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The Role of Urban Green Space in Promoting Inclusion: Experiences From the Netherlands

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Urban Green Space (UGS) is considered to be beneficial for health and wellbeing of urban residents. But there is growing evidence that benefits are not equally distributed. In this article we aim to understand the role that UGS plays in the process of social exclusion and the role urban greening strategies can play in enhancing social equity for specific groups that are excluded: elderly people with dementia, people with mental issues and people from an underprivileged neighborhood. The concepts of inclusion and exclusion and their relation to UGS are discussed. Four exclusion mechanisms are distinguished based on the role of the physical and societal environment and on the role of actors involved (public or private). Further, we identify four discourses behind possible strategies and measures to promote inclusion. These mechanisms and discourses are confronted with an analysis of three cases promoting inclusion of elderly with dementia, people with mental health issues and people from an underprivileged neighborhood. Succesful inclusion strategies in these cases are based on alignment between private actors initiatives and public actions. The cases indicate that public and private actors need to cooperate better in order to make UGS part of inclusion strategies.

Keywords: urban environmental justice, inclusive cities, urban green space, greening strategies, exclusion mechanism, strategies to promote inclusion

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INTRODUCTION

The need for more Urban Green Space is worldwide high on the policy agenda of cities. Urban Green Space (UGS) is defined as urban land, partly or completely covered with grass, trees, shrubs, or other vegetation. Urban Green Space includes parks, community gardens and cemeteries, but also rooftop gardens and vertical gardens, meadows and woods. UGS is also referred to as blue-green zone, because urban water such as ditches, canals, inland waterways and rivers and riverbanks, is considered as UGS. UGS reduces the risks of flooding in cities, cools the city in the summer and provides biodiversity (Haase et al., 2014). UGS contributes to the well-being of cities and its residents, to better health, and social cohesion (Hartig et al., 2014; Hunter et al., 2019).

However, not all residents benefit equally from UGS. Several studies have shown that the number and quality of green areas is lower in neighborhoods with a low socioeconomic status or a high percentage of immigrants than in other neighborhoods (Wen et al., 2013; Kabisch and Haase, 2014; Jennings et al., 2016; De Vries et al., 2020). The low availability and quality of UGS also contributes to poorer health in these neighborhoods (Maas et al., 2006).

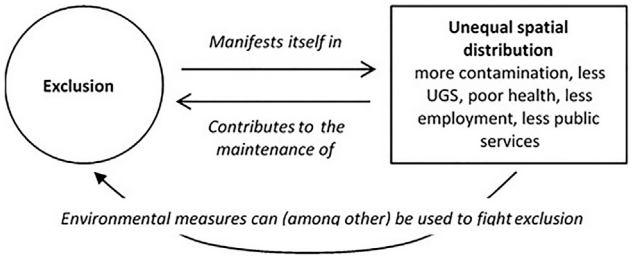

FIGURE 1 | Exclusion and the physical environment.

In addition, environmental risks are not equally distributed amongst poorer and richer neighborhoods. Many underprivileged neighborhoods have more contamination, lower air quality, and greater risks of hazards (Kruize, 2007; Maantay and Maroko, 2009). Finally, the positive impacts of UGS on health, local economy and wellbeing, are often reflected in higher land and housing prices, which can contribute to a gentrification process and exclusion of less-favoured citizens. The amount of literature about this role of the green urban space in exclusion processes is rising (Anguelovski, 2013; Kabisch and Haase, 2014; Haase et al., 2017).

Kabisch et al. (2015) performed an extensive review of international studies on the importance of human-environment interactions in UGS. Their review showed a lack of studies focusing on the human-environment interactions in relation to specific population groups. They mentioned especially the demand and use of UGS by the elderly. Others propose the development of greening strategies to promote equity, health and wellbeing as future research topic. (Rutt and Gulsrud, 2016; Frumkin et al., 2017). Kruize et al. (2019) recommend a specific focus on the opportunities for citizens with low social economic status to use green space.

In this article we aim to a better understanding of the complex interactions between UGS and the exclusion of specific groups of residents (**Figure 1**). We focus especially on the strategies using UGS to promote the inclusion of three specific groups in the Netherlands: elderly people with dementia, people with mental health issues and people from an underprivileged neighborhood. These three were chosen because in the Netherlands, where four percent of people over the age of 16 can be considered as excluded, exclusion is mainly found among people with low income and low education; older people and people with mental health issues (Coumans and Schmeets, 2020).

Approach

We first address the question "What is meant by exclusion and inclusion in the context of greening cities?" Although there has been a great deal of research into poverty and socio-economic disadvantages in cities, integral concepts like "inclusive green cities" or "just cities" (Fainstein, 2010) are fairly recent. In order to systematize the many perspectives in literature, we provide a framework in which four exclusion mechanisms are distinguished. The four mechanisms are illustrated with examples from the Netherlands. Next, we discuss strategies for fighting exclusion. From literature four discourses behind these strategies are distinguished. Then, we present three Dutch cases aimed at the three specific groups mentioned above, describe crucial factors and identify within these cases the mechanisms and discourses that can be recognized. This leads to conclusions on various roles that UGS can play in strategies to promote inclusion for specific groups and to some recommendations to enhance the role of UGS in combating exclusion.

