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29 Approaches to sustainable urban redevelopment in the Netherlands

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Abstract

Consensus on effective strategies and partnerships for delivering sustainable urban redevelopment projects in the Netherlands has yet to be reached. Although there is growing expectance of developing real estate in compliance with BREEAM certifications, it seems that scaling up such projects to an urban area level, taking into account far more complex social, environmental and economic issues, is one bridge too far. However, climate-adaptive and circular urban development projects are some examples of how sustainability is taking foothold in Dutch practice. This chapter explores two broad development approaches and corresponding development strategies for sustainable urban redevelopment. It compares promising and contrasting Dutch case studies in Rotterdam and Amsterdam, which serve as examples to understand how sustainable urban areas can be possibly delivered by developing formal and informal public-private relationships.

29.0 Introduction

Spatial planning and real estate development in the Netherlands is based on a strong tradition of utilising land in an efficient way and creating a well-structured built environment. By making use of a comprehensive integrated approach to planning (Dühr et al., 2010), decisions on building new spatial infrastructures have always been based on a very coordinated way of working between layers of government bodies. On a more operational level, the Dutch have become known for their cooperative way of developing urban areas within cities by public and private actors, named integrated urban area development (Bruil et al., 2004). This development approach is characterised by mixed use real estate and infrastructure development aimed at delivering places of high spatial and design quality. However, some authors argue that such coordinative planning doctrine is diminishing in The Netherlands (Roodbol-Mekkes et al., 2012), because of social-economic, political and financial reasons that point into the direction of a reduced influence of government institutions in spatial decision-making and urban development in general.

Especially, since the start of the GFC in 2008, it has become apparent that the Dutch municipal active land development policies impose too much financial risks on local authorities and this has created the need for alternative development strategies (Van der Krabben and Heurkens, 2015). These development strategies have put the private sector (i.e. developers, investors) in the lead in developing urban areas, with a more facilitating role for municipalities (Heurkens, 2012; Heurkens, 2013; Heurkens and Hobma, 2014; Heurkens et al., 2015). Others (Buitelaar et al., 2012) indicate that local communities and entrepreneurs are more likely to play an important role in urban development. Within such a changing cooperative context for urban development, simultaneously there are debates about how to develop Dutch cities, urban areas and real estate in a more sustainable manner as it is vulnerable to climate change and resource scarcity.

This chapter will shed light on the ways the Dutch conceive of, organise and practice sustainable urban (re)development. We do so first by explaining some indicators and concepts of sustainable urban and real estate (re)development applicable to Dutch practice. This is followed by sections on development strategies and partnership models that are in place in the Netherlands to achieve sustainable urban areas. To illustrate the various approaches of realising sustainable urban (re)development – that is economic-viable, social-responsible, and environmental-friendly places (Heurkens, 2016) – two contemporary quite contrasting case studies in Rotterdam and Amsterdam are discussed. Finally, we conclude with some major implications of these findings for Dutch and international practices of sustainable urban real estate (re)development.

29.1 Sustainable urban and real estate (re)development

The Dutch Green Building Council (DGBC) issues BREEAM certificates for sustainable buildings similar to other countries across the globe. As a network organisation it works together with participants in multiple projects on making the built environment sustainable (DGBC, 2016). DGBC uses various assessment tools such as BREAAM-NL New-Build, BREAAM-NL In-Use, BREEAM-NL Demolition and Deconstruction, and BREEAM-NL Urban Areas to make distinctions between buildings, materials and urban development. Over the last decennium DGBC has issued numerous BREEAM certificates issued for the first three buildings and materials categories (BREEAM-NL, 2016a). However, a quick glance at the BREEAM-NL Urban Areas illustrates there are just five certified projects registered (BREAAM-NL, 2016b). Moreover, these urban development projects are mainly industrial or office parks, and not inner-city brownfield mixed-use (re)development projects which are more complex in nature and also quite numerous in Dutch practice. Based on the assumption that certifying such urban development projects is preferable for bench-marking and achieving sustainable neighbourhoods, the question remains; to what extent do the Dutch deliver sustainable urban (re)developments?

