



# Commoning the compact city: The role of old and new commons in urban development

Jessica Verheij<sup>a,\*</sup>, Jean-David Gerber<sup>a</sup>, Stéphane Nahrath<sup>b</sup>

<sup>a</sup> Institute of Geography & Center for Regional Economic Development (CRED), University of Bern, Hallerstrasse 12, 3012 Bern, Switzerland

<sup>b</sup> Swiss Graduate School of Public Administration (IDHEAP), University of Lausanne, Rue de la Mouline 28, CH-1022 Chavannes-près-Renens, Switzerland

## ARTICLE INFO

### Keywords:

Urban commons  
Densification  
Urban greening  
Institutional Resource Regime  
Localized Regulatory Arrangement

## ABSTRACT

Although densification is generally seen to contribute to more sustainable urban development, it is often linked to market-oriented and for-profit development, contributing to the enclosure of urban space. We analyse how densification can take a different path through processes of commoning. We particularly aim to understand how commoning initiatives can contribute to new institutional arrangements that counteract enclosure and commodification in densification. We furthermore aim to contribute to conceptual clarity in the debate on urban commons by emphasizing the different roles of so-called ‘old’ and ‘new’ commons in urban development. Our analytical framework builds on a new institutionalist approach which stresses the analysis of localized and temporary institutional arrangements negotiated among actors in a given situation. We rely on a detailed case-study of a densification project in the city of Bern (Switzerland), where publicly-owned land was redeveloped into cooperative housing and urban green space. Our findings show how densification leads to a transition phase in which institutional arrangements defining land uses and allocating access and use rights are renegotiated. These are crucial moments where processes of commoning can shape the outcome of densification, although not independently from the supportive action of the public actor. We underline the potential of new commons, even when typically transitional, unstable, and temporary. Contrary to old commons, their potential lies not so much in the ability for long-lasting resource management, but rather in the capacity to change the conditions of governance during the transition between land uses, advancing more socially-sustainable outcomes in a key moment of the urban redevelopment process.

## 1. Introduction

Urban densification is a main policy goal of many city governments, as it is considered to improve the efficiency of urban land use, reduce resource consumption, and therefore contribute to sustainable urban development. However, densification changes not only the environmental performance of a city, but also its social dynamics (Burton, 2000; Dempsey et al., 2012). Among others, densification processes affect the social composition of neighbourhoods, often favouring specific types of households over others (Götze & Jehling, 2022). Densification can result in an increase in housing prices for new housing units (Götze et al., 2023; Rosol, 2015) as well as for the surrounding area (Cavicchia, 2022). As housing becomes less affordable, existing residents are sometimes displaced at the expense of wealthier households (Cavicchia, 2022; Debrunner et al., 2020). Densification can furthermore cause the decline or overcrowding of green spaces (Arnberger, 2012; Colding

et al., 2020; Giezen et al., 2018). At the same time, however, densification can lead to new green space production as part of urban transformation (Verheij et al., 2023). Indeed, the policy agenda on densification is closely linked to growth-oriented and neoliberal urbanism, through which eco-efficiency has become a powerful argument of city branding, promoting densification and urban greening at the expense of housing affordability (Angelo & Wachsmuth, 2020; Garcia-Lamarca et al., 2019). Here, green space production is subjected to for-profit strategies by developers who tend to prioritize aesthetic quality and ‘green image production’ to boost real-estate sales, rather than its everyday use by a diversity of users (Kumnig, 2017; Tappert et al., 2018). Through this “commodification of urban life” (Bresnihan & Byrne, 2015), urban resources necessary for everyday life, including housing and urban green spaces, become co-opted by the logics of profit and financial markets. Hodkinson (2012) has referred to these processes as “the new urban enclosures”, stressing how through transformation

\* Corresponding author.

E-mail addresses: [jessica.verheij@unibe.ch](mailto:jessica.verheij@unibe.ch) (J. Verheij), [jean-david.gerber@unibe.ch](mailto:jean-david.gerber@unibe.ch) (J.-D. Gerber), [stephane.nahrath@unil.ch](mailto:stephane.nahrath@unil.ch) (S. Nahrath).

<https://doi.org/10.1016/j.geoforum.2024.104019>

Received 15 November 2023; Received in revised form 17 April 2024; Accepted 29 April 2024

Available online 9 May 2024

0016-7185/© 2024 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

and redevelopment urban resources increasingly become appropriated by market forces.

This article aims to explore institutional alternatives to enclosure and commodification. It relies on the premise that commons can play an essential role to this end. Indeed, urban commoning initiatives may have the potential to contribute to distributional justice in the context of densification by providing institutional forms of organization beyond state and market (Haarstad et al., 2022). Commons are collectively-used resources, produced and organized through forms of self-governance by resource users, who promote social practices leading to a sense of community (e.g., sense of belonging, commitment, identity), as prerequisites for resisting processes of commodification and enclosure (Caffentzis & Federici, 2014; Foster, 2011; Huron, 2015). Commoning practices can thus play a transformative role in counteracting the loss of access to urban space as a result of urban regeneration and densification (Bresnihan & Byrne, 2015). As commoners emphasize non-profit collective social infrastructures, they promote forms of organization that allow for shifting away from the market-oriented and for-profit logics that typically shape inner-city development (Haarstad et al., 2022).

Recognizing the risks of enclosure and commodification in densifying cities, we ask: How can commoning initiatives counteract these processes? More specifically, how can commoning initiatives contribute to the emergence of new institutional arrangements guaranteeing an inclusive and not-for-profit management of urban resources in densifying cities? The literature on urban commons does not provide an immediate answer to these questions because of the fundamental tensions between the understanding of commons as, on the one hand, vehicles for transformative change and, on the other hand, a way to ensure long-term stable management of shared resources. While the former approach emphasizes openness and inclusiveness of the commoners' community to ensure access to resources necessary for everyday life (the so-called 'new commons'; see Hess, 2008; Huron, 2017), the latter approach, in line with the Ostrom school, argues for a clearly-defined and bounded community based on self-governance, whose exclusive nature enables sustainable management of a resource system, within existing institutions and capitalist economies (Ostrom, 1990). These tensions demand for increased conceptual clarity in the discussion of urban commons. To make a step in this direction, we build on the concept of Localized Regulatory Arrangement (LRA) such as introduced by scholars working with the Institutional Resource Regime (IRR) framework (Gerber et al., 2020; Knoepfel et al., 2007; Viallon et al., 2019).

The urban environment is dense not only in physical terms, but also in terms of rules and regulations. Densification projects thus take place in a tight mesh of rights and duties originating from property rights, public policy stipulations, contracts, technical norms or decision-making procedures. Localized Regulatory Arrangements refer to the *rules in use* that users of a given resource agree upon. More precisely, they are context-specific institutional arrangements that define the rules (formalized or not) for the use and management of a given resource (Gerber et al., 2020). Each intervention in the urban fabric leads to the (partial) redefinition of these rules, as new arrangements are crafted and agreed upon by the actors involved, resulting in a new LRA. In this article, we build on the analytical concept of the LRA to hypothesize that *commoning initiatives have a role to play during this transformation, by contributing to more inclusive institutional arrangements and by counteracting the tendency towards enclosure and commodification*. By examining these new institutional arrangements resulting from densification, we aim to understand the role of urban commons in densifying cities. To do so, however, we need to address the theoretical – and normative – challenges resulting from the above outlined tensions within the literature on the urban commons. Bringing together literature on both the 'old' and the 'new' commons, we examine the creation of a new LRA in a densification project in the city of Bern (Switzerland). Our case-study integrates two parallel processes of transformation, one related to housing development, the other to urban greening. Our in-depth

analysis of both processes over time, as densification objectives were defined and implemented, allows us to draw conclusions on the role of commons in urban development.