INCLUSION AND EXCLUSION IN THE CONTEXT OF GREENING CITIES: CONCEPTUAL INVENTORY

Exclusion in this article is defined as the process which leads to a systemic shortage of opportunities to participate in society. Vice versa, inclusion is defined as the process of improving the conditions of participation in society for people who are disadvantaged, by enhancing their opportunities and their access to resources. Exclusion and inclusion are two sides of the same coin.

Exclusion and inclusion are both *culturally relative*, *multidimensional*, *relational* and *dynamic* concepts (Mathieson et al., 2008). The concepts are culturally relative because they depart from what is common in a society. This concerns questions about the fairness of differences such as: which differences are just and which are unjust, which differences are unacceptably big, or what grounds do we have to accept existing differences? Further, the concepts are multidimensional: physical, economic, social and cultural aspects are all involved and affect each other. Inclusion and exclusion are also relational, because they emerge from the interaction between different private and public actors. Last, inclusion and exclusion are dynamic concepts, they both refer to social processes that can change over time.

An important related concept is *distributive justice* because it refers to the access and distribution of resources among different social groups, such as distribution of work, distribution of affordable homes, distribution of facilities, distribution of UGS, distribution of access to governmental support and distribution of harmful environmental effects. Distributions that have been judged as just, do not have to be equal (Rawls, 1999). In literature on distributive justice the difference between *equity* and *equality* is emphasized (Cook and Hegtvedt, 1983; Reeskens and Van Oorschot, 2013). In short: equality refers to equal measures, despite the outcome; equity refers to a fair outcome which does not necessarily imply equal means. For instance, if health considerations were uppermost, an equity policy would develop more UGS in deprived neighborhoods than in privileged neighborhoods, while an equality policy would provide each district with the same amount of green space.

Further, the concepts of inclusion and exclusion are closely linked to other commonly mentioned concepts, such as (the absence of) poverty, deprivation or discrimination. In addition, there is a close relationship between inclusion and concepts like: social cohesion; justice; equity; equality; fairness (Rawls, 1999); social capital (Putnam, 2000); basic needs (Galtung, 1978); capabilities (Nussbaum, 2011); and social quality (Beck et al., 2001). For an overview, De Haas (2017).

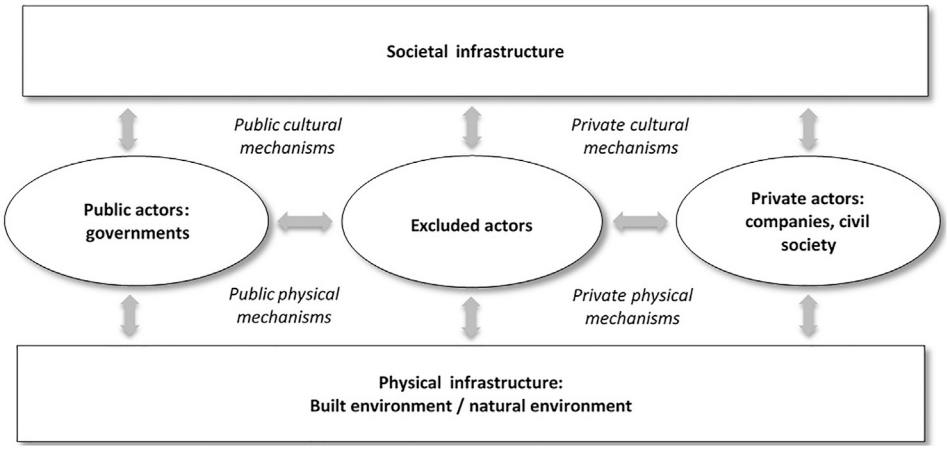

FIGURE 2 | Exclusion in a multi layered world: four mechanisms.

In order to understand inclusion and exclusion in the context of greening cities, several other concepts are useful as they integrate environmental quality (of the built environment as well as the natural environment) and urban socioeconomics. Examples are environmental justice (Bullard, 2001; Holifield, 2001; Bryant and Calleweart, 2003; Anguelovski, 2013); environmental racism and environmental equity (Holifield, 2001; Kruize, 2007; Ewall, 2012); urban environmental equality (Bertrand et al., 2015); just sustainability's (Agyeman and Evans, 2004); spatial justice (Soja, 2010); ecological justice (Alroe et al., 2006); green gentrification (Gould and Lewis, 2009; Anguelovski, 2015); and environmental gentrification (Checker, 2011). Some of these concepts are aimed at a new theoretical apparatus to describe the impact of uneven distributions of e.g. air contamination or UGS. Other concepts are more normative and aim at the integration of the goals of sustainability and justice in urban policies.

