.

The role of and relationship with the authorities was quite ambivalent for Keimzelle. The activists wanted to be independent from the city, wishing not to be forced into anything. But at the same time, the initiative desired support and started to contact the city early on, for example, to solve the water problem. However, it was difficult to reach a person within the city administration who felt responsible for the self-made urban gardening project, and no support was provided in the end although Keimzelle generated new ideas and showed how to create a sustainable city in Hamburg. Support, such as water or manpower, from the city government could have facilitated many of the activists’ tasks and freed up their time for other activities. Instead, the project was used to market the city of Hamburg as a best-practice example of urban gardening.

As the activists explained, their vision of planting the first seed, which would then be continued through the participation of many residents in the form of a co-designed neighborhood, was realized temporarily on the Keimzelle site and in the neighborhood but not in a long-term perspective. Individual neighbors claimed that the activists were not easy to reach and therefore they found it difficult to become a part of the project. In contrast, the group of activists understood participation as the independent and continuous act of every individual who wanted to get involved and did not feel the need to delegate the commoning activities of others. This might have been in conflict with the needs of some potential commoners, who might have expected a clearly structured group and instructions for participation.

Concerning a long-lasting vision, Keimzelle may have planted “seeds” in the minds of the users, who may have taken new impulses with them. We contend that Keimzelle was not a sustainably governed commons in the sense of using and reclaiming the resource of the park continuously in a long term, but it did have a major media presence and impact on promoting urban gardening as a method of communicating, bringing people together within

the neighborhood, and thinking about food production in cities, not only in Hamburg but also beyond. The strong media presence also acted as protection for the project, making it less vulnerable to criticism from the local authorities.

4.3. Grands Voisins

“We use transitory urbanism as a tool to prove that we can create hospitality and influence the future program of specific places” (William Dufourcq, initiator, Aurore).

*Grands Voisins*¹³ (“great neighbors”) in Paris is an example of a temporary commons using an urban vacancy for non-profit purposes. From the beginning, the project was based on a temporary use agreement on the site of the former hospital of *Saint-Vincent-de-Paul*. Even though it was conceived as a temporary project, it succeeded in influencing the subsequent planning for the area¹⁴ and therefore had a long-term impact on the neighborhood. Moreover, the project organizers managed to extend or amend existing regulations with the authorities regarding temporary uses within Paris.

The trigger for the project was the closing of the former hospital of Saint-Vincent-de-Paul in the 14th Arrondissement of Paris. The non-profit association *Aurore* initiated the project in 2014 with the aim of providing accommodation for refugees and homeless people (Figure 10).

The city council of the 14th Arrondissement agreed to the use but also wanted to open the area to the public as a temporary solution until the new neighborhood planned there was built. With the goal of mixed uses on site, *Aurore* initiated an application process for the program with other non-profit organizations, from which the partnership between the three associations *Aurore*, *Yes We Camp*, and *Plateau Urbain* emerged. *Grands Voisins* was formulated as an urban experiment with three equal program: a social component with emergency housing, day care, and reintegration programs for refugees and homeless people (*Aurore*); an entrepreneurial component with low-cost work space for artists and cultural workers, as well as for political, social, ecological associations for whom they offer a platform for exchange and low-cost locations (*Plateau Urbain*); and a public outreach with cultural programming, opening, and designing of spaces accessible to the public (*Yes We Camp*) (Figure 11).

