The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?

Tivoli, quartier durable : une nouvelle manière de faire la ville à Bruxelles ?

Duurzame wijk Tivoli: naar een nieuw soort stadsleven in Brussel?

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Translator: Jane Corrigan

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In Brussels and elsewhere, the reference to sustainable development has made its way in public policies. With its 400 housing units, its park and an economic centre dedicated to "green" companies, the "Tivoli" sustainable neighbourhood project is one of the most ambitious projects under way in the Brussels territory. In 2012, researchers from *Université Saint-Louis – Bruxelles* (USL-B), *Université libre de Bruxelles* (ULB), *Université catholique de Louvain* (UCL) and associations such as Periferia – in charge of participation in the Tivoli project – carried out an in vivo study of the project. This article summarises part of the "*Quartiers durables*" group's work based on four themes: 1) the reorganisation of public action and "governance"; 2) participation at the heart of the sustainable project; 3) the connections between architecture and the model of the sustainable city; and 4) the appropriation of sustainable living in two other projects in Brussels. For the authors, the Tivoli project reveals (new?) approaches which question more broadly the methods of building the contemporary city.

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Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

1

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Introduction: the long story of an ambitious project

1.   The Tivoli project – named after a street in a dense working-class neighbourhood in lower Laeken marked by its industrial history due to its proximity to the canal and the port – is located at a former storage site. The neighbourhood is situated in the northwest of the Brussels-Capital Region in the canal area, considered by institutional and economic stakeholders as one of the strategic areas – and even the most strategic – as regards the socioeconomic restructuring of the Region. Two of the three plots at the site were purchased in the mid 2000s by SDRB (*Société de Développement pour la Région de Bruxelles-Capitale*, recently renamed Citydev.Brussels), a public pararegional institution devoted to economic expansion, urban renewal and the elaboration of mixed projects. In 2008, after many twists and turns, SDRB asked the MSA architecture and urbanism firm to elaborate a master plan followed by a subdivision permit, which saw the light of day in 2011. Among others, it foresees semi-open blocks, housing and community facilities, as well as roads crossing and structuring the site. At the same time, on one of the three plots, Greenbizz – a green business incubator – was created with the support of the economic expansion department. At that time, although SDRB wished to promote passive housing, the term "sustainable" was not used. It was not until the arrival of *Écolo* Minister Evelyne Huytebroeck in 2009, that the Tivoli project was labelled a "sustainable neighbourhood" (for a more complete presentation of the project, see [Curado, 2014]).