This article proceeds by introducing the concept of LRA as a key analytical element of the IRR framework. We highlight the central importance of this stage where new formal and informal rules are defined to manage an urban resource, that is itself redefined based on a new set of land-use regulations. We proceed by defining the urban commons, at the meeting point between the so-called 'old' commons (Ostrom, 1990) and 'new' commons (Hess, 2008). We then present our case-study, distinguishing between three different phases of urban development. Our findings show how densification leads to multiple steps in the renegotiation of the LRA. These are crucial moments where commoning initiatives can support more inclusive outcomes, although not independently from the supportive action of the public actor. We show how the role of new commons in urban development is inherently distinct from the one of old commons, as new commons are typically transitional, unstable, and therefore temporary. Their potential lies not so much in the ability for long-lasting resource management, but rather in the capacity to change the conditions of governance during the transition between land uses, advancing more socially-sustainable outcomes in a key moment of the urban redevelopment process, where private actors are otherwise striving to implement profit-maximizing strategies. In a nutshell, our case study shows how new urban commons can advance social sustainability in densification processes.

## 2. Densification as a process of redefining localized regulatory arrangements

The Institutional Resource Regime (IRR) framework allows for analysing the institutional arrangements that regulate resource uses and contribute to sustainable resource management (Gerber et al., 2009, 2020; Knoepfel et al., 2007). The framework has previously been used to understand the implementation of land use changes based on the interplay between public policy and property titles (Bouwmeester et al., 2023; Varone & Nahrath, 2014; Viallon et al., 2019). Accordingly, the regulation of resource uses depends on the interaction between public policy, providing regulations based on public interests, and property rights, protecting the private interest of the resource owner. In the case of urban development, property rights exist over land and protect the private interest of landowners. However, land uses are regulated and restricted by public policy, for example through zoning plans that limit land uses and define building restrictions. The institutional regime thus integrates both public policy and property rights. Yet due to incoherence within the regime — aiming to limit the freedom of landowners while simultaneously protecting their private interests — public policy objectives are rarely implemented on a one-to-one basis. Instead, implementation is negotiated among actors and adapted to context-specific circumstances based on uneven power relations.

A third variable is therefore proposed by the IRR framework: the Localized Regulatory Arrangement (LRA), which entails all case-specific regulations for a given resource negotiated through either formal or informal agreements (Blake et al., 2020; Gerber et al., 2020; Viallon et al., 2019). An LRA requires adapting the institutional regime to local time-specific situations, through (often temporary) arrangements that aim to implement policy goals, mitigate the incoherence between public policy and property titles, or fill regulatory gaps (Viallon et al., 2019). These arrangements can deviate from or circumvent policy goals, or prioritize one goal over another, for which they constitute a crucial analytical step in understanding resource use regulation. In the case of urban development, LRAs are, for example, project-based land-use plans which, although based on the overall zoning policies in place, are negotiated with landowners and other involved actors for a specific development project. These land-use plans are critical as they (re)define the type of land use and, by doing so, change access and use rights over land. Importantly, through these case-based negotiations, power games

are played out among actors who seek to defend their often-competing interests, making the transition from general policy stipulations to localized implementation rules a highly political process. In this article, we hypothesize that densification, as a process of development or transformation, inevitably leads to a redefinition or renegotiation of the LRA, by changing land uses and rules of use and access. Given current neoliberal trends in urban development, these new LRA's tend to be shaped by privatization and enclosure. We however argue that it is precisely in these phases of transition and changing institutional arrangements that *commoning initiatives* can shape the new rules of the game and, by so doing, contribute to more inclusive and socially-balanced outcomes of densification (see Fig. 1).

### 3. The role of commons in urban development

Based on different approaches, tensions exist in how we define and think about the commons. In this article, we distinguish between so-called 'old' and 'new' commons, where old commons relate by and large to the approach developed by the Ostrom school while new commons refer to neo-Marxist understandings of commons as existing outside of capitalist markets (Enright & Rossi, 2018). For the former, commons are conceptualized as common-pool resources (CPRs). According to this stream of literature, commons are (mostly natural) resources managed by common-pool institutions (CPRIs) (Ostrom, 1990). They are neither managed through private property and market mechanisms, nor top-down by public actors, but instead through a common property regime defining use, access, and management rights among a group of resource users based on self-governance. This institutionalist approach has mostly been concerned with understanding the institutions and 'design principles' of CPRIs that allow for long-term sustainable resource management, focusing on the distribution of rights among resource users (Schlager & Ostrom, 1992). It furthermore explicitly recognizes a close-knit and bounded community as a necessary condition for sustainable resource use, arguing that without clear rights of use and access, including a clear definition of who is excluded from these rights, the sustainability of the resource cannot be guaranteed over time (Foster & Iaione, 2019; Ostrom, 1990). Thus, this more historic 'old' type of commons is characterized by: 1) a clear and often formalized institutional framework defining the rules for resource use; 2) a clearly-defined group of resource users with high barriers to participation; and 3) a prioritization of stable long-term maintenance and sustainable resource use for members of the commons.

A more recent stream of literature conceptualizes the commons mainly by emphasizing their political meaning and potential for transformative change (Caffentzis & Federici, 2014; Fournier, 2013; Hardt & Negri, 2009). More than a decade ago, Hess (2008) recognized that, increasingly, processes of commoning were emerging that did not fall into the characterization of commons as outlined by the Ostrom school. Instead, these 'new' commons — including many urban commons — emerged without clear institutional arrangements, rather deriving from

the desire to share 'what is to be held in common' and to protect these resources from capitalist markets or state intervention (Caffentzis & Federici, 2014; Hess, 2008). Thus, a shift occurred from understanding commons as a resource to be managed as efficiently as possible, to commons as commoning – a *process* of building community and developing alternative forms of resource management, acting against the influence of capitalist markets and for-profit development over local resources (Hodkinson, 2012; Huron, 2015). Commoning, then, is a process that enables communities to produce and govern the resources they need for everyday life (Foster & Iaione, 2016), while implying a certain level of transformative and emancipatory change (Bergame et al., 2022; Caffentzis & Federici, 2014). Whereas the 'old' commons are defined in the first place by collective management through self-governance embedded in existing institutions and capitalist economies, the 'new' commons aim for transformative change beyond the group of commoners. These new commons favour inclusive communities over a rigid definition of rights (Nightingale, 2019). Hence, the 'new' commons are characterized by: 1) a loosely-defined or rather flexible institutional framework defining rules of use and access of the resource; 2) an open and inclusive group of resource users with low barriers to participation; and 3) a prioritization of transformative and emancipatory change, aiming for spillover effects beyond the group of commoners.

Though both approaches to the commons emphasize collective management and self-governance in relation to shared resources, they present fundamental differences that demand for conceptual clarity when discussing the commons. As Foster & Iaione (2019) have argued, the design principles put forward by the Ostrom-school cannot do justice to the inherent complexity of urban environments and are therefore not always helpful to understand commons in cities. Being mostly human-made, urban commons provide the possibility to produce new commons through acts of commoning, which relate to collective struggles and political claims rather than the need to manage resource scarcity (Enright & Rossi, 2018; Hardt & Negri, 2009). Moreover, in the case of anti-capitalist commons that aim for transforming social relations, inclusion and equal access to the commons for all becomes a requirement to prevent the reproduction of social inequalities (Caffentzis & Federici, 2014). Yet it is precisely due to its inclusive and flexible nature that new commons are often transitory and unstable (Nightingale, 2019). Cities bring together highly heterogeneous groups of potential resource users. For urban commons that are dependent on the collective action of a heterogeneous group of 'strangers' (Huron, 2015), maintaining the commons over longer periods becomes challenging. Here, the close-knit community and boundedness as proposed by Ostrom can prevent the potential disengagement of commoners over time, supporting long-term maintenance and stable management.