However, above mentioned concepts are generally more focused on the level of reaching inclusion objectives than on the level of developing strategies or measures for inclusion. In order to gain more insight into strategies and measures, which we use below for the secondary analysis of three case studies, we distinguish the mechanisms that can contribute to more or less exclusion. In doing so, we mainly address aspects of exclusion, which Mathieson et al. (2008) distinguished, particularly the relational and multidimensional aspects.

CONCEPTUAL MODEL OF MECHANISMS INVOLVED IN INCLUSION AND EXCLUSION

In order to develop well targeted inclusion strategies and measures, it is important to understand the mechanisms involved in exclusion and inclusions processes. These have cultural, social, economic and environmental aspects, which are all interconnected (Mathieson et al., 2008; Bertrand et al., 2015).

We conceptualize exclusion and inclusion as a process in a three layered field (**Figure 2**). The central layer of these concerns the interactions between the excluded actors and others actors involved, be it public actors, like governments, regional authorities, administrative agencies, and so on, or private actors, such as citizens, community organizations and companies.

These actors make use of on the one hand the societal infrastructure and on the other hand the physical infrastructure. The societal infrastructure, in **Figure 2** depicted as upper layer, is defined as the institutions, habits, social rules, prevailing norms, and accepted knowledge that allow or hinder people to live together in social contexts (neighborhoods, groups, networks, families) and participate in society. The physical infrastructure, depicted as lower layer, is both the built infrastructure of offices, houses and shops as well as the UGS, i.e. the infrastructure of parks, trees, rivers and ponds.

This model allows us to distinguish four mechanisms that each characterize a specific aspect of the processes of exclusion and inclusion. The mechanisms are both a way of structuring the complex processes of exclusion and a way to identify strategies and measures to promote inclusion. Below we elaborate the four mechanisms while emphasizing the two mechanisms in which the physical infrastructure and UGS are involved. We use examples of studies in Dutch cities.

Exclusion as a *public-physical mechanism.* This mechanism refer to the relation between exclusion or exclusion and the ways by which public actors intervene in the built and natural environment. This relates to several kinds of urban planning by city governments: zoning, social housing, transport facilities, and so on. For instance, in many cities social housing is situated at less desirable locations, without parks or other green areas, and with more pollution and a poor transport system. Several studies show little quantity and quality of UGS in neighborhoods with low income households or a high percentage of immigrants (Wen et al., 2013; Kabisch and Haase, 2014; Jennings et al., 2016).

However, the often observed relationship between less green space and more deprivation does not appear to occur everywhere. A study in Amsterdam provides insight in the ambiguity of the public-physical mechanism. This study, performed by Gan et al. (2017) studied "green" environmental justice in two

disadvantaged neighborhoods in Amsterdam: the Bijlmermeer and Nieuw-West. Contrary to the general idea, they show that both disadvantaged neighborhoods had more UGS than average. The area covered by UGS is 26.3% in Bijlmermeer and 27% in Nieuw-West, while the average in Amsterdam is 17%. Further, based on street interviews they also found that informants judged the quality of this UGS as poor, while it was designed as backdrop green, not as useable green space. This Amsterdam case shows that in the field of public-physical mechanisms, exclusion and less UGS do not always accompany each other, and that it is also relevant to consider the quality of the UGS.

Exclusion as a p*rivate-physical mechanism*. This mechanism covers the interactions between private actors and their connection to both the green and the built environments. The so-called green gentrification process is a example of private-physical interactions which lead to exclusion. Gentrification is the process of neighborhood change, caused by wealthier people and high-end stores moving in as a result of an improved status of this area, often displacing low-income families and small business. Green spaces which enhance the quality of the environment, can contribute to this process through rising real estate prices. The areas in which greening takes place become more attractive to market innovations, tourists, and relatively wealthy families, thereby increasing rent and housing prices. Low income groups are simply displaced by the upper- or middle-income class (Swyngedouw, 2007; Checker, 2011; Wolch et al., 2014). This process of green gentrification may contribute to social inequality and environmental injustice (Swyngedouw, 2007; Checker, 2011; Gould and Lewis, 2017; Haase et al., 2017).

Green gentrification in the Netherlands has been studied by De Bree et al. (2017) in three different neighborhoods located close to parks in Amsterdam (Oosterparkbuurt), Amersfoort (Soesterkwartier), and Arnhem (Spijkerkwartier). To study the green gentrification process, they used statistical data and performed around 60 street interviews and 15 in-depth interviews. In a period of seven years, the Soesterkwartier and Spijkerkwartier showed an increase in high-income residents, while the percentage of low-income residents stayed the same, which indicates an increase in socio-economic differences. In the Oosterparkbuurt, the percentage of high-income residents stayed the same. However, in the Oosterparkbuurt the respondents perceived a strong gentrification. The respondents interpreted the gentrification in the neighborhood. Process as a general trend which was also occurring in their own neighborhood and streets. De Bree et al. conclude that although gentrification is recognizable and in a small part due to the UGS, the process does not cause environmental injustice in terms of large income differences or social conflicts. Green gentrification is occurring, but on a scale less pronounced than in many other cities in the world. One important observation was that the many of the older and original residents experienced a general feeling of exclusion.