The sustainable housing project

2.   The housing project involves two of the three plots at the site. There are plans for 400 "zero energy" (30%) and "passive" (70%) housing units. The project is made up of 70% Citydev subsidised flats for purchase and 30% social housing units. Among these, approximately 5% will be devoted to socially cohesive housing. Two separate plots with approximately 50 housing units will be used for alternative living projects inspired by co-housing, cooperatives and *Community Land Trust*. In terms of facilities, the project includes two nurseries, a park measuring 2000m², a commercial area, a multipurpose room and the creation of new roads. In parallel with this urbanistic section, there will
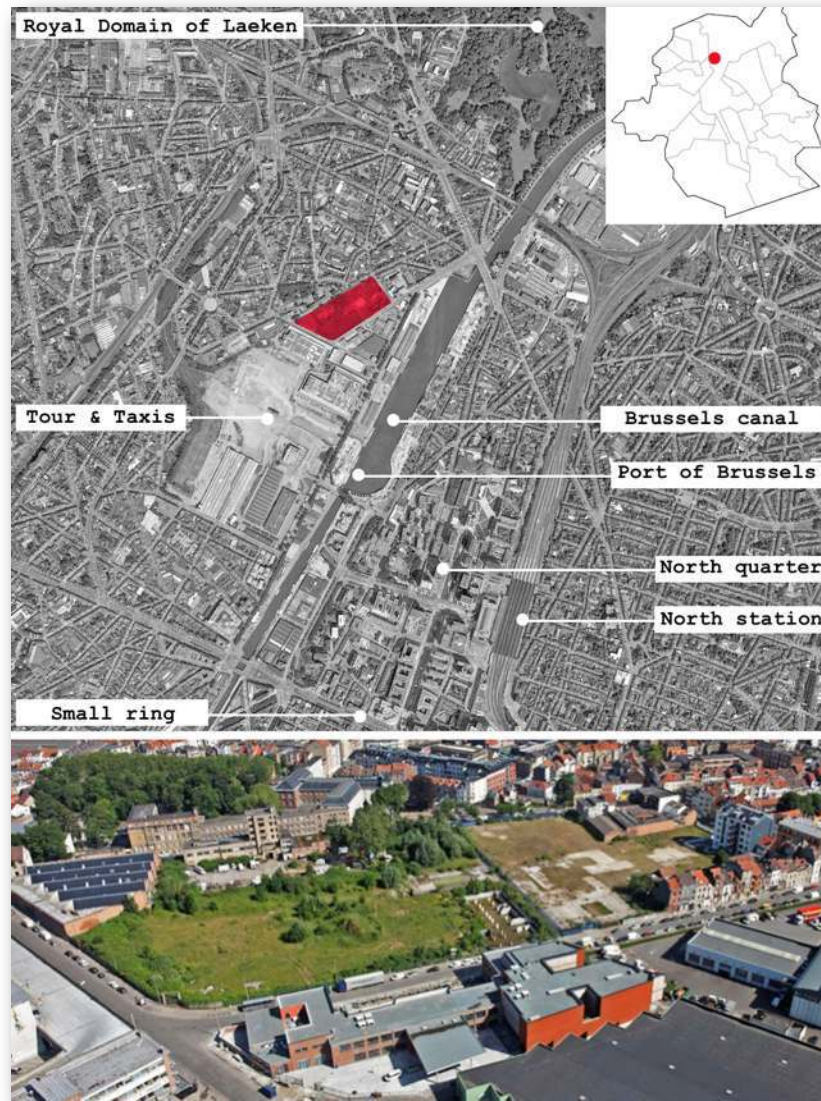
Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

2

Figure 1. Aerial view of the Tivoli sustainable neighbourhood site

also be a "participation" section. It concerns the inhabitants of the adjacent neighbourhood and the future inhabitants of the housing units. This process has been entrusted to the non-profit association Periferia.

3.   In March 2012, there was a first call for candidates in view of choosing five development teams. Similar to the Greenbizz project, half of the project evaluation was based on economic and financial criteria, and half on architectural quality and the dimension of sustainability. In December 2012, the Citydev board of directors chose a team, but this decision was cancelled following an appeal submitted to the Council of State by one of the teams which had not been chosen, leading to the withdrawal of the contract award. A new procedure was launched in June 2013 with the five developers chosen during the first procedure, and a new selection was announced in December 2013. However, the decision was suspended again at the beginning of 2014. Finally, in July 2014, the contract was awarded officially to the PARBAM association of developers, managed by Pargesy and BAM.