Looking beyond such certifications, different perceptions exist in Dutch urban area development practice about what is conceived as sustainable urban (re)development. According to Puylaert and Werksma (2011), sustainable urban development links spatial quality to aspects of people, planet and profit, which adds value to all stakeholders involved and society as a whole now and in the future. Puylaert and Werksma (2011) further argue that sustainable urban development can be achieved by focusing spatial interventions on ten aspects such as: soil, water, urban green, nature and landscape, energy, mobility and transport, health and safety, heritage and identity, transformation and redevelopment, economic vitality, process and programmatic flexibility, and social vitality. Despite the fact that such aspects are of importance and recognised by public and private stakeholders to achieve sustainable urban areas, empirical projects might just focus on certain aspects and therefore not be considered as sustainable.

Steen (2016, p. 20) argues that the 'underlying problem in [Dutch] practice is that there is uncertainty in the field of urban area development on how to develop sustainable mixed-use urban areas, both in terms of product (what to develop) and process (how to develop it).' Buskens (2016) adds that these multiple conceptions make it harder to identify whether development projects are truly sustainable. Based on a survey amongst Dutch urban (re)development professionals, interviews and literature reviews, Buskens (2016) concludes that there seem to be several reasons and obstacles present in Dutch practice that limit the delivery of sustainable urban (re)development projects, including:

- Sustainability is mainly driven by municipalities

- Primary focus on environmental aspects of sustainability
- Sustainability discussion focuses on real estate building levels
- Lack of incentives for developers to commit to sustainable urban development
- Focus on sustainability is relatively new for developers
- Approaches to sustainability are reactive instead of proactive

These findings imply that institutional conditions for realising sustainable urban (re)development seem far from optimal (Heurkens, 2016). Despite the reputation of Dutch urban development practice as being able to realise comprehensive high quality urban areas and real estate Buskens and Heurkens (2016) therefore argue that opportunities are missed by the development industry and municipalities to make sustainable urban redevelopment common practice and a focal point of spatial decisions and organisational commitment. Haak and Heurkens (2015) have also indicated that the Dutch building sector is amongst the least innovative in the country and relatively slowly changes their ways of working and products into more sustainable variants. The following sections elaborate on two broad development approaches and subsequent development strategies that can be used to develop urban areas in the Netherlands a more sustainable manner.

29.2 Dutch urban development approaches

The Dutch practice of urban redevelopment has witnessed some changes in terms of prevailing development approaches over the last two decades. Buitelaar et al. (2012) have introduced a useful categorisation of urban development approaches currently present in Dutch practice (see table 29.1), which are elaborated on hereinafter:

- Integrated urban development
- Organic urban development

Table 29.1 Development approaches in the Netherlands (based on Buitelaar et al., 2012)

	Integrated urban development	Organic urban development
Approach	At once	Gradually
Scale of development	Large	Small
Type of management	Project management	Process management
Plan type	Blueprint	Strategic
Type of developer	Large developers	Small developers & individuals
Role of local authority	Active & risk prone	Facilitative
Development and management	Sequential	Mixed

As early as the beginning of the millennium, Bruil et al. (2004) indicated that a so-called Dutch form of 'urban area development' came to existence, which is known for its integrated comprehensive approach towards urban and real estate development. This, among other things, involves linking public and private interests, joining up spatial issues across different scales, financing infrastructure through real estate development revenues, and linking various professional disciplines. The integrated development approach has been used extensively as a basis for decisions on greenfield development, as well as brownfield redevelopment projects with a mixed-use function emphasis. According to Franzen et al. (2011) this integrated development approach can be considered as quite complex which brings forward the need for professional public and private actors organising and

managing urban (re)development processes in a mere 'top-down' manner. Due to its complex comprehensive nature this integrated urban development strategy came under pressure during the financial crisis from 2008 onwards. This event caused actors to be more risk adverse in real estate investment and development, and to down-scale development activity and to re-schedule development phasing to realistic market uptake estimates.

More recently, Buitelaar et al. (2012) have argued that integrated urban development is gradually being replaced by a more 'bottom-up' organic urban development approach. Organic urban development is more gradually phased over time and involves starting a variety of separate real estate developments where and whenever there is demand for it. In addition, the scale of development is rather small with real estate (re)development on a plot by plot basis rather than large scale land development. Moreover, the organic approach stresses the importance of process management over project management. Also, the role of plans seems to be more strategic and flexible then blueprint variants in integrated urban development to cope with changing needs. Furthermore, large professional real estate developers not necessarily involved in organic urban (re)development which is delivered by smaller local developers, private entrepreneurs and property owners. Besides, whereas local authorities were very actively steering on integrated urban development, they are more facilitative to private and community initiatives in organic development. And finally, urban and real estate development and management occur in a more mixed manner rather than sequentially, which means that (re)development is favoured.