The Gan et al. (2017) also gives insight in the private-physical mechanisms. They studied which role the UGS played in people's lives and in processes of exclusion. From street interviews they found that native Dutch residents use the UGS less for social events than residents with another cultural background. This was also found by Peters et al. (2010) and Özgüner (2011). The informants recognize positive effects of the park on health but no contribution to more contacts between different population groups. According to the informants this was caused more by the quality of the park and the facilities than by the amount of green. For instance, if a park or green area is perceived as unsafe, it excludes women from participating in the public space. They also found that the general maintenance level of urban green spaces played a role: badly maintained parks contribute to a negative image of the whole neighborhood and to exclusion of its residents.

Exclusion as a *public-societal mechanism*. This mechanism covers the public actions, that contribute to the maintanance of the social and cultural infrastructure of cities, such as cultural facilities, public libraries and community centres. Exclusion can occur either when the public institutions are unable to address social and cultural differences, or when they have a deliberate interest in maintaining unequal distributions. Strategies to fight exclusion which make use of this mechanism include educational and empowerment programs, training facilities, financial support, provision of food and health information.

Exclusion as a p*rivate-societal mechanism*. The private-societal mechanism of exclusion concerns the interactions between private actors, including the excluded actors, and the societal infrastructure (such as religion, family, local culture, social norms or education). In the Netherlands a good example of a private-societal mechanism is the exclusion of citizens with severe mental health issues. This group is marked by lack of participation and high unemployment rates: less than 20 percent of people with severe mental health issues have a job (Michon et al., 2014). To alleviate this situation, strategies have been developed in which an bottom up-initiatives of this mechanism lead to improved skills of the excluded group. An that addresses the inclusion of youth groups. Example can be found in the neighborhood of Rotterdam Zuid. In bottom-up extracurricular programs, children aged 6–12 years were educated in philosophy, self-defense and cooking. These programs supported their mental and physical development (Oosterling, 2013).

These four mechanisms contribute to the unraveling of the complex processes of exclusion and can play a role in defining strategies and measures to achieve more inclusion. In the following sections and measures, we will discuss the role of UGS in strategies to combat exclusion and enhance inclusion.

EQUITY STRATEGIES IN GREENING: FOUR DISCOURSES

What can be the role of UGS in combating exclusion and promoting inclusion? Before we discuss three cases we first examine this question from a theoretical point of view. Potentially, many measures to combat exclusion are conceivable aiming at specific excluded actors, either aimed at improving societal or physical conditions or (**Table 1**). **Table 1** also includes greening strategies to counter exclusion, by ensuring enough and well-designed UGS and by developing activities for excluded groups in green spaces.

TABLE 1 | Possible measures to combat exclusion classified in layers of the proposed model.

Targeted layer	Aspect	Possible measures
Societal infrastructure	Labor	Legislation for equal opportunities on the labor market; Minimum income; Good public transport
	Security	Impartial legal system; Sufficient police in every neighborhood; Establishment of community lefts
	Health	Medical facilities equally spread over rich and poor neighborhoods; Sanitation in schools; Equal water supply and sewage system
	Education	Equal facilities and equal access
Excluded actors	Security	Neighborhood programs by the police
	Labor	Internships or jobs for excluded people; Application training
	Health	Specific situation-addressed health services; Family planning information; Additional assistance
	Education	Specific educational schemes for excluded groups; Improved training opportunities in areas where many people are excluded
	Environment	Use of green in empowerment, Lifestyle and health projects
Physical infrastructure	Built environment	Improving local housing; Specific green facilities for excluded groups; Housing standards that guarantee a minimum quality
	Green/blue environment	Standards to ensure enough green areas at a reasonable distance from everyone's house; Equally distributed green space; Converting vacant land into public spaces

TABLE 2 | Four discourses on exclusion (inclusion) composed on the basis of Silver (1994), Beall et al. (2002) and Levitas (2005).

	Community discourse	Market discourse	Reform discourse	Radical discourse
Inclusion implies	Common values	Free and equal access	Equal rights	Power shift
Emphasis on	Community	Individual	Group, class	Societal structure
Dominant strategy	Education: Development of civil virtues	Education: Individual empowerment	Struggle for civil rights and just legislation	Development of contra power
UGS	Mean to empowerment	Sports facilities	Equal access	Public matter, no privatization
Silver (1994)	Solidarity paradigm	Specialization paradigm	Monopoly paradigm	—
Levitas (2005)	Moral underclass discourse	Social integrationist discourse	Redistributionist discourse	—
Beall et al. (2002)	—	Neoliberal perspective	Transformationalist perspective	Radical perspective

The choice of certain strategies to combat exclusion is linked to underlying views and values. These values are expressed in discourses: internally coherent ways of thinking about, perceiving and discussing a subject from a certain point of view. Discourse analysis, which goes back to Foucault (1972), seeks to understand how values and power are constructed and transferred through everyday language. We identify four discourses on exclusion which are a synthesis of the overviews given by Silver (1994), Beall et al. (2002), and Levitas (2005), **Table 2**.