The Greenbizz project

4.   Although the Greenbizz project shares the same political ambition and same vision of the "sustainable" city – we shall discuss the meaning of "sustainable" later, but in this case it is understood as being socially and functionally mixed – and is under the guidance of the same project supervisor, this green economy project is managed by another Citydev department: that of economic expansion. It obeys another time scale due to the shorter deadlines imposed by the European Regional Development Fund (ERDF) which finances it. It is in keeping mainly with the economic pillar of sustainable development through the creation of green jobs. The selection process for green business incubators was launched in February 2012, and the contract was awarded three months later to the association "*Architectes Associés – Setesco – Stockman-FTI – Peutz & Associés – Cenergie – Health & Safety*". The works began at the end of 2013. In order to respect the terms of the ERDF project, the works had to be completed by May 2015. A fire started by arson in June 2015 extended the deadlines. The building was finally inaugurated at the end of April 2016.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
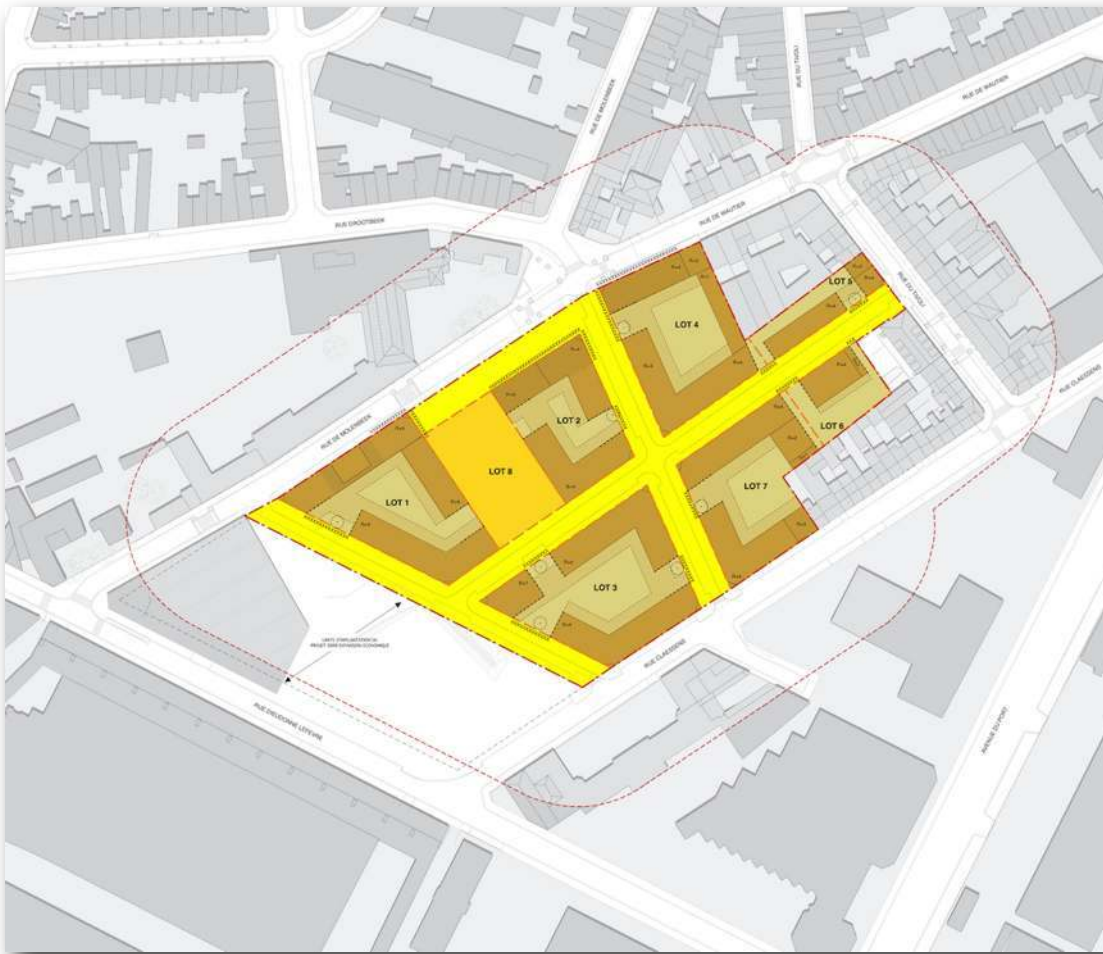*Brussels Studies*, Number 100, June 13th 2016, www.brusselsstudies.be

3

Figure 2. Subdivision plan for the Tivoli sustainable neighbourhood defining the restructuring of the block and the three main parts of the project. Source: MSA, architecture and urbanism firm

1. Governance and sustainability: a change in urban public action

5.   On the whole, as we have shown briefly, the case of Tivoli presents a wealth of information for observing the way in which the objectives and restrictions of a sustainable project – even if it was not intended to be sustainable initially and even if this notion is not necessarily clearly defined by project initiators – interact with the evolution of what is referred to as "urban governance".