Despite these notable differences Buitelaar et al. (2014) argue that mixed strategies with elements from both top-down integrated and bottom-up organic urban development occur in Dutch practice (see also Robles-Duran, 2011). It also seems that new ways of developing urban areas and real estate are highly dependent on existing institutional conditions (Heurkens, 2016). Established values, behaviours, systems and rules are hard to change and offer limited ground and opportunities for completely allowing new approaches to become common practice. Although the term 'organic' urban development seems an ambiguous term, it nevertheless does occur in practice and represents an alternative way of approaching urban (re)development. To a certain degree one could argue that organic urban development is just a collection of (smaller scale) real estate developments taking place within the context of a more largely defined urban project. And that the reason for a focus on smaller scale real estate development and investment is caused by stagnating market demand and a more risk adverse attitude of the development industry towards big schemes. Already we see that with the rising demand for housing in various parts of the Randstad, signs point towards a revival of the integrated urban development approach (Buitelaar et al., 2014).

29.3 Private sector-led urban development strategies

Nonetheless, fundamental changes such as a more facilitative role of municipalities and manageable size of development seem to have gained ground in Dutch urban development practice. These fundamental societal-economic changes and development approaches result in the rise of more private sector-led urban development projects (Heurkens, 2012; Heurkens and Hobma, 2014) and privatization of Dutch planning powers (Hobma and Heurkens, 2015). These projects and development strategies were used increasingly in the pre-crisis 2000s period and are currently experiencing a comeback as a development strategy in the post-financial crisis period. As a result of a more risk-prone less-active land development role of local authorities, urban (re)development projects in the Netherlands to an increasing extent, therefore, see private actors taking the lead in

delivering urban and real estate projects (Heurkens, 2013). As such, Van der Krabben and Heurkens (2015) indicate that roughly two types of development strategies have come to represent the existing two mainstream development approaches indicated earlier:

1. Private sector-led urban development concessions
2. Private sector-led incremental piecemeal development

In theory, the concession model encompasses the earlier mentioned integrated urban (re)development strategy, while the piecemeal development embraces the organic way of developing urban areas. Both of these development strategies move away from public-led or public-private-led urban development practices common for decades in the Netherlands (Heurkens, 2012). Both embrace the facilitative role of local planning authorities which become more concerned with enabling market initiatives, and planners who increasingly operate as an essential market actor themselves (Adams and Tiesdell, 2010; Heurkens et al., 2015). The leading private sector actors can be 'traditional' real estate developers, investors or owners, or non-traditional real estate industry actors such as corporations, entrepreneurs, and communities. To understand the major differences between both strategies, some features are described here.

29.3.1 Private sector-led urban development concessions

In organisational-legal terms a private sector-led urban development concession is:

> 'A contract form with clear preconditioned agreements between public and private parties, in which a conscious choice from public parties has been made to transfer risks, revenues, and responsibilities for plan development, land preparation, land and real estate development and possible operation of the entire development plan towards private parties, within a previously defined public brief [or tender] in which the objective is to create an effective task division and a clear separation of public and private responsibilities.' (Gijzen, 2009, as cited in Van der Krabben and Heurkens, 2015, p. 76)

In essence, the concession is a contractual agreement between public and private partners under private law. The concession to develop the land is given to a private entity once a public procurement/tender formulated by a municipality has been awarded to the private entity often based on a development competition. The initiative for a concession partnership in most cases lays with the municipality who formulates various objectives related to the urban development project and provides market actors with assessment criteria and other procedures in the public brief/tender. Private actors are required to design a development plan and provide economic-financial feasibility studies to back up their bidding for the land. At the same time municipalities use their public law mandate such as land use plans to regulate the land for development, and to give planning permission once private actors are awarded a concession that meets the requirements stated in the public tender. The management or operation of public space is a task mostly performed by the municipality in Dutch concessions, as the development industry is in-experienced with this manner and local authorities consider the management of the public realm as a core responsibility.