The first discourse is grounded in *community* values. In this discourse, inclusion is mainly a cultural phenomenon. Access to jobs, houses or facilities is considered equitable if it affects the idea of community positively. In this discourse exclusion is defined by the distance actors have to mainstream culture. A strategy to overcome exclusion which fits with this discourse, is community development activities and education. In this discourse, UGS can play a role as a location for several inclusion-oriented activities but also as a topic for collaborative action with excluded actors for example in urban horticulture projects.

The second discourse, *market* discourse, assesses exclusion as an economic phenomenon. In this discourse a distribution of resources is equitable if it allows people freedom and a better access to jobs, houses or facilities. In this discourse, strengthening of individual competences is an important strategy for combatting exclusion. Strategies are developed in which bottom up initiatives lead to improved skills and education of the excluded. UGS do not play an important role in market discourse, perhaps with the exception of UGS as a sport facility or a community garden, where new skills are learned.

In the third discourse, the *reform* discourse, a distribution is equitable if it affects the fundamental rights of people, such as the right to work, use resources, or have an income. Tax measures or legal measures fit well in this discourse as a strategy against exclusion. One right of any citizen in this discourse is the right to a certain amount of green space and a clean environment, such as clean air and water, but also shade and cooling during hot summer days.

Finally, in the *radical* discourse inclusivity can only be realized by radical power shifts. Citizens are believed to be excluded from access to land, green etc. as an inevitable consequence of existing power structures. Inclusion strategies must address fundamental changes in the institutions such as the nationalization of health

TABLE 3 | Overview of the three cases.

	Food for good	Green care farm	Kaskantine
Target group	Citizens with severe mental illness and learning disabilities	People with dementia	Deprived neighborhood
Objectives	Access to useful work, participation	Diverse including upgrading existing green space, inspiring day activities, stimulation	Access to nature, education, social cohesion, local food, knowledge
Initiator	Social entrepreneur	Social entrepreneur, care organisation	Group of social entrepreneurs

care or shifting ownership of urban land and real estate. In this discourse it is important that UGS are public facilities and that they are protected from control of powerful private parties.

In all discourses, UGS plays a role, but this role differs greatly. In the community discourse, UGS is seen as a means of actively combating exclusion. In the market discourse on combating exclusion UGS plays a role as the landscape in which inclusion processes of take place. The reform discourse focuses on the availability and access to UGS as a valuable resource for all, while the radical discourse focuses mainly on the ownership of UGS and the power to control the development of UGS.

THREE GREENING STRATEGIES IN PRACTISE

Case Study Method

In order to better understand inclusion strategies in UGS we used a case study method: a means to research the development of particular groups in a specific situation over a period of time. The authors were enrolled in different Dutch cases in which UGS is used to enhance inclusion of some specific disadvantaged groups. The three cases were selected because they focus on three different groups of urban residents that face exclusion and lack of participation in society to a much higher degree then average citizens (Coumans and Schmeets, 2020). The selected cases illustrate different strategies to stimulate access to and active participation in UGS (**Table 3**). The cases show differences in target group, objectives and type of initiator that lead to different inclusion strategies. In all cases we interviewed the people actively participating in the urban green initiatives. Case 1 *Food for Good* focusses on people with mental health issues and intellectual disabilities and is a secondary analysis of Hassink et al., 2020. Case 2 *Green care* focusses on people with dementia and is a secondary analysis of Hassink et al. (2019) and De Bruin et al. (2019). Case 3 *Kaskantine* focuses specifically on the people of the surrounding deprived neighborhood of Amsterdam Nieuw-West (Stuiver, 2020).

Case Study Food for Good: Greening Strategy for People With Mental Health Conditions

Food for Good is a community garden initiative in a underprivileged neighborhood in Utrecht. The aim is to provide useful activities for people with mental health issues and intellectual disabilities. Citizens who are distanced from the labor market participate in supported work or daily activities financed by the municipality under the social support act (WMO). They work together with volunteers to take care of a garden where vegetables, herbs and flowers are growing. Some of the participants aim to have a paid job in the future, while for others the goal is to be socially more active and meet other people. The project involves the reallocation of a park mainly used by residents for cultural, social and sports activities. A social entrepreneur started a community garden in this park for people with severe mental issues and intellectual disabilities with the aim to offer them useful activities in a green environment.

The social entrepreneur recognized the potential of UGS for offering informal work and participation opportunities for a range of residents who are distanced from the labour market. In this initiative, the participants appreciate the mixture of green and social qualities in the activities they perform. Important for them are 1) The personal support they receive with time for reflection and a focus on their abilities rather their limitations; 2) Being part of a community where they experience support and recognition; 3) The varied, useful, concrete activities; and 4) The green environment, which is considered peaceful and appealing to all senses, and was a place where they can experience the feeling of open space.

