Urban facility management

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Abstract

Purpose – This paper aims to illustrate where facility management (FM) is having an impact on the urban environment and what other work needs to be done to easier facilitate achievement of the sustainable development goals (SDGs). This is important for practices as it highlights opportunities where the FM discipline can develop and to research to illustrate where the discipline is going. The societal benefit is that we see Urban FM as an intermediator between citizens, public and private practices providing the platform of how they can work together for mutual benefit.

Design/methodology/approach – The method used is a literature review, looking latest state-of-art in the mentioned field has been assessed and the developments along with potential future research focuses, have been identified. The current scope to expand FM role were also taken into consideration from a recent workshop at the EuroFM conferences 2019 and 2020, several presentations at the CIB World Congress Hong Kong 2019, CIRRE 2018 and 2019, and special Facilities' issue, illustrating how FM works within Urban environments and the potential contribution the discipline makes on neighbourhoods, communities and broader city-scale.

Findings – The authors present how FM fits in with a Smart and Sustainable City context by positioning communities as core for meeting SDGs, but they often fall out of needs perspective for hard and soft services. Since 2018, the authors have intensely worked on this topic developing conference papers at both a European and international level. The topic of Urban FM is growing in importance based on out interactions at these conferences and interactions with FM network groups. In addition, the authors have been identifying gaps, with communities that are currently not being met by current urban practice perspectives but could be met through an Urban FM practice perspective. They have engaged an educational perspective of Urban FM by developing workshops, summer schools with students from around Europe and new courses. With a specific focus on this concept, it is important to branch out ideas and disseminate of what a more structured urban FM is.

Research limitations/implications – Smart and Sustainable Cities has been a focus for many years now from various perspectives such as urban planning and technology providing solutions and frameworks on how to manage increasing populations in cities. What these studies neglect is a service-oriented perspective supporting the livability requirements and social values of future and current communities living in cities which goes beyond operating and maintaining infrastructure of cities. This neglect which highlights the need to develop an understanding where FM expands its role in the urban environment.

Originality/value – The aim is to highlight solidify research that is happening in this area where FM links to the urban environment and the benefit it has in terms of sustainability. It illustrates to practice and teaching that the concept of FM is relevant within an urban environment, creates stronger

connections within and between citizens and cities and illustrate how Urban FM is necessary in facilitating community facilities.

Introduction

Over the past two decades, several initiatives have been successfully carried out according to the first principle of Rio Declaration on Environment and Development (1992), in which it is stated that human beings are at the centre of concerns for sustainable development and that people are entitled to a healthy and productive life in harmony with nature. Cities pose significant challenges to the intent of the declaration, as cities are estimated to produce the highest amount of global emissions of greenhouse gases (Hughes *et al.*, 2018). From an urban perspective, many cities have initiated successful projects regarding sustainable development. Still, there is a huge potential of refurbishment of existing buildings. The Buildings Performance Institute Europe emphasis that 97.4% of the building stock is currently not in the energy performance A class and should therefore be upgraded. For that, a sustainable refurbishment concept is established to reduce environmental footprint, based on maximizing the building's economic performance by improving the indicators, such as technical condition, usability situation, adaptability and indoor climate (Almås *et al.*, 2011).

Different program funding calls, emphasize the fact that much of the knowledge is not accessible to potential users and is not easily implemented. Lindkvist *et al.* (2014) stated that implementation of new solutions should not be hindered by barriers such as institutional, e.g. standards, regulations, installations and procurement; social: the resistance of organizations and individuals to accept new ways of doing things; financial: typical business models not easily adapted to implement social innovations, or insufficient possibilities for scaling up innovations.

Urban FM, as an extension to community facilities and systems to provide a platform for agencies and the private sector in new and innovative settings for the benefit of local communities, has the potential to become an active and valuable partner for facilitating livable areas, with the focus on health and well-being, which strongly includes focus on SDG *3 Good Health* and *11 Sustainable Cities and Communities* (Lindkvist *et al.*, 2020). In a Facilities special issue of Urban Facility Management by Temeljotov Salaj and Lindkvist (2020), the editorial highlights the aim of issue to link urban FM to the smart and sustainable city approach, benefiting it in terms of sustainability and local communities.