Despite its formal contractual nature and a strict public-private role division, various Dutch case studies have shown that concessions allow for and require informal public-private interaction (Gijzen, 2009; Heurkens and Peek, 2010; Heurkens, 2012; Heurkens and Hobma, 2014). In other words, there is room for negotiation between municipalities and developers about the development conditions,

and often some programmatic flexibility about the development plan. Furthermore, the formal nature of the public tenders can provide fruitful ground for a clear formulation of public objectives concerning sustainable urban development. These objectives are then to be met by the private actors who have to come up with their own specific sometimes innovative solutions. Thus, in brief, the private sector-led urban development concessions could be an effective formalised partnership arrangement to deliver sustainable urban redevelopment.

29.3.2 Private sector-led incremental piecemeal development

The second development strategy that appears in the Netherlands is private sector-led incremental piecemeal development. This model is very much a representation of the recent organic development approach. In this model, the municipality develops a broad vision on the (re)development of a certain location and 'invites' the private sector to come up with plans that fit in the broad vision for the location (Peek and Van Remmen, 2012; Buitelaar et al., 2012). 'The private sector initiatives may concern small developments situated in the (re)development location and do not have to cover the whole location' (Van der Krabben and Heurkens, 2015: p. 73). This is in line with the risk-prone behaviours of both public and private actors, and the often limited financial liquidity and urban and real estate development knowledge of the organisations involved in this strategy. For instance, such private actors may involve local entrepreneurs, property owners, collective group of homebuilders, architectural offices, and even energy or technology companies. They may initiate (re)development in the first place, or they may wish to contribute to (part of) an urban development vision initiated by the municipality. Moreover, such private initiatives often favour incorporating some sort of sustainability aspect in the development strategy, such as circularity principles or energy-efficiency measures, with a strong focus on local opportunities and benefits.

As with every new way of working, the efficient introduction of this incremental piecemeal development strategy – considering the Dutch public-led planning doctrine – requires both a change of attitude by public and private actors, as well as increased flexibility in planning procedures (Van der Krabben and Heurkens, 2015). For instance, effective private-private partnerships between energy companies and collective homebuilders groups need to be constructed that represent the direct relationship between the actors without public interference. Moreover, local authorities search for ways to build effective public-private partnerships which are often tailor-made and less generic as development concessions can be. Therefore, as of yet, no panacea for organisational and legal arrangements exists that represent the formal and informal relationships between public and private actors in organic urban development. Moreover, it remains unknown how for instance infrastructure can be financed in this strategy through some sort of value capturing. Nevertheless, private sector-led incremental piecemeal developments are an increasingly popular way of (re)developing urban areas and real estate.

Table 29.2 Private sector-led development strategies in the Netherlands

	Private sector-led urban development concessions	Private sector-led incremental piecemeal development
Development scale focus	Urban area	Real estate
Private organisations	Developers, development consortium, investors	Small developers, architects, homebuilders
Legal agreement/entity	Concession	Private realisation

Planning law/rules	Tenders, requirements	Guidelines, visions
Financial value-capturing	Developer contributions	n/a
Public-private relations	Formal	Informal

Table 29.2 illustrates the main characteristics of the two private sector-led development strategies. The most prominent question now is; to what extent do these Dutch urban development strategies and their particular public and private partners allow for the delivery of sustainable urban places? In terms of sustainability the traditional integrated urban development approach mainly focused on delivering places with an attractive spatial quality and design (Franzen et al., 2011). This involved making trade-offs between user value, future value and experience value of a development. However, in Dutch urban development practice before the 2008 financial crisis there was hardly any attention on sustainability aspects such as climate-proof, energy-neutrality, resilience, adaptation, circularity and the like. Such aspects have gained more ground over the last 5 years in both integrated and organic urban development approaches, and have find their way in both private sector-led urban development strategies. The following sections illustrate how sustainability aspects are incorporated into one development concession project in Rotterdam and an incremental piecemeal urban redevelopment project in Amsterdam.