The initiative faced many challenges over the course of time. First, they had difficulty in finding a suitable and stable location. Second, the complex rules and regulations regarding support or subsidies were a major challenge, especially when the initiator intended to include diverse groups of participants and wanted to pursue a variety of objectives. He aimed to contribute to diverse objectives like re-integration, day activities, quality of the natural living environment and social issues like social cohesion and safety, but had problems finding the proper contacts and financial arrangements. In addition, the rules tended to change every four years after each national and local elections rounds. The rules and regulations became increasingly challenging, as they were accompanied by numerous administrative and requirements were accompanied by lots of administrative and other requirements (Hassink et al., 2020). Third, a major challenge was to reconcile the wishes of people living in the neighborhood with the goal of involving people with severe mental health issues in the community garden. People living in the neighborhood opposed this initiative as they considered it as their park. They were not in favor of making space for these groups and questioned the legitimacy of the community garden.

Food for Good is an example of a private-physical strategy, where UGS has been reserved for specific target groups. Public-physical mechanisms also played a role in social support act and the changing policies over time. Elements of a community and market discourse are visible in the strategies. In this example, changing ideas about ways to integrate people with mental problems in society are important (market discourse), but also the focus on participation in the neighborhood (community discourse) is visible.

Case Study Green Care: Greening Strategy for People With Dementia

Dementia is an important public health issue in the Netherlands: approximately 270.000 persons currently have dementia and this number is expected to increase to 500,000 in 2040 (Alzheimer Nederland, 2018). There is an increasing interest in the use of outdoor areas for persons with dementia as they offer opportunities for active engagement through gardening or walking (Whear et al., 2014).

We identified two major types of greening strategies for people with dementia living at home (Hassink et al., 2019; De Bruin et al., 2019): 1) Initiatives of care organizations to establish gardens not only for the residential population but also for people with dementia living at home example of (public physical strategy) and 2) Initiatives by social entrepreneurs organizing nature-based activities at pre-existing petting zoos with the main objective of offering an inspiring daily activity for people with dementia example of (private-physical strategy).

There are diverse reasons for developing green care services for people with dementia. The first is dissatisfaction with the current status of the existing garden: in many cases the gardens are not well accessible and were hardly used by persons with dementia. Second, working in natural surroundings is very rewarding for people with dementia. Third, initiating nature-based services fits with the vision of many of the Dutch care organizations. One of the care organizations has many clients with a rural background. Therefore, nature activities have become important components of their daily activities. The fourth reason is the importance of linking care with the neighborhood and making the green space accessible for the neighborhood. Initiatives for nature-based services are appreciated by local governments as it is in line with the general policy that people with dementia should live at home if possible, in a dementia friendly society where day activities are accessible and in the neighborhood.

Green care is considered valuable for people with dementia and their primary caregivers (De Bruin et al., 2019). People with dementia and their caregivers stated that they appreciate nature-based urban services. They appreciate the meaningfulness of activities, engagement with activity, physical activity, social interactions with other people and contact with nature and animals. Primary caregivers appreciate the initiatives for many reasons. The activities enable them to participate more fully in society, that their partners with dementia enjoy going to the nature-based day-care service, which is in turn reassuring for the caregivers.

Despite the positive experiences and political support, green care initiatives face several challenges initiating and sustaining their initiatives (Hassink et al., 2019; De Bruin et al., 2019). A major and general challenge is the scarcity of green spaces, especially in the city centers. Other challenges include finding enough funding for the start-up phase and for the care services. For initiators from care organizations it can be challenging to get support from higher management and colleagues. Some colleagues have no affinity with nature-based activities and are hesitant about additional tasks as they already have a heavy workload. Continuity is also an issue. In many cases initial enthusiasm can dissipate when processes are slow, when the initiator has left, or when new management has been appointed. Finally care organizations do not always have enough knowledge about attractive nature-based activities for people with dementia.

Green care initiatives face the challenge of obtaining a contract with the municipality for funding the daily activities under the social support act (WMO) and of making themselves visible. Social entrepreneurs that use an existing city farm have the advantage that the green facility is already established and that people with dementia can interact with other citizens. It can be challenging however, that the demands of people with dementia (e.g. having access to a quiet place, customized toilet, a well-structured environment) do not always match the demands of the other users and the facilities of the building.

Green care initiatives are an example of a private-physical mechanism, where UGS has been reserved for specific target groups like children (petting zoos) and elderly people in residential care homes. In this case changing ideas about good care (reform discourse), focusing on participation in society (community discourse) and more efficient use of municipality budgets (market discourse) came together and stimulated social entrepreneurs and care institutions for the elderly to the multifunctional use of green space.

Case Study KasKantine; Greening Strategy for Residents in a Deprived Neighborhood

This case study focuses on an initiative, called the KasKantine in the deprived neighborhood Amsterdam Nieuw-West. Amsterdam Nieuw-West was developed in the early sixties. “Light, air and space” was the adage of that time. In the seventies, local housing policies encouraged the middle-class inhabitants to move to new towns around Amsterdam, while the new residents included a relatively large group with an immigration background. The rate of excluded people is higher here than elsewhere as a result of this combination of public housing policy with other socio-economic factors (lower education, high unemployment rates, lack of safety).