1.1. A consensual yet vague reference

6.   Although it originated long ago, the reference to sustainable development appeared on the international scene at the turn of the 1990s, in particular on the occasion of the Rio Declaration in 1992 [Vivien, 2003]. The contemporary vocabulary of sustainability has gradually become a "reference" according to the "cognitive" approach of public policies [Muller, 2015: 53-59]. This involves a reference to designate a "vision of the world" which gives meaning to the actions to be taken, and a certain representation of a problem to be dealt with, its consequences and its solutions. This reference is gradually translated and adapted in the public policies in view of producing compromises between the different aspects of sustainable development – environmental, economic and social – which are sometimes hard to reconcile. In Belgium and in Brussels, the theme of sustainability entered the public debate at the end of the 1990s, promoted by the *Écolo* party and advocacy groups. Its increasing importance in the city's policies date back to the second half of the 2000s. In 2008, Brussels Minister Huytebroeck (*Écolo*) – who later played a key role with respect to the "sustainable" character of the Tivoli project – related the decree on the energy performance of buildings to the objective of "sustainable city". The first call for "sustainable neighbourhood" projects by *Bruxelles-Environnement* also dates back to 2008. In 2010, the neighbourhood contracts were qualified as "sustainable". The third Regional Development Plan presented in 2014 was also labelled as being sustainable (PRDD).

7.   However, the various projects carried out at regional level which are considered sustainable often seem to be disconnected from each other, without certain "sustainability" criteria applying to all of them.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

4

Figure 3. Network of the main stakeholders and institutions coordinating the implementation of large-scale architecture projects in the Brussels territory. Source: Bouwmeester - *Chief Architect for the Brussels Region, 2010. Guidance note.*

Many public stakeholders carry out their "sustainable" projects, sometimes simply applying the label to existing policies and instruments. The assumption that in Brussels "a single model or set of criteria for a "sustainable city" does not exist" is also striking [Curado, 2014]. In the same spirit, the objectives of the *Bruxelles-Environnement "Charte Quartiers durables"* remain very broad: preserve natural resources, promote sustainable construction, reduce waste, use different means of transportation, "live together better", live in a dense and active neighbourhood, etc. Partners are only asked to "subscribe to these issues" (sic).
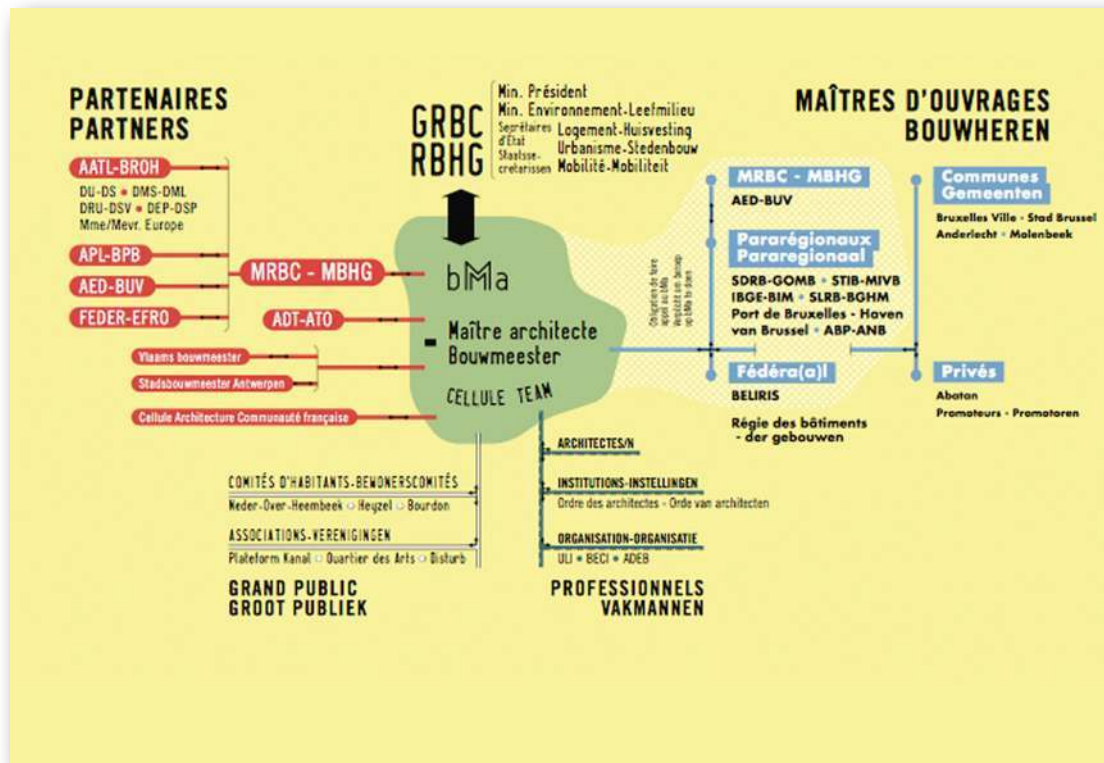
8.   In the case of Tivoli, it is difficult to come to an agreement on what its sustainable character represents beyond a few points. Most regional