With an open area of 15,000 square meters and 20,000 square meters of building floor space, the temporary use of the former hospital from 2015 to 2017 provided 600 accommodation places for people in precarious situations and enabled 250 associations,

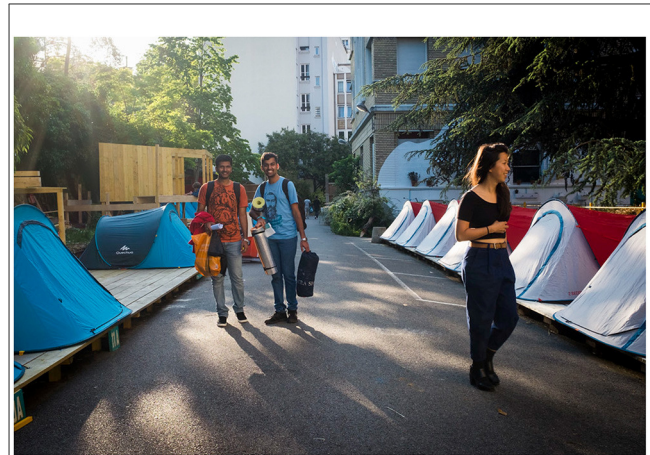


FIGURE 10
Temporary campsite for activists in 2015 at Grands Voisins (photograph by Elena Manente/Yes We Camp).



FIGURE 11
Open flea market inside the old hospital at Grands Voisins (photograph by Nicolas Hippert/Yes We Camp).

start-ups, craftspeople, and artists to develop their activities in a new environment. In a second phase, beginning in 2018, the project was extended even further, but with reduced use of the site, as construction work began on the eco-district envisioned on-site.

The result was a heterogeneous community made up of the organization team,¹⁵ the refugees and homeless people living there, the tenants of the commercial spaces (cultural workers, artists, craftspeople, socio-economic actors), the volunteers, and the visitors using the location for a total of 6 years. These different actors had a varying degree of co-determination, as well as different possibilities and reasons to become part of the project. While the project was open to volunteers and visitors, tenants were selected through a call for projects with the following criteria: diversity of program, social purpose, ability to be part of a collaborative project, proposal of a program to integrate people in shelters,

13 This chapter is based on the following sources: an interview with Paul Citron (Plateau Urbain Cooperative) and William Dufourcq (Aurore Association, Delegate of Tiers Lieux Solidaire), the documentation “Les Grands Voisins” (Urban Maestro, 2020), the project’s website <https://lesgrandsvoisins.org/last> (accessed on 18.03.2022), interviews with activists, and participant observations on site by the authors in 2018.

14 The municipal construction company Paris & Métropole Aménagement (P&MA) is in charge of the planning and execution for a future eco-district.

15 with about 30 employees to manage the project.



FIGURE 12
Discussion about future perspectives for Grand Voisins in 2019
(photograph by Yes We Camp).

proposed location. The people in the emergency shelters were selected through Aurore according to their need.

All participants were united by the goal of testing new unconventional uses on the site with the involvement of the neighborhood (Figure 12). To regulate the commoning process within the three different associations, a coordination team was founded. The association Aurore was responsible for controlling contractual rules for the users and acted as a representative of their interests toward the owners (P&MA). Interest groups were formed to make autonomous decisions at a lower level, but most decisions were governed centrally by a steering committee in weekly meetings, chaired by the coordination team. The role of the steering committee was to strike a balance between the different programs and to encourage cohesion and collaboration. In a second phase, the decision-making was decentralized. Autonomously acting committees were formed, but overarching decisions continued to be made by the steering committee, which met monthly and included all of the Grands Voisins associations. The *Conseil des Voisins*, a bi-monthly meeting to which everyone was invited, provided for an exchange about the project with the neighborhood. Generally, the community valorized the social capacity of the neighborhood by integrating volunteers to help at the day center for asylum seekers, bar service, catering, language classes, construction in the workshop, etc.

The site was divided into areas accessible to the public on the ground floor and in the courtyards and areas to accommodate refugees and homeless people on the upper floors and rear sections of the site. As a place open to the public, Grands Voisins offered an important cultural and social space in the neighborhood and the city of Paris. Due to its success within Paris, the project also became known regionally and internationally.