In this neighborhood a group of social entrepreneurs have started a not-for profit cooperative, called KasKantine, that they run with a diverse group of local volunteers with different cultural and social-economic backgrounds. Together they are responsible for building and maintaining a mobile restaurant that focusses on urban farming, greenery and circular business. KasKantine aims to create a green environment in which citizens can make healthy, fair and safe choices, and which revitalizes the local economy and creates new activities and jobs.

In 2019, the KasKantine moved to its fourth location in Nieuw-West on an old football field, waiting to be transformed into a new

neighborhood after 2025. Amsterdam is a city characterized by increasing segregation and high land prices. Income, education and opportunities are separated at the neighborhood level along spatial and cultural lines. Additionally, access to UGS differs greatly between neighborhoods. The KasKantine aims to improve the accessibility and quality of the natural surroundings for all types of residents in Nieuw-West. Residents in this area enjoy using the UGS but are not always satisfied with the quality of the greenery (Gan et al., 2017). Accessibility and safety are keywords to increase the quality of the UGS.

The entire building of the Kaskantine is an experiment to create green value that is accessible for everyone in the city. The restaurant is made of shipping containers and a greenhouse and they have a large vegetable garden where they harvest for the restaurant. They also make garden boxes and vertical hanging gardens, in which vegetables are grown. They built a professional kitchen, food storage and toilets all inside the shipping containers. They planted trees and shrubs around the self-made buildings in order to enjoy more greenery amid the concrete office buildings of the area. The building is circular. Off grid energy and water installations enable the mobile restaurant to function on temporary plots where it is difficult to make these facilities. The people involved learn about local resource cycles and how to close them.

The Kaskantine makes greenery, farm plots and circular experiments available and possible for everyone. Social entrepreneur and engineer Houtstra comments on the initiative: "We want citizens to become more like producers and consumers at the same time. That is why we produce and cook food with the neighborhood. We also collect food from local suppliers that would otherwise be thrown away and use it to prepare meals for residents in the area. They can pay for the meals according to their financial means." The shipping containers are used for startups where locals can start small businesses such as a repair shop or a rocket stove workshop.

The "Giving Economy" is one of the important principles that the KasKantine introduces to promote equality in the community. Neighbors are involved in the activities of the KasKantine as an unpaid supplier, co-helper or customer. The local government, supermarkets and real estate owners are asked to participate in this "Giving Economy". The Kaskantine has collected food from restaurants and supermarkets, used roofs for solar panels, and used empty buildings and vacant lots for neighborhood restaurants and the start-ups. (Stuiver, 2020).

Managing resources together on a local level as the KasKantine can be viewed as "commoning". This concept is based on "commons", a traditional term for land that was commonly in use by villagers. Today, in the Netherlands, "commoning" is referred to as a variant of participatory democracy: the "do-democracy". This concept presumes, that people who perform social or economic activities in their direct living environment tend to be more involved in politics than people who merely act as consumers. Many local resources in the urban areas such as land, water and soil, that are now "forgotten" or left unattended can be used as common. These include not only UGS like parks or canals that are not safe or properly managed, but also abandoned buildings, unused rooftops, or building plots that have stood empty for years awaiting major development plans.

Starting from a market discourse, the KasKantine addresses the larger urban issues of sustainability and inclusion from the angle of reform and radical discourse. For example, the people of the KasKantine are lobbying for the introduction of the principle of "commoning" in Amsterdam. The members of the Kaskantine want to get access to these urban spaces that are (in their eyes) not "properly" used. They claim these urban spaces and in this way go against public ideas of property relations. They aim to show that when they exploit these urban green resources, the "profits" flow back to the neighborhood. Then, the space becomes an abundance for the local community and can be shared, for example in the form of a community garden or a cultural center.

They hold that the right of any citizen to a certain amount of UGS is an essential right. They ask the government to see citizens as co-developers and co-producers of the neighborhood. Furthermore they ask the government to change its institutions, to train civil servants to participate in citizens' initiatives, to make experts available to make urban greening plans, to subsidize integrated local projects, and to appoint "green social" workers. They believe that inclusivity can only be realized by power shifts and fundamental changes in institutions such as shifting ownership of urban land and real estate.

CONCLUSION

Having access to Urban Green Space (UGS) or not can contribute to unequal outcomes in health, wealth and overall well-being of urban citizens. In this article we aim to understand the relation between UGS and inclusion for specific underprivileged groups. We introduced four ideal typical mechanisms of inclusion. We studied these mechanisms and their corresponding strategies in three cases (**Table 4**).