stakeholders involved in the Tivoli project – Citydev, *Bruxelles Environnement*, the cabinet of the Minister Huytebroeck, the *Bouwmeester* – have thus mentioned in the press, in interviews [conducted by François Rinschbergh and Laura Curado, 2014] and during the seminar organised at Saint-Louis on 9 October, the concern regarding the connection between the future neighbourhood and its surroundings. The "exemplary nature" of the project – which either evokes the "perfect" project or the "pilot" project – is also at the heart of the rhetoric, as well as the most consensual technical and ecological aspects, such as the energy efficiency of buildings. At the same time, it is significant that the Greenbizz specifications reaffirm "two priority areas of intervention" which are not at all specifically sustainable: supporting competitiveness and territorial cohesion.

1.2. Governance and stakeholders of urban projects: what is new about Tivoli?

9.   What about the existing connections between this reference to sustainability and "governance", "projects" and "participation" – the other watchwords which are just as fashionable and vague [Damay and Delmotte, 2009]? These watchwords seem to fuel each other. In particular, "good" governance includes sustainability criteria according to the United Nations agency UN-Habitat [Lieberherr-Gardiol, 2007], while others consider governance to be the "fourth pillar of sustainable development" [Brodhag cited by Pinson, 2009; Goxe, 2007]. Indeed, governance and sustainability thrive in contexts in which there is an awareness of the interdependence of problems, scales, spaces and uncertainty with respect to choices made by societies. These terms also imply the necessity for public and private stakeholders to work together outside a hierarchical and sectoral perspective. The Brussels regional public authorities also seem to be concerned about recreating "one project" based on the multitude of projects. The coordination of these is one of the missions of the *Agence de développement territorial* (ADT) created in 2008, and even more, that of the *Bouwmeester* – a position created in 2009. These two authorities are thus quite recent, and are typical of the requirements of urban governance.

10.   The history of the Tivoli project is marked by the succession of private real estate projects, and by the realisation of a non-binding "de-

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

5

velopment plan", a "subdivision permit" and a "development contract". These multiple procedures testify to a requalification of resources, a renewed selection of (the most) legitimate stakeholders and a modification of the rules of the game. For example, the subdivision permit and the purchase of plots by Citydev are a reminder of the importance of real estate management for the public authorities. For certain stakeholders, this procedure allows the power of private developers to be minimised and the broad lines of the future development of the neighbourhood to be established (the shape of blocks, for example). The development contract procedure (and the related specifications), which establishes a preselection of teams, is praised by some due to the fact that it allows the addition of aesthetic and technical criteria, which go beyond those of cost. For others, it is too simplistic (it limits innovation by placing too many restrictions on the project) and too eliminatory (it requires a big investment, which excludes the small teams from being awarded the contract). In summary, these procedures are the result of an existing power relationship and also contribute to forming future coalitions.

11. In this case as well as in others, the multitude of stages thus prompts the reorganisation of coalitions between public and private stakeholders [Comhaire, 2012] – as well as other stakeholders which do not fit clearly into either category, such as urban planning firms. The reference to "sustainable" – which intervened when the Green Party came to power – modified the architectural definition of the project only marginally, and above all led to a participative dimension, which did not exist in the previous practices of the project supervisor Citydev.

12. We may therefore wonder once again whether the partnership-based approach promoted by "urban governance" allows or will allow a "socialisation of the different stakeholders in the territory with respect to the problem of sustainable development, or even the learning of a culture and a common language" [Goxe, 2007]. Doubt is permitted. In the end, the case of Tivoli illustrates above all the complexity of the role of the stakeholders of urban projects, caught in networks of interdependency evolving in connection with other cases at regional level, with stakeholders joining together or opposing each other according to their views of the challenges of urban development.