29.4 Case Rotterdam Rijnhaven

Rotterdam is the second city in The Netherlands with about 630.000 inhabitants, it has the biggest port in Europe, is an important economic area in the country, and is recognised as a city with inspiring contemporary architecture. As port activities in the last decades have shifted outside the city boundaries towards the sea (Frantzeskaki et al., 2014), Rotterdam has created several strategies to redevelop its industrialised waterfront locations into mixed-use urban areas (Daamen, 2010). Since the 1990s integrated urban area development approaches functioned as the focal point of developments like the Boompjes, Kop van Feijenoord, Kop van Zuid and Katendrecht, and some of these areas are still in progress. In this process the Municipality of Rotterdam (in the role of city planner) and the Port Authority (in the role of major landowner) founded a separate organisation Stadshavens (City Ports) Project Office in the 2000s to envision the future direction of; and, oversee urban developments of the City Ports area.

According Ernst et al. (2016, p. 2993) 'the City Ports development program is closely related to the city's programs for sustainable development, CO_2 reduction and climate adaptation. Its objectives are to connect a stronger economy with an attractive city by combining inner-city waterfront development with broadening the 'mainport' and making it more sustainable'. Various partnerships and planning policies concerning the City Ports regeneration process are in place (see Frantzeskaki et al., 2014). The Clean Tech Delta and Rotterdam Climate Initiative are the most notable partnership arrangements important for implementing sustainability agendas in the city. They mainly function on strategic and tactical governance levels (see Loorbach, 2010), and are valuable for institutional transitions, policy making, networking and learning. However, we are mainly interested in the role of operational partnerships that deliver concrete sustainable urban redevelopment projects.

As such, one of the most appealing recent concrete development initiatives by the municipality is the realisation of a 'floating' development in the former harbour water basin Rijnhaven (see location impression figure 29.1). 'The rationale [behind building on water] is that increasing water levels (river, groundwater) will make innovative resilient living arrangements and settlements necessary.

Floating urbanisation is conceptualised and envisaged as the adaptation option for Rotterdam as a deltaic city to climate change pressures' (Frantzeskaki et al., 2014, p. 411) by basically combining water management with urban regeneration. This Rijnhaven project is a private sector-led urban development concession area, which is located adjacent to the dense mixed-use Kop van Zuid Willeminapier area and more residential Katendrecht area on the Southern banks of the river Maas. Ernst et al. (2016) argue that after an organised market consultation by the municipality in 2012 the scope had shifted from a floating development to an urban development (on water).

Figure 29.1 The Rijnhaven harbor water basin, with Kop van Zuid development in the background and floating sustainability pavilion at the right (source: photograph by Erwin Heurkens).

This led to the decision of tendering the development to the market in 2013, which involved a bid book *Rijnhaven Metropolitan delta innovation* (Stadhavens Rotterdam, 2013) and public procurement directory (Gemeente Rotterdam, 2013) for the Rijnhaven concession. According to Ernst et al. (2016) the ambitions of the development had been broadened to new municipal policy objectives, including delta metropolitan innovation, quality of life improvement, shaping the Rotterdam Waterfront and continuous creation of added value. Procurement rules asked for a creative and flexible development strategy and for specification of public and private roles. Moreover, future private concession holders would carry responsibility for all development and plan costs, hold the concession in management for thirty years, and transfer the land back to the municipality without causing costs for the municipality.

This ambitious concession for a sustainable urban redevelopment carried out by private consortia was based on procurement experiences with another urban development in Rotterdam called Hart van Zuid. Ernst et al. (2016, p. 2995) set out that the procurement 'offered a 30-year concession to design, build, finance, maintain and operate the area [and] a competitive dialogue between

municipality and consortia of private parties.' Also a committee of global experts in sustainability, transitions and urban planning had to assess to what extent the private plans lived up to the municipal ambitions. Moreover, during the process the municipality organised innovation markets creating private meeting points for bidders and other market parties. Despite these facilitative activities by the municipality the stringent set of requirements and high ambitions caused a dropout of interest market parties. According to Ernst et al. (2016) in 2015, after two years of dialogue between bidders and municipal officials, the municipality of Rotterdam concluded that neither of two remaining (out of seven initially interested) consortia of private parties had submitted a proposal that met the ambitions and prerequisites (Stadshavens Rotterdam, 2015). The municipality currently reconsiders the way forward with the development of the area.