The private-physical mechanism covers the strategies of private actors to combat exclusion through interventions in the physical environment. It is aimed at boosting the local economy and involving social entrepreneurs from different cultural backgrounds in greening activities as we saw in the example of Food for Good, a community garden for people with a distance to the labor market. This can be important because local businesses contribute to all aspects of more inclusive neighborhoods: jobs, safety, local networks, and so on. For instance, by combining more UGS with more opportunities for social entrepreneurs, as is shown by several examples of urban agriculture in the United States (Kaufman and Bailkey, 2000) both the local economy and the access to nature are improved. This is especially important for disadvantaged neighborhoods, where people are often limited in their power to take the initiative. It also shows that when private actors work on UGS, the value of UGS becomes more articulated and narrated among a larger group of people from different cultural backgrounds. All our three cases were an example of this private-physical mechanism: they are initiated by private organizations or social entrepreneurs, and make use of opportunities in the physical environment.

The public-physical mechanism is used in strategies by public actors to combat exclusion through interventions in the built and natural environment. This relates to equitable urban planning by city's governments: zoning, social housing, infrastructure, transport facilities, health facilities, etc. The public-physical mechanism also includes the quality of UGS in public

TABLE 4 | Mechanisms and discourses in three cases.

	Food for good	Green care farm	"Kaskantine"
Mechanisms involved	Started as a private-physical mechanism with more and more support in the public domain	Mainly private physical mechanism. At a later stage supported by policies: Public-physical machnism	Private physical and private societal. Pressure on politics to accept the experiment as a public-physical measure
Discourses that can be recognized	Discourse coalition between ideas about ways to integrate people with mental problems in society are important (market discourse) and ideas about participation in the neighborhood (community discourse)	Discourse coalition between care (reform discourse), participation in society (community discourse) and more efficient use of municipality budgets (market discourse)	A market discourse which evolved more and more into a radical discourse

greening strategies. Quality implies the access to parks and gardens that are safe at day and night, affordable for all, according to cultural wishes of the different groups that participate. At least, planners need to involve people that represent these different cultural aspects and interpretations of UGS in any discussion on the quality of UGS. In the three cases the originally private initiatives using UGS, were more and more supported by local governments and became intertwined with public greening strategies.

The private-societal mechanism is applied by actors through strategies to overcome the prejudices on the (un)suitability of excluded groups. Inclusion is also a cultural process where people learn the benefits of working together towards a common goal and where cultural differences and qualities are embraced, not minimized. The cases show that this can be combined well with a private-phycal strategy, where an existing green space is However, the used for specific vulnerable groups and social entrepreneurs. Cases of Green Care and Food also show how residents of a neighborhood oppose the opening of UGS to excluded groups as they consider it as their green space. In this way, physical measures to promote inclusion can lead in some cases to societal tensions between different social groups.

Strategies based on the public-societal mechanism include a wide range of activities of governments and large public organizations. For instance, residents that suffer from motivational problems caused by unemployment or poor health can benefit from participating in nature-based activities organised by public organisations.

However, in the practice of the three cases, the public-societal and public-physical mechanisms based strategies by public actors did not appear to be well matched. These two mechanisms concern topics that are covered by different public organizations with a different way of working and thinking (e.g. a health service and a park management service). Public-societal and public-physical mechanisms are therefore not easily combined in one strategy, while a combined strategy is likely to be a strong contribution to promoting inclusion. Successful approaches require cooperation in a multidisciplinary team of e.g. health and nature professionals.

Three case studies, Food for Good, Green Care and KasKantine, express different discourses to achieve more inclusion through greening strategies in cities, communities and neighborhoods. In all three case studies UGS play a role, but this role differs greatly. Food for Good and the Green Care were based on a community discourse. UGS is a means of actively combatting exclusion in the neighborhood and in society. In the case of the KasKantine and Food for Good also the market discourse on combatting exclusion is important. UGS plays a role as the scenery in which new opportunities for people to enter the labour market are experimented with. However, the reform and radical discourses are also reflected in the case of the KasKantine and Food for Good. They focus on the availability and access to UGS as a valuable resource for all people in the neighborhood and address that existing policies on health and UGS need to change in order to enable inclusion of deprived groups.

Taken together, these observations attest to the importance of combining the public-private and the societal-physical mechanisms. There is a need for mutual cooperation between local governments, social entrepreneurs and citizens, as well as a local urban environmental policy aimed at well-zoned provision of UGSs. Using spaces that are already tied up in a web of market parties, formal institutions and public expectations is not always the easiest way to develop new urban green practices of inclusion. A major point of concern is the high pressure on UGS. In many cities not enough UGS of a good quality is available or UGS is not publicly accessible. A better cooperation between public and private actors such as (property owners) can contribute to more availability of unsafe or unproperly managed public space. These spaces have great potential for (temporary) use by the local communities if access to these plots has been secured. One way to organize this is through commoning, in which public space that is not privately owned can be used by the residents of the neighborhoods that manage the land for urban farming, green recreation and leisure. Experimenting with new governance principles such as commoning can contribute to more inclusion. Finally, it is recommended to local governments to refocus on their own land and public properties for their inclusion policies. Starting with allocating their own UGS for equity purposes will bring them one step closer to building inclusive neighboorhoods and communites for all residents.

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WH and JH developed the idea, outline and main text for this article. MS contributed with valuable comments and text additions. The article was finalized in close collaboration

among the three authors. All authors contributed to the article and approved the submitted version.

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