The main idea of Urban FM is to improve the quality of the physical environment; create employment opportunities and ensure inclusivity of communities in design and management of services in the urban environment. The deterioration of physical place relates to the absence of self-organization of neighbourhood residents, leading to tensions between societal groups (among citizens), but also between citizens and government or citizens and other institutions (Kuijlenburg, 2019). Being in close relationship with citizens, Urban FM can also create an effective, collaborative and interactive governance for co-creation, co-finance and co-ownership of urban public spaces to improve citizens' sense of attachment, commitment, trust, inclusion and integration (Temeljotov Salaj *et al.*, 2020).

Technological developments and increased attention to maintain existing buildings as well as the challenges of including social value in communities highlights the role of Urban FM to ensure connectivity across these areas which is currently being neglected in urban thinking. While studies highlight the complexity of cities and their multiple

dimensional aspects in light of sustainability necessarily means a cross-disciplinary approach (Dixon *et al.*, 2014) but also requires an intermediary (actor or process) to bring multiple dimensions together (Lindkvist *et al.*, 2019a). Jensen *et al.* (2013) indicated that the success of a collaborative relationship leads to the success of value delivering to the stakeholders. Jensen (2020) identified typical sourcing strategies and business models in facilities management (FM) and map archetypes of value chains with complementary sourcing strategies and value chains. Integrating the sustainability issues in design better meets the users' needs (Zileska *et al.*, 2017). Global citizenship calls for an active role from people in their community and the cooperation with others to make our planet more equal, fair and sustainable, what could be seen from FM side how to contribute to their awareness of social issues at neighbourhood (Kuijlenburg, 2019). Urban FM is an intermediary discipline that closes the gap in urban thinking.

FM alignment with community facilities responds to the increasing costs and neglect of operating facilities and associated services. The built environment is often focused on the technical aspects as non-technical dimensions are more disruptive (Lindkvist, ZenN project team (Various organisations), 2017) resulting in projects that meet technical requirements but not livability requirements. The reduced focus on livability issues for communities' disregards that to create social value, human activity needs to be center (Bjørberg *et al.*, 2019). Working with communities through a value-driven approach could lead to a mutual drive of developing solutions that meet their community needs as well as link to sustainable goals and business opportunities (Temeljotov Salaj *et al.*, 2015). Comprehensive research shows that development of urban areas must be linked more closely to an understanding of the development of economic sustainability because of social improvements. Better understanding of environment and citizen needs is a key to increase their motivation toward technical solutions such as life cycle planning and early design for the long user phase (Temeljotov Salaj, 2005; Boge and Salaj, 2017).

The backlog of maintenance has a significant influence on the environment, both indoor as well as outdoor, which will affect the users of the buildings regarding health, safety, social and environment experience. The use of data can prove a useful resource for improving maintenance of cities and well-being as illustrated via the Multimap tool (Bjørberg *et al.*, 2017). Spatial interventions from its design and accessibility point of view are very important to improve citizens health and well-being (Mobach, 2019). In addition, there are potential for using different databases for the management of cities for ensuring adaptable and multi-functionality use of buildings within communities and neighbourhoods that is currently under explored (Lindkvist *et al.*, 2019b). However, these aspects are still under-developed for reasons linked to governance structures that limit the scope of possibility.

Cities can become "sustainable heroes" by focusing on sustainable integration and governance structures, accounting for both the strategic and operational outlooks of the city. There are opportunities to develop more sustainable cities through incorporation of an Urban FM but contextualizing in the European Commission (2019), which lays out the EU Commission's strategy to implement the United Nation's 2030 Agenda and sustainable development goals.

> It takes 25 years – a generation – to transform an industrial sector and all value chains, to be ready in 2050, decisions and action need to be taken in the next five years (European Commission, 2019, p. 7)

Urban FM can aid in the acceleration laid out in the European Green Deal by facilitating in its goal of a "renovation wave" of public and private buildings through the engagement of diverse stakeholders; identifying initiatives that combine societal pull and technology push

in local communities to work towards a sustainable future and support the oath "to do no harm" through development of action and policies to pull together.