De Zeeuw (2015) argues that the failure of the Rijnhaven project could have been expected. The main reasons for this were the over-ambitious requirements in terms of sustainability, which included the developing social educational programmes for adjacent neighbourhood inhabitants, and innovative solutions for floating development. Furthermore, the winning consortium had to pay three million Euros upfront to the municipality as compensation fee for municipal labour on the project, while the thirty year concession period already involved some financial risks for the private consortia, certainly in this type of development. When looking at the lessons from previous generations of concessions (Heurkens, 2012), one might conclude that the public-private partnership both involved building informal relationships and establishing a formal procurement relationship between municipality and market actors, and the municipality which combined a facilitative role with regulative tasks. However, what becomes clear from this case is that the high sustainability ambitions combined with the precarious financial viability of such a business case was asking too much from the development industry, at least for the time being. Moreover, according to Ginter (2013) this also involves changing institutions in Rotterdam which support more sustainable urban development practices.

29.5 Case Amsterdam Buiksloterham

Amsterdam is the largest city in and capital of the Netherlands with about 840,000 inhabitants, it is the most global-oriented economic area in the country, and is recognised as magnet for young talent, international companies and tourism. The population is growing at a steady rate and the City of Amsterdam has the ambition to build 50,000 dwellings until 2025 (Grim, 2016). While its city centre is UNESCO listed and its famous water canal structure and dense built-up area do not allow for a significant contribution to research the municipal housing target, the city has turned its eye towards the various remaining former industrial (waterfront) sites alongside the river IJ, mainly on the Amsterdam north bank. This is a continuation of municipal spatial policies targeted at redeveloping waterfronts and piers into mixed-use urban areas. Over the last two decades, similar to Rotterdam, the municipality has already redeveloped waterfront locations such as Java, KNSM and Borneo islands, Zeeburg and Ijburg, and currently under construction sites like Cruquius, Houthavens and Overhoeks.

At the same time the municipality has formulated structural vision on creating a strong economy and a sustainable city (Gemeente Amsterdam, 2011). In addition, various more specific policies and visions exist that embrace the ambition of becoming a smart city (Amsterdam Smart City, 2016) and a circular city (City of Amsterdam, 2015). Grim (2016) argues that the ambitions for building 50,000 homes and achieving smart and circular cities through urban and real estate developments, might be

in conflict with each other, and opts for learning from existing initiatives and projects as examples for developing in a circular and smart manner. The most prominent recent Amsterdam example of a circular urban redevelopment at the northern banks of the river IJ is Buiksloterham (figure 29.2). This former industrial area was home to a Fokker aeroplane factory, a Shell oil laboratory, a large shipbuilding industry and other manufacturing (Reimerink, 2016). As over time a lot of companies either ceased trading or left the area which results in redevelopment opportunities for this polluted site.

Figure 29.2 Circular collectively commissioned housing in Buiksloterham (source: photograph by Erwin Heurkens)

Buiksloterham can be considered as private sector-led incremental piecemeal development. This incremental approach proved to be the only viable way forward during the 2008 economic crash, coincidentally taking place at the same time of the start of the redevelopment. Before 2008 the municipality had initially tendered the redevelopment of four locations as office developments, dictating high sustainability demands, but developers backed out of the project due to the financial crisis. As a result of these circumstances in Buiksloterham the city leaders eventually opted for a more bottom-up organic approach. 'They changed the zoning to allow for a mix of uses, and they created a relatively hands-off path to allow Buiksloterham to slowly fill in with residences and offices on whatever land was safe to inhabit' (Grim, 2016).

In 2010, the municipality started a tender for a ten-year lease of land parcel called De Ceuvel, backed by the idea to put the waterfront location to temporary uses until the market picked up, and the wish for creative approaches to sustainable urbanism. The winning idea from a group of young entrepreneurs focused on redeveloping the polluted site with retrofitted houseboats pulled up onto land connected by wooden walkways and special plants sees to clean the soil within ten years. It also

houses a waterfront café, shared workspaces, organic restaurant and various sustainable technologies. As a result of this project, 'meanwhile, Buiksloterham has evolved into a creative hub for the so-called 'circular economy' attracting devotees of the idea that renewable power, rainwater harvesting, recycling and other techniques can allow an urban neighbourhood to handle all its own energy, water and food needs without creating waste' (Grim, 2016).