There is thus a fundamental tension between the 'old' and the 'new' commons. While the 'old' commons can ensure sustainable use and management of commons resources, the underlying institutional arrangements often reproduce social inequalities through a clear

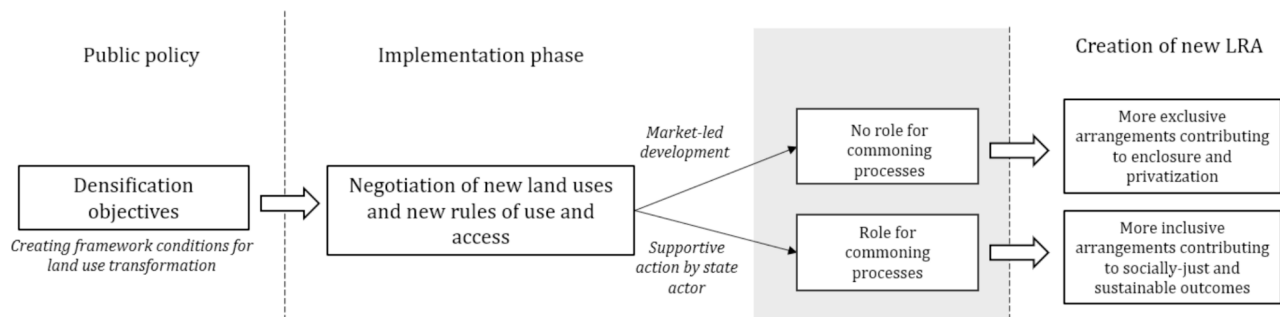


Fig. 1. Schematic visualization of the causal relations between densification as public policy, the implementation phase, and the resulting LRAs. We hypothesize that when commoning processes have a role to play during implementation, densification can lead to more inclusive institutional arrangements. Own visualization.

distinction between commoners and non-commoners, transforming common-pool resources into club goods. The ‘new’ commons, however, appear rather provisional and unstable, and therefore inapt to ensure the long-term perpetuation of the resource. Yet they constitute significant forms of political resistance. In this article, we recognize this multifaceted nature of the commons and the implications for our analytical approach. Although the distinction between ‘old’ and ‘new’ is by no means exhaustive of the full and rich body of literature on the commons, we argue that these two types are critical to understand the different roles of commons in urban development. We apply the concept of LRA to analyse what role different commoning processes have in our case study. By so doing, we hope to contribute to conceptual clarity in the discussion on the potential roles of commons in urban development.

#### 4. Research design and methodology

We rely on a detailed case-study of a densification project in the city of Bern (Switzerland) to analyse how institutional arrangements allocating use and access rights over land changed over time and to understand the role of urban commons in shaping these outcomes. The city of Bern is a so-called secondary capital city (Kaufmann et al., 2016), being Switzerland’s *de facto* capital without being its primary economic centre. With a population of 134.000 within the municipality and 420.000 in the agglomeration (as of 2022), it is the fifth largest city in the country and capital city of the canton of Bern. Switzerland is a federal state where cantonal and municipal authorities have relatively high autonomy and decision-making powers. For instance, spatial planning is mostly a municipal competence where the federal state provides a framework law while planning regulations and instruments vary from canton to canton (Ingold & Nahrath, 2023). Switzerland is furthermore known for its multilingualism with four official languages being used by the administration. The city of Bern as well as most of the canton of Bern are German-speaking. Switzerland has traditionally been a right-wing country; however, the large cities including Bern are mostly dominated by progressive left-wing politics similar to many other European cities (Antoniazza et al., 2023). Left-wing parties have dominated Bern’s city council over the last century, unlike its neighbouring municipalities and cantonal government (Antoniazza et al., 2023; Kaufmann et al., 2016).

Although at a slower rate than cities like Zurich and Geneva, Bern’s population has been growing over the last decades mainly due to processes of reurbanization and economic growth (Rérat, 2019). This has led to increased pressure on the local housing market resulting in a general increase in housing prices and a lack of suitable inner-city housing mainly for families. The city of Bern therefore prioritizes inner-city development in its spatial strategies (Stadt Bern, 2016). This goal was reinforced by the 2014 review of the Swiss Spatial Planning Act which stresses inner-city development as main planning goal and minimizes the possibility of urban expansion (RPG 2014; Art. 1). As the population of Bern is predicted to continue growing (Stadt Bern, 2022b) and with limited possibility for spatial expansion, densification is at the core of Bern’s spatial development. At the same time, the left-wing municipal government actively pursues affordable housing policies, mostly by supporting housing development by non-profit cooperatives. It furthermore seeks to secure and enhance its public spaces, including urban green spaces, based on a ‘careful consideration’ of interests towards urban spaces (Stadt Bern, 2022a). This, however, has gone at the expense of some traditional allotment gardens, which need to give way to more efficient, multifunctional, and accessible green spaces (Stadt Bern, 2018; see also Tappert et al., 2018). The city’s growth-oriented strategies and densification policies have thus resulted in increased pressure over urban land, requiring a continuous renegotiation of land uses and distribution of resources.

Given the complexity of our research aims, a single case-study is best suited as we expect our in-depth and context-dependent knowledge to contribute to a nuanced understanding of how our theoretical

propositions work in practice (Flyvbjerg, 2006). Our case-study is located in the neighbourhood of Holligen, Bern’s fastest growing neighbourhood undergoing several processes of densification. We focus on one of them, namely a project on publicly-owned land developed between 2007 and 2021. We selected this case study as the project not only resulted in 103 new housing units but also included a process of green space production, hence presenting multiple processes of land use transformation. Based on our research aims, we analysed the case by examining changing land uses as densification happened, recognizing densification as a *process* containing different phases, each leading to a new LRA. Our data is based on the analysis of relevant policy- and planning documents of the project and 12 semi-structured interviews with involved actors, including people working in different municipal departments, the developer, residents of the housing project, as well as neighbourhood residents involved in the green space project, the allotment garden association, and local neighbourhood organizations (some interviewees have overlapping roles; see overview in appendix A). The interviews were crucial to understand not only how the densification process unfolded, but also the motivations and interests of each actor as well as their roles in the related negotiation processes. All interviews except one were conducted in-person, and recorded with permission of the interviewees. Following transcription, we coded the interviews deductively based on our analytical framework. All quotes from the interviews were translated from German to English and translations were verified by the interviewees. We furthermore conducted several rounds of field observations between 2020 and 2022 with the aim of understanding how use of and access to the spaces has been changing over time. These observations partly happened as part of our interviews, as we visited the project site with our interviewees. In addition, the first author visited the site on a regular basis during 2020 and 2021 both as user of green space and as researcher. Throughout data collection, our position was one of independent researcher linked to the university and resident of the city of Bern, not having any personal ties to the project or related initiatives.

#### 5. Case description

The Huebergass project is a densification project on publicly-owned land, used for allotment gardens since the 1950s (Fig. 2). It is located in Holligen, a residential neighbourhood built mostly in the 1940s and 1950s. It is a middle-income neighbourhood with mainly rental housing owned by institutional investors, private individuals, and non-profit organizations. The share of population with a migrant background (30 %) is slightly above average in comparison to the overall city (25 %) (Stadt Bern, 2022b). In 2007, the city of Bern started to develop plans for housing development on the plot, responding to growing demands for the provision of family-oriented housing within city boundaries. To pave the way for densification, the municipal planning department initiated a procedure to change the zoning regulations from non-buildable to buildable land. The new land-use plan was approved by the municipality’s voting population in 2011. As a result, the allotment gardens were removed. After a motion for housing affordability was approved by the city council in 2016 (Gemeinderat Bern, 2016), the supply of affordable housing became a main goal of the project. Housing was developed by a non-profit developer based on a long-term ground-lease. In many Swiss cities, non-profit developers play a significant role in housing affordability policies, with municipalities such as Basel, Zurich, and Lausanne giving out public land in long-term ground-leases to non-profit developers who supply housing based on cost rent (Balmer & Gerber, 2018). The developer was selected after a public competition launched by the city of Bern. The land being owned by the city, it was in a powerful position to control development, both through the public competition and through the succeeding ground-lease contract.