The use of the site was regulated by a temporary use contract. The associations did not have to pay any fees but were responsible for the administration and maintenance costs, which in turn saved the owner more than one million euro per year in security costs through temporary occupancy. The project was financed through three types of income: one third was covered by rent for emergency

housing, which was subsidized by the state, another third was generated by the rental income from artists and associations, and the last third was financed by income from visitors (restoration, rental of campsites) and funding from the region¹⁶ and the city hall of the 14th Arrondissement.

Grands Voisins benefited from the political and financial support of the local authorities, who supported the project either politically with presence and advertising¹⁷ or financially.¹⁸ The personal support and trust of the district mayor, who had great confidence in the organizers to carry out the project, ensured that they could act very independently.

The success of the project also led to a stronger politicization of the group and thus a political statement on their part. The long-term aim of the organizers was to integrate emergency housing into a broader urban context within the city center rather than in the suburbs. They used transitory urbanism as a tool to mix emergency housing with other program, weaving it in as a normal part of a use mix and creating hospitality, thus showing how this works on an experimental level and influencing future programs.

After talking with the municipal company (P&MA) that planned the construction of the future eco-neighborhood, it was possible to preserve some buildings destined for demolition and to integrate a center for homeless people, 30 emergency accommodations, and several spaces for cultural actors into the new neighborhood. Thus, the project had an impact on the subsequent use of the site. Over the course of the project, the project organizers successfully negotiated with the authorities to extend or amend existing regulations. One result was the “charter for temporary and transitory occupation”¹⁹ (*Ville de Paris, 2019*) signed by the City Council of Paris in 2019. The Council decided to apply the concept of temporary occupation almost systematically to its derelict properties and to apply the principles set out in the charter, such as integrating the transitional project into the design of the future site, its planning, and its use. This paved the way for many more temporary urban laboratories in the Paris area. Part of the housing law was also influenced by the fact that discussions were held with local authorities, with the result that housing planned as emergency accommodation could not be taken over by the real-estate market in the long term.

With regard to sustainable governance, we argue that the project has achieved sustainable governance in terms of the impact on its context because of the following factors. Due to the city-wide success of the project and careful communication with the authorities, it was possible to implement new policy tools facilitating sustainable governance and as a supra-regional impact of the project. We see three impacts here: the change of rules as mentioned above, the change of the future site agenda, and the transfer of knowledge. Knowledge was transferred in two ways: by translating the project and its rules to other urban settings in the

16 Ile-de-France.

17 Mayor of Paris.

18 Ile-de-France, Mayor of 14th Arrondissement.

19 (*Ville de Paris, 2019*). Available online at: <https://www.paris.fr/pages/paris-signe-une-charte-pour-les-projets-d-occupation-temporaire-7094?fbclid=IwAR207aCV6f9xUWC7F-Z5wnwFh-8sjuuMwrTslAohNZ1748WgkH15HJIGQjw> (accessed March 18, 2022).

city and by transferring the tools, set of rules, legal documents, economical documents, criticism, and lessons learned to other people who then could start their own projects.

Factors that contributed to the success and thus the effectiveness of the project include the project's foundation in a well-organized and strongly networked community with a social mission (although not an activist movement) and a commoning process based on clear rules for participation at different levels and on a sociocratic organizational principle that allowed collective decisions to be made transparently at different levels and ensured a balance between the different programs and actors.

5. Discussion

Based on the comparison of the three case studies, the following findings can be derived for our hypotheses, which each refer to one of the three analysis categories described in the matrix. By discussing the hypotheses, we demonstrate the differences between the selected case studies and highlight the different variables that, when combined, may lead to a sustainably governed urban commons.

The first hypothesis assumes that commons are more sustainable, the more clearly structured and anchored in a social movement the organization is and the more long-term the rights of use for the resource are. This refers to the category of *organization*. Within this category, the factors of securing the right to use the resource (*ownership*), *financing*, and the foundation of a *social movement* play an important role, in addition to the involvement of *local authorities*.