To better relate FM to urban development multi-sector partnership, the uniqueness in terms of the urban setting on the aims of the partnership should be understood. In other sectors, multi-sector partnerships could be completely profit-oriented or focused on an innovation breakthrough (Zhao *et al.*, 2012; Roumboutsos *et al.*, 2017), whereas in urban development, it could be focused on creating public value or enabling the sustainability transition (Salaj *et al.*, 2011; Williems *et al.*, 2017; Salaj *et al.*, 2018). Multi-sector partnerships for different purposes could have differences in their internal properties that influence the aims and choice of partners, based on the importance of the organizational environment of the city for carrying out the object or process (Dubben and Williams, 2009). Internal properties also address a culture of political decision-making in the city, e.g. hierarchizing decision-making on urban matters that go beyond just the urban or urbanized part of the territory (Hueskes *et al.*, 2017; Gohari *et al.*, 2020). Xue *et al.* (2020) classified multi-sector partnerships into five modes, namely, multi-stakeholder partnerships, community-organizational partnerships, end-user-oriented partnerships, public–private partnerships (PPP) and public–private–people partnerships (PPPP). They concluded that PPPP is seen as efficient model, but it is currently underdeveloped in both theory and application, and for that the barriers need to be fully identified, an efficient engagement approach is needed, and a cooperation model should be designed.

The design of the built environment requires facilitation and the common denominator of such arrangement in the current situation is that it often provides commercial interest, and in many cases, do not get the community to take part in the value added. The value added is asymmetric and prevents desirable development when community's incentives to facilitation is limited by resource shortages (Bogataj *et al.*, 2015; Rogelj, 2019). In this context, there is a necessity to monitor governance approaches, both top-down and bottom-up, to create solutions to meet the desired outcomes of the different interest groups who impact on the management of the city (Lindkvist *et al.*, 2018). Communities should be provided with opportunities to provide input on how their community is developed and maintained, but the uniqueness of their requirements can be many and difficult to measure for monitoring purposes as well as compare on regional and national levels.

Cities are made up of a complex set of organizations and stakeholders who are the decision makers of cities, but they are often obscure and the distinction of who the stakeholders are is less obvious (Nielsen *et al.*, 2019). Organizations provide a clear remit to FM providing services to meet their core needs, which is not the case in cities. The approach appears much more divided amongst city departments responsible for waste and cleaning, infrastructure, etc. The goals set at the strategic level within municipal goals and political agendas seem diluted across the operational departmental responsible for the city's operation and maintenance. Indeed, cities reflect a complexity when changes are introduced which are co-evolutionary and non-linear incorporating a range of actors and networks operating over long timescales (Dixon *et al.*, 2014).

Current governance structures are unable to cope with the need to respond to climate change challenges and collaboration across communities of neighbourhoods would enable solutions to challenges to be coordinated. There is a need to consider "Governance" in terms of structures and processes by which people in societies make decisions and share power, creating the conditions for ordered rule and collective action, or institutions of social coordination (Schultz *et al.*, 2015; Gohari *et al.*, 2020). Developing a system of governance that enables coordination, negotiation and collaboration across communities, neighbourhoods and districts in cities as well as

across sectors and institutional levels, allowing issues to be addressed in a holistic manner. The disconnection of governance structures currently limits the potential on how FM can contribute to service management in smart cities. There is a need to have close relationships with citizens, Urban FM can create an effective, collaborative and interactive governance for co-creation, co-finance and co-ownership of urban public spaces to improve citizens' sense of attachment, commitment, trust, inclusion and integration.

Therefore, current knowledge areas of FM on strategic, tactical and operational level need to be enlarged with:

- urban planning;
- data modelling;
- business models such as PPPP;
- financial and multi-criterion optimization models;
- social infrastructure in dynamic development;
- forecasting methods;
- demographic models;
- communication methods;
- spatial statistical methods; and
- visualization methods.

For that new methods and tools need to be developed, based on the theories of:

- value orientation;
- sustainability;
- motivation of owners and users;
- community engagement; and
- behavioural changes.

Contributions to urban facilities management

The latest articles deal with some of these areas, but the outcome is that we are currently scratching the surface as Urban FM perspective has much more potential to impact on Smart Sustainable Cities than it is currently doing. The following sections specify how articles contribute to expanding current thinking of Urban FM to meet some of the goals of SDGs within the areas of *Community of Neighbourhoods, Health and Well-Being and Digitalization.*

Communities of neighbourhoods

The FM discipline is established at the organizational level and it is far from obvious how skills of maintaining and delivering services to individual organizations are transferable to the neighbourhood scale. Core business is often referred to when developing hard and soft services for an organization, this is how facilities managers develop a strategy to support the core business of an organization. Urban FM thinking needs to reconsider what is core in a neighbourhood or community or to consider neighbourhoods in terms of shared values. However, this assumes that people living in the same building block or area are a community and have shared values.