The winner of the competition was a newly-founded cooperative (‘Wir Sind Stadtgarten’; henceforth WSS) closely linked to one of Switzerland’s largest for-profit developers. Recognizing a market gap for



Fig. 2. Aerial photos showing land-use changes of the plot in Holligen: allotment gardens in 2009 (left), gradual removal of the gardens in 2018 (centre), and completion of the housing in 2021 (right). Source: Swisstopo (2022).

affordable cooperative housing, the for-profit developer invested human resources and financial capital in the WSS cooperative and participated as such in the Huebergass competition. Although the WSS cooperative did not make any profit (as it was legally not allowed to do so), the for-profit developer did earn the right to develop the housing and made a profit as any other contractor would have made (developer, interview [15.06.22]). In 2018, WSS selected the first round of residents for the Huebergass project based on pre-defined criteria. The selected residents were required to buy shares of the cooperative, by which ownership of the cooperative was transferred to the actual residents. The total of shares corresponded to the total of building costs. The residents, now co-owning the housing, changed the name of the cooperative to ‘Wohnbaugenossenschaft Huebergass’ (henceforth WBG Huebergass). The housing was completed in 2021 after which residents moved in. Besides 103 housing units, the project includes several shared spaces, a café, an externally operated kindergarten, some vegetable gardens, and an openly accessible inner yard (Fig. 3).

Simultaneously, the other half of the land was developed into public green space (Figs. 4 and 5). The initial landscape project was designed as part of the public competition, after which the project was further



Fig. 4. Overview of the Huebergass plot with green space (front) and housing (back). Source: own photo (2022).



Fig. 3. The housing project Huebergass completed in 2021. Source: own photo (2021).



Fig. 5. The green space adjacent to the housing project developed by the VorPark. Source: own photo (2021).

developed by the city’s greening department. The city’s main goal was to develop a neighbourhood-oriented public green space. To ensure active involvement of the local population in the design of the park and to go beyond the typical top-down planning approach, temporary use of the land was given to a local association during the development phase. In exchange for management rights, this association, called *VorPark*, was tasked with testing out different uses of the space in order to collect feedback from residents, and to develop a new place identity for the land that had been used as allotment gardens for almost seven decades. The *VorPark* managed the green space from 2019 to 2022, after which the land was developed into a municipal park by the city’s greening department.

## 6. Results

### 6.1. Phase 1: Allotment gardens (1950s-2016)

During the 1940s and 1950s, Holligen transformed from a predominantly low-density neighbourhood on the fringe of the city to a residential area with urban character. New residents coming mostly from rural areas took up gardening on the vacant land surrounding the Holligen castle. In Switzerland, as in many other European countries, allotment gardens emerged throughout the 20th century as rural populations migrated to cities. Gardening was a subsistence activity that supported household incomes for rural populations living in cities. Until today, the composition of gardeners mostly reflects this history, with Swiss nationals above 50 years old making up the largest share, followed by immigrants from southern- and eastern European countries (Tappert et al., 2018). Over the years, the allotment gardens in Holligen were institutionalized through lease contracts with the city as landowner, and through membership to the respective association of allotment gardens. Based on these institutional arrangements, gardeners were given the right to garden their respective allotments in exchange for a yearly fee paid to the city. Each allotment is allocated to an individual gardener. Hence, although certain tools and infrastructures are shared, gardening

activities are mostly organized on an individual basis. However, each gardener is member of the respective association, which collectively governs the allotment gardens and makes collective rules – for example in relation to watering or waste disposal. Many allotment and community gardens therefore present a highly varied degree of collectivity, where – despite collective management – most gardening practices happen on individual level (Rogge & Theesfeld, 2018) (see Table 1).

Bern’s urban development strategy of 1995 recognized allotment gardens as “important green connections to be maintained and preserved” (Stadt Bern, 1995). However, the following decades, as the city’s population started growing and densification became a planning priority, these gardens became increasingly seen by planners as inefficient and undesirable land uses (Tappert et al., 2018). Being typically fenced-off and closed to the general public, the classic allotment gardens no longer fitted policy goals related to green space accessibility and multifunctionality (Stadtgrün Bern, 2020). Moreover, the land being publicly owned, the city of Bern understood the potential for the gardens to be transformed into more desirable land uses. As a landscape architect from the municipal greening department stated:

*“the allotment gardens, they are of course a monofunctional space, and somehow they are closed off. It’s a very specific group of people who has access and they are actually not public. And so we had to remove the allotment gardens in this area.”* (landscape architect 2, interview [17.06.22]).

**Table 1**  
Characteristics of first LRA related to phase 1.

Type of land use	Allotment gardens
Institutional framework	Formal framework based on lease contracts and collective membership rules; rights of use and access defined by membership
Community of commoners	Closed group of commoners; exclusion of non-members
Objective	Maintenance of resource over time

The transformation of the allotment gardens was a direct result of the city’s densification strategy. In 2011, 65 % of the municipal voting population approved the new detailed land-use plan of Holligen allowing housing development and implying the removal of the allotment gardens.

6.2. Phase 2: Densification (2017–2021)

After a first round of public participation organized already before the approval of the detailed land-use plan, the municipal planning department decided to develop only half of the Huebergass plot into housing, leaving the other half open for green space. Hence, the land was developed through two parallel processes of transformation: one related to housing, the other to greening. Still, in 2017, the city launched a single competition for the entire plot, including both housing and green space development. The city of Bern being a stronghold of left-wing and progressive politics, in 2016 the municipal assembly had approved a motion for housing affordability demanding the city council to proactively promote the development of “very affordable housing” (Gemeinderat Bern, 2016). Subsequently the planning department decided to make the Huebergass an example of “affordable densification” (planner 2, interview [21.10.22]). The competition imposed requirements to ensure the non-profit nature of participants as well as a rent cap. Once the winner was selected, a ground-lease contract was celebrated between the city and the selected developer, which provided an additional instrument for regulation. The contract, celebrated for a period of 80 years, is also an instrument for decommmodification, as it prevents housing stock to be sold and speculated on (planner real-estate, interview [11.07.22]). The selected developer, however, was not a typical housing cooperative, having been founded by the employees of a for-profit developer. The underlying interest of the cooperative *Wir Sind Stadtgarten* (WSS) was linked to its parent company, as it gained the building contract for the project and made a profit as any other contractor would have made.

Among others, the WSS cooperative was responsible for selecting the first round of residents for the newly-built housing. The city itself did not impose any selection criteria beyond the need to take demographic mixing into account when selecting new tenants. One municipal worker explained this as follows:

*“They [the cooperatives] also need their freedom when allocating [housing]. And when we as city determine everything, then we should do it ourselves. Yes, I think it’s a balance and I mean, the life there also needs to function. When we tell them whom they have to rent the apartments to, and then the community doesn’t function well, then we didn’t win anything”* (planner 2, interview [21.10.22]).

Subsequently, selection criteria were mostly defined by the WSS cooperative after having collected feedback from different local stakeholders, including the local district office. Criteria included maximum household wealth and minimum occupation rate of the units, while also ensuring diversity in age groups. Nevertheless several of our interviewees stated that the selected residents for the Huebergass project presented a rather homogenous group: residents were mostly Swiss and German-speaking and, as recognized by one interviewee, most households could not be considered low income. While no official statistics on

**Table 2**  
Characteristics of second LRA related to phase 2.

Type of land use	Non-profit cooperative housing (WSS cooperative)
Institutional framework	Rigid and formal framework based on detailed land-use plan, competition program, and ground-lease contract
Community of commoners	Closed community; exclusion of non-members, selection criteria defined by cooperative founders
Objective	Increasing supply of affordable and decommmodified housing; increasing market share of parent company

project-level are available, neighbourhood-level statistics indicate that from the 433 new residents moving in Holligen in 2021, 80 % was Swiss – above the neighbourhood’s average of 70 % (Stadt Bern, 2022b) (see Table 2).