Their interdependence becomes very evident here: The right to use the resource can (usually) only be secured if the group has acquired financing, which often also depends on the support of local authorities. The role of social movements in the backgrounds of the initiators is multi-faceted. They can be a good way to meet activists with similar interests who have experience claiming their needs. They might also generate long-term projects due to their established common activities and communication skills within these initiatives. This, however, depends on how stable the respective movement is and whether the activists are capable of regulating the commoning process sustainably, as described above.

We argue that this networking and foundation of a *social movement* was an important factor in the impact of the case studies examined. Regarding the *implementation* of the design, we argue that commonly designed spaces emphasize a greater commitment and identification by the commoners and thus lead to a longer permanence of the commons. The examples show that the appropriation and implementation of the spaces by the commoners are an important aspect for identification and motivation. In all presented cases, *ownership* plays a key role in the potential permanence of the projects. The *financing* of the individual projects was in most cases a mixture of private-sector financing, government funding, and funding from the non-profit sector. The question of *funding* posed a challenge in all the case studies. Even if enough funding was obtained to start the project, it was either insufficient to continue the project or created certain dependencies that influenced decision-making. The *role of local authorities* was very different in each case. Nevertheless, it can be

deduced that support from local authorities is very helpful and that a project is unlikely to be successfully implemented if there is resistance. However, the ambiguity of this support must also be mentioned as it is sometimes linked to conditions that compromise the independence of the projects. At the same time, the authorities always pursue their own political goals.

At the *organizational level* of the projects, the examples show that securing the rights of use and financing for the space, as well as the support of the local authorities, plays a decisive role.

The second hypothesis focuses on the aspect of *permeability*, arguing that sustainably governed commons must be easily accessible at both the physical and organizational level to enable new commoners to join and continue the project. Here, factors such as the *spatial conditions* of design and *physical accessibility* intersect with social and organizational parameters such as the *organizational form* and possibility to *participate* in the group. Here, too, the balance of these factors determines the degree of permeability. This demonstrates the need for a *transparent commoning process* that makes it easy to access and participate in the community (both at a physical and social level)²⁰ and that also has an organizational structure that allows it to be passed on to the next generations of commoners.

The cases presented above show that a certain degree of regulation in terms of *access* to the resource, but also to the community, helps to successfully manage the resource and contribute to sustainable urban development. Furthermore, they illustrate that rules are needed, but that they should be as simple and inclusive as possible. Not having any rules at all can overburden groups and scaling-up can only be managed with rules.

The means of accessibility also relate to the *spatial conditions*, where it becomes clear that exclusionary factors often arise from the limited allocation of space. The more clearly the location is spatially delimited, the more likely it is for usage times and users to be differentiated (such as nightly restrictions, enclosed rooms). The examples also demonstrate that although in some projects there are spaces that are only accessible to a limited group, the basic spatial accessibility of the project ensures a general openness toward interested newcomers who can thus get to know the place.

The third hypothesis relates to the category of *scale* and is based on the assumption that commons are more resilient when they strike a balance between the scale of the *spatial resource* and the *size of the community*. This is where the interaction between the physical size of the place and the number of group members comes into play, which must develop in a balanced relationship.

The case studies illustrate not only that physically large places need to be used by a very large number of community members to manage the size, but also that these large communities need thorough organization. This relates to the *organizational form* of the group, which becomes increasingly important as the size of the group grows. Furthermore, it becomes clear that the physical size of a place may be an obstacle to the growth of a community as it does not offer the possibility for many different people to engage continuously.

²⁰ The demand for openness and transparency is also accompanied by the need for boundaries in order to maintain the commons as a commons.

Detached from the numerical perspective, the case studies highlight the aspect of *geographical reach*, (e.g., the immediate neighborhood as a meeting point or lively place or a particular social scene) as an important factor in generating an overarching sustainable governance impact. This reach, however, does not depend on the size of the place or the group or on its time span. Rather, it is determined by the networking of the project and its foundation of a social movement. This means that even small but well-networked projects can change a great deal in their surroundings. Here, however, the aspect of dissemination also comes into play; in other words, a group or project does not have to be particularly large to transfer its knowledge to other projects.