1.3. Multiple instruments, scales and temporalities

13. The Tivoli project seems to be situated at the crossroads of two tendencies whose effects add up. On the one hand, Brussels has the image of a city treated by "acupuncture" – in the words of the first *Bouwmeester*, Olivier Bastin – i.e. a city in which public action in the area of urbanism is built on specific points (more or less painful), while having the objective of "connectivity", "reconnection" or "mending" of different parts of the city – in the words of Mathieu Berger [Berger, 2013]. It is as though the intervention "according to project" is both the source of problems (dispersion, lack of coherence) and solutions, through the practices of dialogue and cooperation which it favours, as certain stakeholders are often the same (as in the neighbourhood contracts) and get to know each other. The problem is nevertheless a lack of global vision which is all the more striking given that in Brussels and elsewhere, many stakeholders denounce the appetite of many developers, who care little about such a vision.

14. On the other hand, projects gather round these "points", in connection with the development of more and more "territorialised" public policies, without much clarity. Certain areas are thus at the centre of a game of coverage, whereby different instruments are superimposed (with their own objectives and procedures), defining perimeters of action which do not necessarily coincide, in keeping with various temporalities and mobilising public and private stakeholders, which are never quite the same, and never quite different. Situated in the north of Brussels, in the former industrial area of the canal, which has become a strategic area, the case of the Tivoli sustainable neighbourhood is a textbook case. Many development instruments – binding and non-binding – exist there together, sketching the broad lines of planning for a large area, or on the contrary, proposing concrete projects for small spaces. Let us mention the *Plan Directeur Canal*, a Masterplan of Port Horizon 2030, a certain number of neighbourhood contracts at various stages of completion (in particular *Maison Rouge*, completed in 2011 but not connected to the Tivoli project), the new ZEMU areas (*Zones d'Entreprises en Milieu Urbain*, or commercial areas in an urban setting) contained in the demographic Regional Land Use Plan (PRAS), etc. The problems caused by the tangling of these multiple instruments are

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

6

obvious. Certain major "plans", such as the Canal de Chemetoff plan, admittedly give hope as to the existence of a guideline, and even a "vision". But there is still the risk of being concerned above all with the *diktats* of urban marketing.

2. Participation put to the test of sustainability

15.   In addition to the idea of "governance", sustainability as a new way of "making the city" is also closely linked to the idea of "participatory democracy", either presented as a component of the social pillar or mentioned as a cross-disciplinary theme through governance, which is often considered as the central condition for the implementation of sustainable development. However, while the necessity to implement the notions of "sustainable development" and "participatory democracy" is widely recognised, putting this rhetoric into practice is not so easy. These notions are saddled with the same vagueness of meaning and uncertainty as to the concrete shapes to give them. The Tivoli neighbourhood project therefore appears to be a perfect opportunity to study participation put to the test of sustainability. While the participatory intentions in public rhetoric are ambitious – mentioning "exemplary sustainable governance" with citizens at the heart of designing a "sustainable city" – participation as a "guarantee of social cohesion" and as "sustainable behaviour" and the means to implement it in concrete ways are not well explained by Citydev – nor is the nature of existing connections between all of these notions.

2.1. Participation as a guarantee of social cohesion

16.   The participative approach of the Tivoli project has the special feature of addressing the people who already live in the neighbourhood (in the surroundings of the site concerned by the project) as well as the newcomers who will live in the neighbourhood once the project is off the ground. This concern testifies to a will for integration and cohesion between different environments, characterised by populations which would share the same neighbourhood, arriving via very diverse routes. However, this will for the integration of new and old inhabitants –requiring the establishment of a cooperative in order to become a reality – is

greatly hampered by the temporality of the project. According to the initial calendar, the participatory approach was supposed to be completed by the end of 2014, while the commercialisation of housing units should have begun the following year. Citydev indeed issued an invitation to prospective buyers on its lists, who were asked to take part in the participatory approach but with no guarantee that this involvement would allow them to purchase a housing unit on the Tivoli site. This difference in temporality obviously reduces the possibilities for encounters and exchanges between existing and future inhabitants.

Figure 4. Participation in the implementation of the Tivoli project: the presentation of the project in the public space. Source: Periferia asbl

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

7

2.2. Participation as a means of "raising awareness" about sustainable development

17. While the institutionalised participatory approaches have a long tradition in Brussels, the will to "raise awareness among the inhabitants regarding sustainable behaviour"[1] is an important new element. Can the approach therefore be considered as a mechanism to "educate" the inhabitants regarding the norms and values of sustainable development, as long as there is an agreement on what this notion involves? And if so, does this type of practice still fall within the scope of participation?