The initiative for the VorPark was led by the city’s greening department in collaboration with the local district office, based on the idea that temporary management of the space by an association of local residents would, first, allow for testing out different uses and functions of the space and, second, allow for developing a bottom-up place identity (Stadtgrün Bern, 2018). Although a project had been developed as part of the competition in 2017, the city sought to develop it in an organic and flexible way. As stated by a municipal landscape architect:

*“When we build the park, then don’t build it completely. Instead, it should still have some areas that can still be developed together with people on site. People should look at the space, bring ideas on what can be done, and then develop the ideas there”* (landscape architect 2, interview [17.06.22])

Those who became actively involved in the VorPark had been engaged in neighbourhood initiatives before (VorPark, interview [20.09.22]; district office, interview [29.06.22]). They developed the green space based on ideas of citizen engagement and self-determination, aiming to improve the social function of the park for the surrounding neighbourhood. Being so, the VorPark organized many activities over the years, targeting many different age groups. Based on a contract with the city, the VorPark had the right to develop the park and to add different functions and uses of the space; however, it was also responsible for maintaining the space, including tasks such as mowing the grass. This proved to be hard work for those involved. As stated by our interviewee of the VorPark, despite the park being open to everyone, it was difficult to find people willing to get involved on a regular basis (VorPark, interview [20.09.22]). In 2021, as residents moved into the newly-completed Huebergass project, many started to make regular use of the VorPark and some also became actively involved. This as well as the spatial proximity between the park and the housing increasingly contributed to a sense that the VorPark was an extension of the Huebergass housing rather than a neighbourhood park. As stated by one interviewee, *“we did get feedback from people living further up, that yes, this is the park for the Huebergass. Indeed, right now it’s the case, because it’s built right next to it”* (district office, interview [29.06.22]). Our interviewees from the neighbourhood association furthermore suggested that for their members, being mostly elderly people, active participation in the development and management of the VorPark was not feasible as it required physical work. Given the lack of heterogeneity among Huebergass residents, one municipal landscape architect argued:

*“the problem is that these people [the VorPark] are not representative for the whole neighbourhood. These are no elderly people, no people with disability, also no, I’ll say, bourgeois [bürgerlich] people – hence they represent just one group of park users”* (landscape architect 2, interview [17.06.22]).

Importantly, this reality developed despite the open and flexible nature of the VorPark. The space being publicly accessible, those involved in the association were responsible for maintaining the land but did not impose any explicit rules of use or access. Residents from the Huebergass stated they did not see the park as ‘theirs’ as it was open to all. Mainly, the VorPark aimed to provide a free and open space to counteract the typical high level of regulation of public space. It was, however, still perceived as an exclusionary space by some neighbourhood residents (see Table 3).

6.3. Phase 3: Cooperative housing and public green space (2021–...)

Residents moved in as the housing project was completed in 2021. After having been selected by the WSS cooperative, the residents became members of this cooperative themselves and bought the cooperative

**Table 3**  
Characteristics of third LRA related to phase 2.

Type of land use	Community green space (VorPark)
Institutional framework	Loose framework based on contract between city and association, but without pre-defined rules of use and access
Community of commoners	Open community with low barriers to participation; access and use rights for non-members; implicit mechanisms of exclusion
Objective	Self-determination and self-governance of neighbourhood spaces; resident engagement; development of place identity

shares. A transition process started by which the mostly top-down organization of the initial WSS cooperative was replaced by new, more horizontal forms of governance. However, given the origins of the cooperative, founded by the developer rather than its residents, this process proved exceptionally challenging. As stated by one resident of the Huebergass, information and know-how on the operation of the cooperative was lacking (resident 1, interview [10.10.22]). The new residents were faced with many decisions that had been taken by WSS without their involvement. Instead of building their cooperative from the ground up, they were given an already-established structure. The challenging transition process contributed, among others, to the decision to change the name to *Wohnbaugenossenschaft Huebergass* to distinguish the 'new' cooperative from the original one. Processes in relation to allocating housing, use of shared spaces, and financing were developed anew by the residents. Among others, a working group was created to redefine the selection criteria when allocating housing units to ensure more social mixing, as residents not only recognized the homogeneity of their group but also acknowledged the social function of the cooperative housing. As one resident explained, *"now we have developed a concept on how to aim for this social mixing. And how we would like it to be. And now there's a working group that really explicitly takes care of selecting who takes over when a unit becomes available"* (resident 1, interview [10.10.22]). Nevertheless, the same resident also recognized that *"at the moment we think many of us are academics and we want a bit less of that. But these are also the ones that do a lot of voluntary work in commissions and the board"*. As several residents described, managing a housing cooperative requires time and energy, and not everyone is willing or able to be an active member. Furthermore, use and access rights to shared spaces, including the outdoor spaces and inner yard, were reconsidered. Today, the cooperative includes several neighbourhood-oriented functions, including a non-profit café, a cooperative food store, and a space for cultural activities (see Table 4).

The VorPark was closed in 2022 as the municipal greening department proceeded with developing the final and definitive version of the green space. The closure of the VorPark was not without conflict, as some people resisted the city's decision to 'take back control'. For the city, it became increasingly important to clearly distinguish the green space from the Huebergass project:

*"It [the VorPark] will just be changed as it's now very provisional. It will become more definitive and comply to common standards for public space, so that also people in wheelchairs can access and everyone recognizes the purpose of the space. At the moment it doesn't meet these*

**Table 4**  
Characteristics of fourth LRA related to phase 3.

Type of land use	Non-profit cooperative housing (WBG Huebergass)
Institutional framework	Rigid and formal framework based on ground-lease contract and statutes of the cooperative
Community of commoners	Closed community based on clear divide between members and non-members; high barriers to participation based on selection criteria; access and use rights to some spaces for non-members
Objective	Provision of affordable housing to cooperative members; maintenance of the resource over time; social mixing

*standards, but it has character, an informal character which is certainly very attractive to some people. But other people stay away precisely because of this character"* (landscape architect 2, interview [17.06.22]).

Hence, the city started to redevelop the park according to its own standards, aiming to make the space more welcoming for the neighbourhood. Nevertheless, as our interviewees as well as own field observations confirmed, the VorPark did play an important role in creating a new place identity and in transforming the land from allotment gardens to a neighbourhood-oriented and community-based space. Despite its temporary character, it allowed for developing contact between old and new resident in a neighbourhood undergoing several densification processes (VorPark, interview [20.09.22]). Some of the features of the VorPark, such as the public fireplace and the youth shed, were integrated into the final plan of the park. Hence, the community space contributed to the development of a new place identity after the removal of the allotment gardens, outside the dynamics of market- or profit-oriented development. Still, some interviewees showed disappointment at the fact that the space was completely redeveloped; as one interviewee suggested, the city could have used the momentum of the VorPark while simultaneously improving its physical accessibility (resident 2, interview [09.10.22]) (see Table 5).

## 7. Discussion

Analysing three different phases of a densification project in the city of Bern, our results show how the same plot of land, in municipal ownership, underwent several transformations. Each phase resulted in new Localized Regulatory Arrangements. First, the rules governing the allotment gardens were rather formal and made a clear distinction between members and non-members, gardeners and non-gardeners. Despite collective governance of the shared spaces, each gardener was responsible for cultivating an individual allotment. Because of these diversified practices of green space management and different degrees of collectivity, allotment gardens are considered to enhance the bio- and cultural diversity of cities (Colding & Barthel, 2013; Rogge & Theesfeld, 2018). Yet at the same time, these gardens involve high barriers to participation and clearly distinguish between members and non-members (Murphy et al., 2022). Providing access to land to some at the expense of others, allotment gardens are typically enclosed spaces (Bergame, 2023). The formal and exclusionary character as well as the clear delimitation of individual allotments make the allotment gardens in phase 1 resemble the old commons, as conceptualized by the Ostrom school. They constitute a stable, formalized form of governance, in which rights and duties are clearly distributed among gardeners, allowing for maintaining the resource over a long period of time; the allotment gardens in our case-study persisted for many decades until the city decided to develop the land.