5.1. Perspectives on sustainable governance

The degree of sustainable governance achieved in the three cases presented above varies considerably and is related to the two perspectives on sustainable governance we have described. In all three cases, it is the specific interaction between the variables shown in the matrix that determines whether the commons can be maintained for as long as the group needs it. Likewise, a certain combination of variables is necessary for the commons to have an impact on its surroundings beyond its own lifetime.

The Kunststad project at NDSM Wharf is an example of an urban commons that achieved considerable permanence with a lifetime of over 20 years. We consider the combination of the following variables to have contributed to this: its foundation of an existing and well-networked social movement with a very committed group of people, as well as the financial and organizational support from the authorities, which, however, also led to deviations from the original goals of the project. It is noteworthy that affordable studios and workspaces for a gradually changing user community are made accessible through self-developed rules within the association and the foundation. Although the project has made a cultural contribution to the neighborhood and the city of Amsterdam, it has also contributed to the gentrification of the area.

In comparison, Keimzelle did not last beyond the first generation of commoners, but contributes to the second perspective of sustainable governance. The decisive factor for the closure of the project was that the group did not grow and expand, thus spreading the responsibility for the space among many shoulders. The reasons for this were the spatial limitations of the place and the organizational structure of the group. There was also little support from the local authorities, which made the work more difficult. Nevertheless, Keimzelle has had a pioneering role and an impact beyond its own duration. *Via* the strong media presence and the on-site events, it has promoted urban gardening as a method of communication and food production in cities, not only in Hamburg but also beyond it.

With temporary duration as a principle of the Grands Voisins project, the sustainable governance aspect is reflected in its impact on future developments, which started afterward in the city and can be traced back to the original project. Influences here include the change of municipal regulations, the change of the future

site program, the preservation of some buildings destined for demolition, and the transfer of knowledge to other projects in the city. We argue that the involvement of a strongly networked community with clear rules for participation and great financial and political support from the local authorities is responsible for this achievement.

In all three cases, the space for certain activities was given as yield to use and co-create. This space made it possible to generate further yields, such as food (Keimzelle) or jobs and cultural output (Kunststad and Grands Voisins), for the commoners. At the same time, however, it excluded others as the space could not be used otherwise (Keimzelle) or the organization of activities was not open enough for everyone to join easily (Kunststad).

5.2. Critical reflection

When looking at the case studies, it is important to note that they are all projects from the Northern European context in which the organizers have a high level of education and have the time and financial resources to commit to the projects mentioned. These are initial conditions that do not apply to all commons.

Another problem that must of course be mentioned here is that such projects and initiatives may also unintentionally trigger or promote processes of exclusion, such as gentrification. The authors are aware of this problem, yet these well-documented projects are examples from which we can learn about the dynamics and interrelationships in commoning processes. This knowledge, when partially transferred to other settings, can help make commons more sustainably governed in the sense described above.

When considering the sustainable governance of the commons, it is also important to carefully distinguish them from “exclusionary, skimming or unsolidary models within the definition of the commons” (Pelger, 2021: p. 37). The two crucial distinguishing criteria are the right of co-determination (i.e., self-managed spaces where users decide on the use of the resource) and the high degree of inclusion (i.e., potential accessibility for all) (Pelger, 2021). Referring to the above-mentioned distinction of commons from exclusionary or skimming projects, it becomes clear that it is not always possible to classify certain case studies unequivocally. Our analysis shows that exclusionary aspects can also be found in all three case studies presented here. In Kunststad, only those who can “rent in” can participate (at least in the area of the studios), even if the prices become cheaper over time. Furthermore, the group acquired the property in the course of the project, which means that it is no longer publicly owned and thus no longer potentially accessible to everyone. In Keimzelle, we see exclusionary aspects due to hidden hierarchies in the group. A similar point of criticism is present in the Grands Voisins project. Due to the organizational form, there are decisions that are not made jointly by all but are assigned to a controlling part of the group.