18. Furthermore, while an educational objective aimed at teaching about sustainable behaviour is announced, the notion of sustainable development is still not a key element in citizens' debates; its content as well as its practical implications have been neglected in debates until now, as citizens are more concerned with other aspects of housing, the quality of public green spaces and mobility. As regards Citydev or engineering consulting firms, when there is a reference to sustainability, it is very often limited to ecological aspects and is often approached in highly technical terms, which may inhibit the debate for lay people. The contribution of the participatory approach to this educational component of sustainable development still needs time and specific methods, which is not made easy by the project's rhythm.

2.3. Which scales for participation?

19. The process of participation concerns above all the defined perimeter of the Tivoli project. However, many aspects of the project deal with wider themes which go beyond the initial framework: mobility, water management, the development of public space and the green network, for example. It is clear that there is no guarantee that demands related to aspects external to the project will be taken into consideration; however, the participatory approach provides a framework which allows the challenges related to the neighbourhood to be identified and dealt with, when they go beyond the scope of the sustainable neighbourhood project. For example, while the question of public transport does not fall within the remit of Citydev, the mobility workshop sheds light on the projects under way in this area, with a representative of STIB (*Société des transports intercommunaux de Bruxelles*), *Bruxelles-Mobilité* (the Brussels-Capital Region administration in charge of facilities, infrastructures and travel) and the cabinet of the minister in charge of mobility at regional level.

2.4. Communication about sensitive aspects

20. Following the different appeals, the participatory approach was suspended between December 2012 and November 2014. This abrupt interruption in the dynamics of participation posed problems. On the one hand, it hampered the dynamics which had just begun and several months of work in the field aimed at establishing contacts, trusted connections, etc. On the other hand, the relatively confidential – and even opaque – character of appeal procedures and Citydev's caution made communication difficult. This difficulty to communicate about more "sensitive" aspects seems to contradict with the will to establish a transparent approach vis-à-vis the neighbourhood. This element also reveals a certain gap between relatively heavy public procedures which take place in closed spaces, and participatory ambitions to include citizens in the elaboration of urban projects.

2.5. Participation: a first for Citydev

21. In the framework of the Tivoli project, there could have been plans to include participants in the procedures for the selection of architects or at least to make a public presentation of the outlines of the different projects being considered. But this was not the case, and the project was chosen by a select committee of experts.

22. There are therefore differing positions with respect to the scope of participation, with some advocating a maximalist position, and others showing a smaller degree of openness. The participatory approach often raises questions regarding the processes and is sometimes likely to antagonise the culture of different stakeholders, professional practices, well-established partnerships, etc. It must nevertheless be underlined that the addition of a consultation process to a Citydev project

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[1] Specifications related to participation, p. 3.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

8

constitutes a first for this institution and thus requires a form of socialisation, learning and adaptation. In this respect, it is worth noting that Citydev chose the support of "participation professionals" to complete this mission successfully, which is a sign that this type of approach requires planning and specific knowledge.

Figure 5. Participation in the framework of the implementation of the Tivoli project: site visit of the future sustainable neighbourhood. Source: Periferia asbl

3. Architecture in a sustainable urban project

23.   In what follows, we shall examine the meaning of "sustainable building", for architects, institutions in the sectors of construction and real estate and, in connection with the above, for all those who will "see" the sustainable neighbourhood and live there on a daily basis.

3.1. Towards a greening of architecture

24.   As a sustainable neighbourhood project, Tivoli is made up of buildings which respect ambitious environmental criteria. The special specifications require "passive" buildings at a minimal level, a third of which must be "zero energy". They stress the environmental impact of materials and their future recycling, prompting designers to favour materials with a small ecological footprint, reuse, prefabrication and construction techniques which allow easy dismantling at a later time. Rainwater and grey water must be collected, reused and preferably recycled *in situ*. The landscaping must be composed of ditches or humid areas in order to "return the rainwater to the natural environment as far upstream as possible".[2] As regards the landscaping of green spaces, they must respect a biotope per surface area coefficient.