In Bern as well as in other Swiss cities, allotment gardens are more and more transformed or even removed to make space for more efficient and multifunctional uses, including housing and publicly-accessible green space (Jahrl et al., 2022; Tappert et al., 2018). For the Huebergass plot, this shift in public policy objectives resulted in a transformation process, starting with the approval of a detailed land-use plan in 2011. Throughout this process, new land uses and new rules of use

**Table 5**  
Characteristics of fifth LRA related to phase 3.

Type of land use	Public park
Institutional framework	Rigid and formal framework based on detailed land-use plan, project plans, and building permits determining green space uses and functions
Community of commoners	Public access; decision-making by public authorities based on participatory processes and democratic procedures
Objective	Provision of urban green space as public resource



and access were negotiated, creating space for different actors to redefine the regulatory arrangements in line with their interests. The city had a powerful role as both regulator and landowner. Its decision to give out land to a non-profit housing developer and a bottom-up greening initiative was significant, as it created the conditions for commoning initiatives to play a role in the renegotiation of the new LRA's. Considered in light of the left-wing progressive political context of the city of Bern, the supportive action of the state appears crucial. Nevertheless, while this commoning approach allowed for more inclusive arrangements, the evolution of the VorPark also indicates a strategy of using commoning to 'test the waters' before committing to a final solution.

The involvement of the housing cooperative was highly regulated through the detailed land-use plan, the competition, and, subsequently, through the ground-lease contract, setting rules regarding land uses and building regulations, but also regarding the type of housing to be provided and the maximum rental fee. These rules constituted the basis for the project developed by the WSS cooperative. The non-profit nature of the cooperative as well as the ground-lease contract contributed to a logic of decommodification, creating housing stock outside of the market and allocating it based on its use rather than exchange value (Balmer & Gerber, 2018; Ruiz Cayuela & García-Lamarca, 2023). Still, the cooperative was founded by the employees of a for-profit company who did not intend to live in the housing themselves. Despite the political claims behind new commons, many urban commons do not aim to overthrow capitalist systems, but instead exist alongside and sometimes within the system (Amin & Howell, 2016; DeVerteuil et al., 2022). This is certainly true for housing cooperatives, which are embedded in existing institutions. Barriers to participation are high, as the "cementing" of property relations (Nightingale, 2019) – even if collective – is inevitable to govern the housing stock. Like the allotment gardens, the housing cooperative therefore resembles the old commons.

The selection criteria of the actual residents were mostly not defined in the regulatory framework, apart from aiming for "social mixing". The first group of residents appeared rather homogeneous, being mostly Swiss, German-speaking and working in academia or related areas. Our interviewees recognized the lack of heterogeneity among residents, but also recognized the need for a certain commonality among members given the need to successfully work together over a long period of time (Huron, 2015). Once this first group of residents took over the ownership of the cooperative, the nature of it changed. While still operating within the same legal framework, the residents aimed to change and redefine some of the organizational processes, for example in relation to the allocation of housing to new residents. Besides maintaining the housing stock for its residents, the reinvented WBG Huebergass cooperative also aimed for integration and more inclusive arrangements, among others through a more inclusive selection procedure. While still being governed through a rigid and formal framework with high barriers to participation, the new cooperative intended to strengthen its role in producing spillover effects beyond its own members; resembling characteristics of both old and new commons.

At the same time, management rights over the other half of the plot were allocated to the VorPark association. Here, the process of defining land uses and creating new rules was rather flexible. Instead of formally defining what types of uses are to be developed by whom, the VorPark allowed for an organic transformation process based on the needs and desires of those willing — or able — to participate in the co-production of the resource. Except some formal rules defined by the land-use plan and the contract celebrated with the city, the green space was governed through informal arrangements between those involved. The VorPark constituted a rather open and loose form of governance, not imposing a distinction between members and non-members and with barriers to participate and join the co-production being fairly low. This commoning process counteracted the top-down decision processes that typically shape urban development and provided a space for resident engagement and self-determination. Still, while not imposing any restrictions in terms of access and use to others, the active involvement of Huebergass

residents in the development of the green space seems to have cultivated a sense of ownership among those involved (Blomley, 2004). Although collective and not necessarily exclusionary, this sense of ownership was also signalled to 'outsiders', for which some neighbourhood residents did not perceive the new green space as a publicly-accessible space (see also Bergame, 2023). At the same time, however, our VorPark interviewee emphasized the high level of work involved in maintaining the park, and the difficulty of finding people willing to dedicate time and energy to it. This points towards what we understand as a seemingly insolvable balancing act in regard to the commons (Bergame et al., 2022; Huron, 2015; Nightingale, 2019): how to ensure the material existence and maintenance of the urban commons by a dedicated group of commoners, while simultaneously ensuring its open and inclusive character to all?

Our case-study shows how the transformation of urban land involves different types of commoning initiatives through support by the public actor. From the allotment gardens to the housing cooperative and the VorPark, it is the municipality that enables these collective forms of governance. It does so to ensure public participation, self-governance, and more inclusive arrangements of urban development. At the same time, however, the city understands these commoning processes as instrumental to achieving its public policy goals: more accessible and multifunctional green spaces, and more affordable housing. The VorPark was deliberately unregulated and flexible, functioning as a type of new commons: the objective was not to ensure stable maintenance over decades, but rather to 'test the waters' and to shift the logics of urban development. Those who invested their work in the production of the space did so based on the enactment of a political claim towards the land (Caffentzis & Federici, 2014). In the process, as the land was co-produced by commoners, this group of people seem to have developed a sense of ownership to it. Still, the land remained publicly accessible. Although the VorPark was inherently temporary and provisional, it allowed for promoting a sense of self-determination and self-governance among those involved, shifting green space development towards the everyday needs of its users.

The distinction between old and new commons is relevant to our case study as it brings to light how various commoning initiatives operate differently in terms of institutional framework, community, and objective. By making this distinction, we have sought to contribute to some conceptual clarity, analysing commons as forms of governance that ensure long-term stable management of shared resources and as vehicles of transformative change. To be both is a critical challenge of the urban commons (Huron, 2015; Nightingale, 2019). Many commoning initiatives in urban environments, however, are situated somewhere in between the old and the new commons, being essentially *processes* rather than things, something that is *done* rather than *is*. The commons are contested terrains with ambiguous relations to capitalist markets, the state, as well as to non-commoners (Enright & Rossi, 2018).

Finally, our case-study shows how, through densification, the Localized Regulatory Arrangement governing a given resource changes continuously, based on the constant redefinition and renegotiation of the 'rules of the game' by the actors involved. This affects not only the distribution and allocation of access and use rights over land, but indeed changes land uses in themselves. Given its role as both landowner and regulator, the city of Bern was in a powerful position to steer transformation according to its public policy goals, aiming for the removal of allotment gardens for the sake of housing and green space development. Nevertheless, the details of this transformation process — who gains the right to decide how the resource changes and who benefits from this transformation — are subject to constant negotiation throughout the three different phases. This not only confirms the importance of analysing case-specific and local arrangements to understand resource uses (Viallon et al., 2019) but also the inherent impermanence and temporary dimension of the LRA.

## 8. Conclusion

As cities become denser as a result of compact city policies, new land uses emerge and use and access rights over land are redistributed. These transformations bear the risk of promoting a more privatized, enclosed urban space if shaped solely by market-oriented and for-profit logics. Our research shows how densification can take a different path: commoning processes can steer the outcome towards more inclusive arrangements, by promoting self-governance by users and shifting urban development towards the everyday needs of those affected. The implementation of densification leads to a transition phase in which the institutional arrangements defining who can use urban land for what purposes are redefined and renegotiated among actors. It is precisely during this phase that the conditions for commoning can be created. Yet this process is far from straightforward: while some commons such as the allotment gardens disappear, others start to thrive. Our findings confirm the importance of a supportive public actor able to create a favourable institutional framework for commoning processes to develop. Importantly, our findings give evidence of the different roles urban commons play in urban development. The new commons, based on open and flexible arrangements, are typically transitional, unstable, and therefore temporary. Contrary to old commons, which emerge from stabilized and formal arrangements, their potential lies not so much in the ability for long-lasting resource management, but rather in the capacity to change the conditions of governance during the transition between land uses, advancing more socially-sustainable outcomes in a key moment of the urban redevelopment process, where private actors are otherwise striving to implement profit-maximizing strategies. In doing so, new commons prove to be effective ways of anchoring social sustainability objectives within urban densification processes. Further research is needed to understand to what extent new urban commons can endure and thrive over long periods of time without developing into

closed and exclusive communities of commoners.