This means that even a project that fulfills the criteria for a commons in many aspects can nevertheless contain exclusionary aspects that are sometimes even necessary to maintain the commons as such. There is also always the possibility or danger

that if the parameters change, the group's interests will change and a commons might become a market-oriented project.

6. Conclusion

The analysis reveals the fragile and complex structure in which many parameters interact to achieve sustainable governance for urban commons. Under the current conditions of scarce urban spatial resources, all three of the interrelated hypotheses play an important role in enabling a community to constitute and maintain a space for as long as the community needs it or in enabling the commons to have a sustainable governance impact on its surroundings. It is not enough if only one of the aspects is obtained. Rather, important variables in each of the underlying analysis categories of *scale*, *organization*, and *permeability* must be fulfilled.

In summary, in each of the categories, we have filtered out some variables from the analysis of the case studies that play a more important role than others depending on the perspective of sustainable governance. With regard to maintaining the space, the long-term protection of user rights (*ownership structure*) and *financing* are crucial and are related to the *role of the authorities*, which might have a large influence on both. In addition, the *size of the resource* and the *size of the community* being in proportion determines the durability of a specific project. And finally, a commons only lasts as long as there are active commoners taking care of the resource. Therefore, an *organizational form* of the community is needed that allows for *easy access to the community* to ensure new commoners are involved.

In terms of a broader impact, the *initiative or impulse* and the *organizational form* of the community can be seen as key factors. As mentioned before, continuously engaged commoners who come up with ideas and have personal motivation (often triggered by social movements) are the most significant. *Networking* within a larger *geographical reach* makes it possible to pass on commoning concepts and knowledge to new activists. This might lead to a sustainable impact not only at the original site and resource, but potentially beyond that as well.

The specific objective of this study was to gain knowledge on how urban commons are created, by whom, and in what different ways they are maintained. Our findings helped us to isolate initial key dynamics within the complex structure of the commons that can be applied to other settings.

To develop a full picture of the mechanisms leading to sustainably governed commons, additional studies will be needed that shed more light on the individual variables. In doing so, the elaborated matrix can serve as an analytical tool for further research with which other projects can be compared and related to each other (e.g., with a stronger focus on specific variables and their dynamics). Thus, we see the matrix as a tool in progress that can be supplemented and refined by further studies. For example, the article does not yet answer the question of what the regulation of commoning looks like in detail, according to which principles commoning decisions are made, or which processes lead to a commonly implemented design of the space. Further research questions could address these aspects.

A better understanding of the variables leading to the sustainable governance of urban commons is helpful to support and

protect urban commoning structures and the social movements that produce them. At the level of urban development, it is worth noting that urban commons with sustainable governance can themselves contribute to sustainable urban development as they constitute long-term spaces in the city that are constantly changing and influencing the urban space around them.

Social movements could further profit from the knowledge of differently combined variables leading to sustainably governed commons. This would enable them to formulate their own goals more clearly and become more aware of any challenges and obstacles. In doing so, benefits could be generated for the practice of commoning instead of remaining trapped in scientific discourse.

Author's note

The article systematizes different variables that contribute to initiatives or social movements in urban space becoming sustainable projects or urban commons and what influence they then have on urban development. These variables were derived from the results of field research and translated into an overlying matrix. This systematization is a new approach that attempts to make the complexity of the urban commons more comprehensible by means of real case studies. In this way, the article contributes to the research discourse, as well as to the work of planners and activists.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

The empirical research on all case studies was carried out by both authors together with students of Leibniz Universität Hannover. The empirical research for case study Keimzelle was deepened through interviews conducted and evaluated by AKM. The empirical research for case studies Kunststad and Grands Voisins was deepened through interviews conducted and evaluated by JK. The corresponding authors have written the respective parts. Both authors contributed equally to the other parts and approved the work for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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