The social space of the city is the frame within which experience is acquired by interactions with other people, i.e. through social relationships (Đukić and Vukmirovic, 2012a). Almahmoud and Doloi (2015) suggested an assessment framework for the evaluation of construction project's contributions to social sustainability, developed as a model of seven social core functions of construction project, their evaluation criteria and linked to the stakeholders' communities. For them communities are divided to the user's community, the industry community and the neighbourhood community, who shares the built environment with the new project. The social sustainability attributes in construction sector, statistically extracted are health and physical comfort, accessibility, integration, economy and participation (Almahmoud and Doloi, 2020). Neighbourhoods are important environments where the user's positive experience integrate into the community, and positive attitudes towards others are encouraged, in terms of trust, safety, confidence and social status (Grum and Kobal Grum, 2020). Zinoski and Kolevska (2017) see that hybrid or disparate program integration in architecture offers one of the possibilities for social sustainability, especially focused on more flexible and transformative architectural and urban concepts to encourage coexistence and offer possibilities for chance, unexpected relationships and non-programmed situations, which are the key to the improvement and establishment of the social relations.

Grum and Kobal Grum (2015) emphasized how physical and mental health are related to the physical and built environment, so for them the quality social infrastructure leads to the general quality of life. The interaction with the environment forms an overall experience and perception of the city. Citizens would face a better quality and a broader choice of contents and space by establishing the adequate rhythm, transparency and attractiveness of facades on ground floors of buildings, thus leading to greater use of open city space (Đukić and Vukmirovic, 2012b). The competences of urban planners should be extended to understand the citizens' needs (Temeljotov Salaj *et al.*, 2010). The potential of a placemaking approach is in the process of improving the quality of public spaces and the possibilities of its application within facilities management. The special value of the concept relates to the ease of involvement and motivation of all stakeholders to clearly state their proposals and needs, based on tools they understand (Vukmirovic and Gavrilović, 2020). Temeljotov Salaj *et al.* (2020) contributes to urban FM to improvement of the quality of life for the citizens by stimulating and facilitating their synergistic participation in innovation processes.

Pedagogical benefits for students in participatory action research projects are distinctive versus academic because of the direct involvement in the process where people create new knowledge and meaning (Zinoski and Kolevska, 2017). This process gives the opportunity for students to develop practical tools to delve into local culture and value systems of community life (Zinoski, 2020). The study set out with the aim to establish sustainability definition specific to the case study, i.e. based on the notion of the ability of future generations to meet their own needs. The management of the project described in participatory activities attempted to resolve complexity of stakeholder positions in a contemporary community. Emphasizing the social content, the general and specific objectives of the project interacts and evolves during the process of implementing a sustainable methodology and becomes the subject of negotiations and compromises, which change during the process. Kuijlenburg (2020) highlights a successful model of dispatching FM students into the city to conduct small-scale, applied research on urban FM. It provided data on changing neighbourhoods resulting in numerous small-scale improvements with which the quality of urban life is improved and contributed to a better understanding of urban facility management. Urban FM workshop in Trondheim illustrates the potential of learning through evidence-based research, so students could learn and experience the

challenges and requirements of the real citizen participation through a focus on
sustainability practices (Temeljotov Salaj *et al.*, 2020).

Questions of interest in these articles identify clear tools that communities can access
whether online platforms or more analogue forms. This has become more important to have
clear line of contact to people within local areas, particularly illustrated through the need for
a service-oriented approach to communities during the COVID-19 pandemic. Services such
as social contact via social media or having access for a volunteer service to deliver food to
those who cannot leave the house has been highlighted as a crucial lifeline for vulnerable
communities in this pandemic.

Different methods and tools useful for engaging or involving citizens to the design or
creative processes, such as the following:

(1) Social sustainability framework, created by Grum and Kobal Grum (2020), seeks to
portray social sustainability as a link between social, economic and environmental
aspects. Social sustainability is proposed to be measured through socially oriented
practices to address social issues and to manage the risks of uneven development of
social infrastructure and the unsocial patterns of housing policy. The comprehensive
approach targets individual and social capacity, all-around participation, quality of life
and well-being.