Plot by plot the rest of the Buiksloterham's development is progressing, with individual and collective homebuilders, creative designers and architects, energy and water companies, and more traditional real estate developers and housing associations active in redeveloping the area with housing. 'In 2011, the municipality decided to sell off a small number of housing lots to attract people who wanted to build their own homes using sustainable building practices such as recycled materials and generating their own electricity' (Grim, 2016). By doing so the Buiksloterham could contribute to the municipal housing development and sustainability ambitions. As the circular economy narrative spread more parties than homebuilders and creative people began to show interest in the area such as developers, investors, public utility companies and researchers. For instance, housing association De Alliantie, real estate developer Hurks and real estate development investor Amvest are currently developing several housing projects in the area.

In March 2015 about twenty public and private organisations, both traditional and non-traditional real estate parties such as energy and water management companies and citizens, signed the so-called *Manifest Circulair Buiksloterham*. With the manifesto, the parties expressed their aim to strengthen a collective ambition of making Buiksloterham a test case of circular urban redevelopment through Living Labs, and catalyst for a broader transition in Amsterdam. Several formal and informal private-private and public-private partnerships have come to existence in Buiksloterham (see De Ridder, 2014, p. 43) related to various initiatives and projects (Buiksloterham, 2016), which makes this incremental development a complex governance challenge. Especially the municipality's facilitating role allowed for the area to flourish organically from the grassroots. However, now that developers are moving in and market demand for housing is high, some active parties in Buiksloterham fear that 'the enthusiasm for cutting-edge sustainability practices will wane' (Grim, 2016).

Therefore, the regulatory role of the municipality for sustainable urban development remains important. Steen (2016, p. 210) argues that

> *'the sustainability-oriented tenders and selection procedures for PC and CPC in Buiksloterham prove that by including high requirements to sustainable performance in the selection procedures, highly sustainable development results can be achieved. ... It must be taken into account that the development within the set requirements stays feasible for the developer, which can be ensured by lower land- or leasehold prices, subsidies, or helping investments in for example basis infrastructure'.*

In fact, the Buiksloterham case nowadays can be considered a combination between a bottom-up private sector-led incremental piecemeal development strategy (individual plot development) and a private sector-led urban development concession strategy (mixed use housing developments). In other words; both development strategies co-exist in the area, albeit executed by different actors and partnerships involved. Thereby, chances increase that either development strategy incorporates aspects from the other. This on its turn might positively influence the institutionalisation of

sustainable urban development principles in both planning systems and development practices (see Buitelaar et al., 2011).

29.6 Conclusions

This chapter has illustrated the main approaches and strategies for sustainable urban redevelopment in the Netherlands. Although the practice of developing sustainable real estate is becoming more common (e.g. increasing amount of BREEAM-certified office buildings), sustainable urban places seem more difficult to realise. There is simply no consensus in the Dutch urban development practice about what sustainable urban development is and how they can be achieved. Moreover, at the urban area scale many sustainability issues can be taken into account, whether they are economic, social and environmental focused, or more specifically targeted at smart, circular, energy-neutral, climate-adaptive principles and objectives in urban areas. Nonetheless, both integrated and organic urban development approaches currently co-existing in Dutch urban development seem to offer fruitful ground for delivering sustainable urban development. These overarching approaches have resulted both in top-down private sector-led urban development concession and bottom-up private sector-led incremental piecemeal development strategies applied to urban projects.

Examples of these contrasting strategies in Rotterdam and Amsterdam illustrate that Dutch urban development practice is incorporating multiple sustainability aspects into urban redevelopment projects with varying degrees of success. What can be learned from the Rijnhaven case is that municipal ambitious and a risk-prone tender for a sustainable floating urban development proved to be unviable for private consortia. Buiksloterham, in Amsterdam, illustrates that a circular urban redevelopment can be achieved by building various alliances between public and private agencies. In essence, both cases indicate that formal legal public-private arrangements on the one hand, and intensive informal public-private interactions on the other hand, are necessary to define what sustainable urban development for a particular area means and how it can best be achieved. Also it has become clear that neither development strategy is preferable or superior for achieving sustainable urban areas. Ultimately, when actor attitudes change and experience grows, established institutions in Dutch practice might prove to be more receptive for sustainable urban redevelopment in the future. Hence, other countries and practices each have to discover their own effective approaches and strategies to realise sustainable urban redevelopment.

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