## CRedit authorship contribution statement

**Jessica Verheij:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Jean-David Gerber:** Conceptualization, Funding acquisition, Supervision, Writing – original draft, Writing – review & editing. **Stéphane Nahrath:** Conceptualization, Funding acquisition, Supervision, Writing – original draft, Writing – review & editing.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data will be made available on request.

## Acknowledgements

The authors want to thank the interviewees for their time and availability. We furthermore thank Deniz Ay and Sarah Steinegger for the useful and valuable discussions.

## Funding

This work was supported by the Swiss National Science Foundation under Grant 188939 (project GoverDENSE).

## Appendix A

### Overview of interviews

Type of actor	Role of interviewee	Reference
Public actor	Municipal worker (former project manager)	(planner 1, interview [16.06.21]) <sup>1</sup>
	Municipal worker (planning department)	(planner 2, interview [07.10.22])
	Municipal worker (real-estate department)	(planner real-estate, interview [11.07.22])
	Municipal landscape architect (department of public space)	(landscape architect 1, interview [21.05.21])
	Municipal landscape architect (municipal greening department)	(landscape architect 2, interview [17.06.22])
	Representative of local district office	(district office, interview [29.06.22])
Neighbourhood	Two members of Holligen's neighbourhood association	(neighbourhood association, interview [05.10.22])
Housing development	Representative of Wir Sind Stadtgarten / developer	(developer, interview [15.06.22])
	Resident of Huebergass and member of the board WBG Huebergass	(resident 1, interview [10.10.22])
	Resident of Huebergass	(resident 2, interview [09.10.22])
VorPark	Representative of VorPark and resident of Huebergass	(VorPark, interview [20.09.22])
Allotment gardens	Allotment gardener and resident of Huebergass	(resident 3, interview [07.10.22])

<sup>1</sup>Although not all municipal workers work as planners, I use “planner” as reference to indicate their role representing the municipal planning authority.

## References

- Amin, Ash, Howell, Philip, 2016. Thinking the commons. In: Amin, A., Howell, P. (Eds.), *Releasing the Commons: Rethinking the Futures of the Commons*, Routledge Studies in Human Geography, Routledge, London ; New York, NY.
- Angelo, H., Wachsmuth, D., 2020. Why does everyone think cities can save the planet? *Urban Stud.* 57 (11), 2201–2221. <https://doi.org/10.1177/0042098020919081>.
- Antoniazza, B., Mach, A., Strebler, M.A., 2023. The urban left in power: comparing the profiles of ‘Municipal Socialists’ and the ‘New Urban Left’ in Swiss Cities. *Int. J. Urban Reg. Res.* 47 (5), 745–772. <https://doi.org/10.1111/1468-2427.13202>.
- Arnberger, A., 2012. Urban densification and recreational quality of public urban green spaces—A viennese case study. *Sustainability* 4 (4), 703–720. <https://doi.org/10.3390/su4040703>.
- Balmer, I., Gerber, J.-D., 2018. Why are housing cooperatives successful? Insights from Swiss affordable housing policy. *Hous. Stud.* 33 (3), 361–385. <https://doi.org/10.1080/02673037.2017.1344958>.
- Bergame, N., 2023. Cultivating commoner subjectivities and transforming agency in commoned urban gardens. *Geoforum* 141, 103725. <https://doi.org/10.1016/j.geoforum.2023.103725>.
- Bergame, N., Borgström, S., Milestad, R., 2022. Preparing the grounds for emancipation. Explaining commoning as an emancipatory mechanism through dialectical social