(2) Placemaking people-centered approach with share group of qualities (Vukmirovic
and Gavrilović, 2020):

• access and linkages – how well a place is connected to its surroundings both
visually and physically);

• uses and activities – to define the place in the way it will give the reasons for
people to go there and to always want to return;

• comfort and image – how often the place would be used; and

• sociability – quality of placemaking as people feel more comfortable in the
space when interacting with friends or strangers.

(3) The interactive Facebook tool (Temeljotov Salaj *et al.*, 2020) shows a real
inclusiveness and complete democracy by involving and informing users/citizens
before starting the process of co-design. In addition, through continuously co-
designing processes, a stronger collaborative network develops, in which FM,
academia, citizens, decision-makers and other stakeholders share knowledge, skills
and responsibilities.

Health and well-being
To holistically approach the co-designing and co-creating of social sustainable spaces, the
contribution to health and well-being is important, from both physical causes and symptoms of
poor health, and the social, economic and environmental components of individual-,
community- and overall well-being. Due to close connection with the citizens and community,
urban FM can focus on facilitating behavioural changes of citizens towards a healthier lifestyle.
With community-based participation and collaborative governance processes, the co-creation
processes capitalize on a local community's assets, capital, inspiration and potential, resulting
in the creation of quality public spaces that contribute to people's health, happiness and well-
being, and thereby to the community's resilience and sustainability. For example, good open
public spaces can be considered as "fortifications" that defend their users from noise, polluted
air, negative aspects of the microclimate and as "providers" of positive sensory experiences

(Vukmirovic *et al.*, 2019). Currently, there is no holistic approach towards health and well-being that considers, measures and integrates different indicators of physical, psychological, community, social-economic and environmental health.

Previous work illustrates that spatial interventions from its design and accessibility point of view, are very important to improve citizens health and well-being (Mobach, 2019), especially from the perspectives of healthy buildings, accessibility, services to the vulnerable, preventing vulnerable people from being isolated. Nijkamp *et al.* (2018) suggested arts and crafts to encourage creative collaboration between residents and artists to enhance better social inclusion of poor people. Nijkamp and Mobach (2020) introduce an analogy between urban design and facility design and explores whether health-directed design interventions in cities and facilities are related and whether there are applicable cross-overs and emerging new research areas that are of interest for the expansion of facility management (FM) profession on the urban level. Involving FM in urban planning is seen from their perspective as a promising sector to make a difference and contribute to a healthier and more inclusive society. They introduce possible opportunities for urban planners and facility managers from market perspective, importance of incorporating FM sector early in the urban design process, possible contribution to the attractivity and safety of the neighbourhood and tailor-making home services for older people.

Furthermore, while social- cultural impact of inclusive, multi-cultural and multi-functional spaces are already acknowledged as a major contribution to health and well-being, the Urban FM can go further in linking these aspects to the urban context. The social ambition to position public spaces at the heart of action-oriented community dialog, reframe-orientate societal lifestyles, revitalize citizenship and co-create the culture of community partnership as an on-going, creative collaboration between different groups of society, to create equity and social inclusion.

Digitalization and urban facilities management

The use of digital data on FM services on a city scale increases the scope of Urban FM scaling up services traditionally linked to the singular organizational/building scale to the city scale. Technological developments in terms of sustainability create linkages between buildings and districts. For example, the energy management of Plus Energy Building crosses over different buildings requiring flexibility to cater for peak and off-peak periods of different individual organizations. Currently, there is little consideration of how the management of facilities is done when buildings share resources amongst disconnected organizations as well as impact on the resources within the surrounding areas. This is becoming more important through the development of smart buildings and digital twins as data mining into relationships across other buildings who do not form part of the same organization but could inform on the quality of facilities within their district. The potential to optimize on information is facilitated through a growth in size of data bases which has been facilitated through systems where large volume of information from a diverse customer population can be used for different types of businesses.

Some studies illustrate the potential impact of digitalization for Urban FM. The signage case from Iftikhar *et al.* (2020) examine the complexity in spatial layout which contributes to developing culturally based consistent textual and graphical information and intuitively directs navigators to their desired location. In Trondheim's study, digital solutions were created to ease the communication and involvement of residents (Temeljotov Salaj *et al.*, 2020). In Belgrade's study, six maps were produced by using Kernel density estimation to represent different user group's opinions, positive and negative preferences about the place

and cumulative emotional mapping results, based on the principle of clustering the obtained data (Vukmirovic and Gavrilović, 2020).

As buildings become linked, questions arise on how agreements are developed between organizations that have connectivity, as is possible with Smart Buildings that link to the activities of the wider district. In addition, this connectivity can also lead in developing trends of maintenance activities, but also developing new services such as optimizing space in the cities for building that can have multi-functions such as restaurants that are empty in the day for workspace. The role of data and scope for new business opportunities introduce ways in which Urban FM can be the catalyst for new city services.

Conclusions

Urban FM is expanding the discipline of FM into the complex field of the urban in responding to communities' and neighbourhood's needs and facilitating their shared values. FM has always been present in urban areas in maintaining and operating the physical infrastructure of the environment, but urban FM creates new opportunities within the discipline to be an intermediator between public, private and people. When we take the neighbourhood context, where activities reflect a diversity of interests and needs, there is no coordinating body to link activities. In terms of team competence in planning of developments and renovation, users are essential but are often identified under the umbrella term of "citizen". However, this lacks clear identification of who the user is, where an FM outlook can have a more targeted perspectives identifying;

- the organization or community (core business/cultural characteristic);
- workers/residents in the community;
- facility managers personnel; and
- visitors.

Lack of understanding of this connection leads to cities and towns who, to a far lesser extent, have a reduced ability to create value for the citizens, business and society. A good society requires good buildings and towns that function over time to the lowest possible use of resources. Connection between the design of the built environment, the quality of life of individuals, the social structure of society and business development are closely linked together. Urban FM approach addresses the challenges by acting an intermediator between diverse stakeholder interests in the built environment and ensuring social value is embedded in with economic and environmental concerns.

Developing better maintained buildings and spaces between, can improve the well-being of citizens as well as create new opportunities through Smart FM approaches on a city scale. However, as we have indicated Urban FM is an underused approach that can make the linkages of business, community needs and sustainable goals through the coordination of key players and data sources. We see further research in this area to examine Urban FM in terms of well-being and the development of new business model in approaches to taking care of buildings, campuses and urban areas in neighbourhoods and communities. Such research must also consider the application of Urban FM in a practice-based perspective by assessing all types of conditions to make long- and short-term plans. The digitalization of services on a city scale is still underused, though there are indications of its impact related to FM within a Smart City vision (Lindkvist *et al.*, 2019c). However, current examples are *ad hoc* and requires further connectivity to municipality to aid in reaching targets of the Sustainable Development Goals. Old governance structures which limit prioritizing the longevity of community well-being needs to be re-addressed so 2050 ambitions can be achieved. Communicative tools need further

exploration as indicated for developing understandings of what people need from the area, they are living in. Such tools are important for mapping technical conditions as a base for estimation of maintenance backlog in municipal portfolios of single buildings and urban areas, i.e. all space between buildings (parks, roads, etc.). In additions such communication tools do need to be done within the wider scope of combining quality interaction between economy; environment and the social aspects to obtain well-being in communities.

This paper was developed during the COVID-19 pandemic, which to a degree highlighted the need for Urban FM. Those who often came under the umbrella term of "frontline workers" were those who worked within services providing a lifeline people isolating themselves in their homes and, in some countries, to vulnerable people not allowed to leave their homes for a long period.

These frontline workers were essential to all communities during the lockdown of COVID-19 in need of support to getting access to services such as delivery of medication or food. It is clear further work within Urban FM should consider pandemics or emergency situations in which communities need a fast response rate to services ensuring they are not forgotten or abandoned. Urban FM aims to provide integrated deliveries such as flexible solutions, well maintained and adaptable buildings, activities/services for space between buildings as well as being service oriented towards the customers satisfaction and needs comprising a combination of socio-technical skills. With this, requires a relook of the "business as usual" business models that primarily reflect the interests of a few stakeholders rather than the many who are impacted by their results. The overall relationship with all stakeholders in PPPP (Public, Private, People, Partnership) will make the greatest contribution to achieving the climate goals as defined by the 2015 climate agreement (Xue et al., 2020). However, such models are currently underused, and success stories are not spread widely enough for take-up in other communities. The area of Urban FM is growing in importance as illustrated by the articles, but needs further focus in practice, research and education to have a broader impact on having an effect on the SDGs and pandemic/emergency situations.

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