- theory. *Environ. Planning e: Nature Space*. <https://doi.org/10.1177/25148486221092717>.
- Blake, K., Nahrath, S., Ingold, K., 2020. Combining the Institutional Resource Regime (IRR) framework with the Advocacy Coalition Framework (ACF) for a better understanding of environmental governance processes: The case of Swiss wind power policy. *Environ Sci Policy* 112, 141–154. <https://doi.org/10.1016/j.envsci.2020.06.010>.
- Blomley, N., 2004. Un-real estate: Proprietary space and public gardening. *Antipode* 36(4), 614–641. <https://doi.org/10.4324/9780203946848>.
- Bouwmeester, J., Gerber, J.-D., Hartmann, T., Ay, D., 2023. Non-compliance and non-enforcement: An unexpected outcome of flexible soft densification policy in the Netherlands. *Land Use Policy* 126, 106525. <https://doi.org/10.1016/j.landusepol.2022.106525>.
- Bresnihan, P., Byrne, M., 2015. Escape into the city: everyday practices of commoning and the production of urban space in Dublin: escape into the city. *Antipode* 47(1), 36–54. <https://doi.org/10.1111/anti.12105>.
- Burton, E., 2000. The compact city: just or just compact? A preliminary analysis. *Urban Stud.* 37(11), 1969–2001.
- Caffentzis, G., Federici, S., 2014. Commons against and beyond capitalism. *Community Dev. J.* 49(S1), 92–105. <https://doi.org/10.1093/cdj/bsu006>.
- Cavicchia, R., 2022. Urban densification and exclusionary pressure: Emerging patterns of gentrification in Oslo. *Urban Geogr.* 1–23. <https://doi.org/10.1080/02723638.2022.2100174>.
- Colding, J., Gren, Å., Barthel, S., 2020. The incremental demise of urban green spaces. *Land* 9(5), 162. <https://doi.org/10.3390/land9050162>.
- Colding, J., Barthel, S., 2013. The potential of 'Urban Green Commons' in the resilience building of cities. *Ecol. Econ.* 86, 156–166. <https://doi.org/10.1016/j.ecolecon.2012.10.016>.
- Debrunner, G., Hengstermann, A., Gerber, J.-D., 2020. The business of densification: Distribution of power, wealth and inequality in swiss policy making. *Town Plan. Rev.* 91(3), 259–281. <https://doi.org/10.3828/tp.2020.15>.
- Dempsey, N., Brown, C., Bramley, G., 2012. The key to sustainable urban development in UK cities? The influence of density on social sustainability. *Prog. Plan.* 77(3), 89–141. <https://doi.org/10.1016/j.progress.2012.01.001>.
- DeVerteuil, G., Marr, M.D., Kiener, J., 2022. More than bare-bones survival? From the urban margins to the urban commons. *Ann. Am. Assoc. Geogr.* 112(7), 2080–2095. <https://doi.org/10.1080/24694452.2022.2044751>.
- Enright, Theresa, Rossi, Ugo, 2018. Ambivalence of the urban commons. In: Ward, K., Jonas, A.E.G., Miller, B., Wilson, D. (Eds.), *The Routledge Handbook on Spaces of Urban Politics*. Routledge, Abingdon, Oxon; New York, NY, pp. 35–46.
- Flyvbjerg, B., 2006. Five misunderstandings about case-study research. *Qual. Inq.* 12(2), 219–245. <https://doi.org/10.1177/1077800405284363>.
- Foster, S.R., 2011. Collective action and the urban commons. *Notre Dame Law Rev.* 87(1), 57–134.
- Foster, S.R., Iaione, C., 2016. The city as a commons. *Yale Law Policy Rev.* 34(281), 281–349.
- Foster, S.R., Iaione, C., 2019. *Ostrom in the city: Design principles and practices for the urban commons*. Routledge Handbook of the Study of the Commons 235–255. <https://doi.org/10.4324/9781315162782>.
- Fournier, V., 2013. Commoning: On the social organisation of the commons. *Management (france)* 16(4), 433–453. <https://doi.org/10.3917/mana.164.0433>.
- García-Lamarca, M., Anguelovski, I., Cole, H., Connolly, J.J., Argüelles, L., Baró, F., Loveless, S., del Pulgar, P., Frowein, C., Shokry, G., 2019. Urban green boosterism and city affordability: for whom is the 'branded' green city? *Urban Stud.* 1–23. <https://doi.org/10.1177/0042098019885330>.
- Gemeinderat Bern, 2016. *Motion Fraktion SP/JUSO (Margrith Beyerler-Graf/Raymond Anliker, SP): Neubau von einfachem, sehr günstigem Wohnraum in der Stadt Bern* (2003. SR.000079).
- Gerber, J.-D., Knoepfel, P., Nahrath, S., Varone, F., 2009. Institutional Resource Regimes: Towards sustainability through the combination of property-rights theory and policy analysis. *Ecol. Econ.* 68(3), 798–809. <https://doi.org/10.1016/j.ecolecon.2008.06.013>.
- Gerber, J.-D., Lieberherr, E., Knoepfel, P., 2020. Governing contemporary commons: The Institutional Resource Regime in dialogue with other policy frameworks. *Environ Sci Policy* 112(June), 155–163. <https://doi.org/10.1016/j.envsci.2020.06.009>.
- Giezen, M., Balicki, S., Arundel, R., 2018. Using remote sensing to analyse net land-use change from conflicting sustainability policies: the case of Amsterdam. *ISPRS Int. J. Geo Inf.* 7(9), 381. <https://doi.org/10.3390/ijgi7090381>.
- Götze, V., Jehling, M., 2022. Comparing types and patterns: A context-oriented approach to densification in Switzerland and the Netherlands, 23998083221142198 *Environ. Plann. B: Urban Anal. City Sci.* <https://doi.org/10.1177/23998083221142198>.
- Götze, V., Bouwmeester, J.A., Jehling, M., 2023. For whom do we densify? Explaining income variation across densification projects in the region of Utrecht, the Netherlands, 00420980231205793 *Urban Stud.* <https://doi.org/10.1177/00420980231205793>.
- Haarstad, H., Kjærås, K., Røe, P.G., Tveiten, K., 2022. Diversifying the compact city: A renewed agenda for geographical research. *Dialogues Human Geogr.* <https://doi.org/10.1177/20438206221102949>.
- Hardt, M., Negri, A., 2009. *Commonwealth*. Harvard University Press.
- Hess, C., 2008. Mapping the New Commons. "Governing Shared Resources: Connecting Local Experience to Global Challenges". In: The 12th Biennial Conference of the International Association for the Study of the Commons <https://doi.org/10.2139/ssrn.1356835>.
- Hodkinson, S., 2012. The new urban enclosures. *City* 16(5), 500–518. <https://doi.org/10.1080/13604813.2012.709403>.
- Huron, A., 2015. Working with strangers in saturated space: reclaiming and maintaining the urban commons. *Antipode* 47(4), 963–979. <https://doi.org/10.1111/anti.12141>.
- Huron, A., 2017. Theorising the urban commons: New thoughts, tensions and paths forward. *Urban Stud.* 54(4), 1062–1069. <https://doi.org/10.1177/0042098016685528>.
- Ingold, K., Nahrath, S., 2023. Environmental and spatial planning policies. In: Emmenegger, P., Fossati, F., Häusermann, S., Papadopoulos, Y., Sciarini, P., Vatter, A. (Eds.), *The Oxford Handbook of Swiss Politics*. Oxford University Press, Oxford, pp. 642–657.
- Jahl, I., Ejderyan, O., Salomon-Cavin, J., 2022. Community gardens as a response to the contradictions of sustainable urban policy: Insights from the Swiss cities of Zurich and Lausanne. *Front. Sustainable Food Syst.* 6(902684) <https://doi.org/10.3389/fsufs.2022.902684>.
- Kaufmann, D., Warland, M., Mayer, H., Sager, F., 2016. Bern's positioning strategies: Escaping the fate of a secondary capital city? *Cities* 53, 120–129. <https://doi.org/10.1016/j.cities.2016.02.005>.
- Knoepfel, P., Nahrath, S., Varone, F., 2007. Institutional regimes for natural resources: an innovative theoretical framework for sustainability. In: Knoepfel, P. (Ed.), *Environmental Policy Analyses*. Springer.
- Kummig, S., 2017. Between green image production, participatory politics and growth: Urban agriculture and gardens in the context of neoliberal urban development in Vienna. *ACME: Int. J. Crit. Geogr.* 16(2), 232–248.
- Murphy, M.A., Parker, P., Hermus, M., 2022. Cultivating inclusive public space with urban gardens. *Local Environ.* 1–18. <https://doi.org/10.1080/13549839.2022.2120461>.
- Nightingale, A.J., 2019. Commoning for inclusion? Commons, exclusion, property and socio-natural becomings. *Int. J. Commons* 13(1), 16. <https://doi.org/10.18352/ijc.927>.
- Ostrom, E., 1990. *Governing the Commons—The Evolution of Institutions for Collective Action*. Cambridge University Press.
- Rogge, N., Theesfeld, I., 2018. Categorizing urban commons: Community gardens in the Rhine-Ruhr agglomeration, Germany. *Int. J. Commons* 12(2), 251–274. <https://doi.org/10.18352/ijc.854>.
- Rosol, M., 2015. Social mixing through densification? The struggle over the Little Mountain public housing complex in Vancouver. *Erde – J. Geogr. Soc. Berlin* 146(2–3), 151–164. <https://doi.org/10.12854/erde-146-13>.
- Ruiz Cayuela, S., García-Lamarca, M., 2023. From the squat to the neighbourhood: Popular infrastructures as reproductive urban commons. *Geoforum* 144, 103807. <https://doi.org/10.1016/j.geoforum.2023.103807>.
- Schlager, E., Ostrom, E., 1992. Property-rights regimes and natural resources: a conceptual analysis. *Land Econ.* 68(3), 249–262.
- Stadt Bern, 1995. *Räumliches Stadtentwicklungskonzept Bern 1995*. Gemeinderat der Stadt Bern.
- Stadt Bern, 2016. *Stadtentwicklungskonzept Bern 2016*. Stadtplanungsamt.
- Stadt Bern. (2018). *Freiraumkonzept der Stadt Bern*. Präsidialdirektion - Stadtplanungsamt.
- Stadt Bern, 2022a. *Bereich Freiraum – Strategische Freiraumplanung*. Präsidialdirektion - Stadtplanungsamt.
- Stadt Bern, 2022b. *Statistik Stadt Bern—Die Wohnbevölkerung der Stadt Bern 2022*. Präsidialdirektion.
- Stadtgrün Bern, 2018. *Stadtteilpark Holligen Nord—Bericht Partizipations-Prozess Konzept und Dokumentation*. Stadt Bern.
- Stadtgrün Bern, 2020. *Mach Bern zu deinem Garten—Zukunftsbild für das Gärtnern in der Stadt*. Stadt Bern.
- Tappert, S., Klöti, T., Drilling, M., 2018. Contested urban green spaces in the compact city: The (re-)negotiation of urban gardening in Swiss cities. *Landsc. Urban Plan.* 170, 69–78. <https://doi.org/10.1016/j.landurbplan.2017.08.016>.
- Varone, F., Nahrath, S., 2014. Regulating the uses of natural resources—When policy instruments meet property rights. In: Halpern, C., Lascoumes, P., Le Galès, P. (Eds.), *L'instrumentation De L'action Publique*. Presses de Sciences Po.
- Verheij, J., Ay, D., Gerber, J.-D., Nahrath, S., 2023. Ensuring public access to green spaces in urban densification: the role of planning and property rights. *Plan. Theory Pract.* 1–24. <https://doi.org/10.1080/14649357.2023.2239215>.
- Viallon, F.-X., Schweizer, R., Varone, F., 2019. When the regime goes local: Local regulatory arrangements and land use sustainability. *Environ Sci Policy* 96, 77–84. <https://doi.org/10.1016/j.envsci.2019.02.010>.