25.   These environmental requirements cannot be reached with the "mere" addition of techniques. The control of energy, material and water flows or of biotopes forces practitioners to develop permanent and synergistic interactions at all phases of architectural design [Terrin, 2009]. In the end, Tivoli constitutes an example of an ongoing process which may be referred to as a "greening of architecture". This involves minimising environmental impacts by thinking of them in terms of flow and by modifying the production and functional logic of buildings, and not making do with approaches whereby pollution is dealt with afterwards. Furthermore, certain environmental impacts, in particular those related to energy, must be reduced as much as the techniques will allow.

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[2] Special specifications for the Tivoli project regarding the Citydev urban renewal division, p. 32.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

9

Figure 6. "Urban renewal" part of the Tivoli sustainable neighbourhood, excluding alternative housing, composed of close to 400 housing units, a third of which are social housing units, two commercial spaces, two nurseries and a public park. Promoted by Immo Tivoli s.a. and Parbam s.a., and elaborated by Adriana, temporary architecture firm Atelier 55, Atlante, Cerau, YY Architecture and landscaper Eole. Source: Parbam and Adriana

26. This greening movement also concerns architectural aesthetics. Beyond the usual "urbanistic coherence" and "quality" of architectural expression, the special specifications insist on the necessity to "reflect the demonstrative character" of buildings, to present an "exemplary" and "strong" image, a "brand" image and a "strong identity".[3] This use of architectural aesthetics is in keeping with the continuation of the abovementioned objective of the Tivoli project, aimed at "creating a sustainable neighbourhood where people want to live and where they feel good". In seeking the "social acceptability" of sustainability, future inhabitants are encouraged to adopt "sustainable behaviour", and cer-

tain technical choices and construction materials are promoted, as well as a closeness to nature and living in the city in the perspective of a necessary compactness of the spaces used for housing. These challenges go beyond the framework of Tivoli. They are not only aimed at the inhabitants of the spaces in question, but at all citizens, including those in the housing sector who do not yet share the values inherent in the reference of sustainable living as it is gradually being defined in Brussels.

3.2. A consensus which facilitates the negotiation of architectural quality

27. As there is a broad consensus regarding the necessity for architectural production to be more sustainable, the greening of architecture has facilitated the negotiation of the Tivoli project in particular during the elaboration of the development plan and the subdivision permit. Even before there was any mention of a "sustainable neighbourhood", the highlighting of the technical restrictions related to ecological living enabled a moderation of the disagreements regarding the concept of "architectural quality", confronting a more contemporary style of architecture [Comhaire, 2012], promoted by the MSA architecture and urbanism firm, and architecture in keeping with the traditional European city, promoted by Citydev. In particular, the concessions regarding the greening of living spaces allowed the negotiation of the depth of building volumes, reduced to 12 metres compared with the usual 15 metres and even 18 metres in force. As tensions arise with respect to financial performance restrictions, this measure is chosen mainly because it allows the implementation of walk-through housing – a shape which makes it easier to comply with passive building criteria, avoiding north-facing flats. Tivoli is also characterised by the implementation of semi-open blocks, which are justified in terms of the brightness of housing units, revegetation and diversification of the urban landscape in reference to the concept of the "people-friendly city". There is also the possibility for architects to design buildings with flat roofs as it allows an increase in the surfaces used for photovoltaic and solar panels. In the

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[3] Special specifications for the Tivoli project regarding the Citydev urban renewal division, pp. 7, 8 and 26; Special specifications for the Tivoli project regarding the Citydev economic expansion division, p. 20.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

10

end, the styles in Tivoli are different from the classic model of Citydev residential projects. According to various stakeholders, these "new" styles allow the future neighbourhood to be anchored in an exemplary perspective of sustainability.

Figure 7. "Economic expansion" part of the Tivoli sustainable neighbourhood. Greenbizz building composed of a green business incubator, offices and production workshops. Elaborated by the firms Architectes Associés, Setesco (stability), Istema - FTI – Cenergie (special techniques), Daidalos Peutz (acoustics). Source: Architectes Associés

3.3. An environmental and technical/normative consensus above all

28. Nevertheless, during the elaboration of the Tivoli project, the reflection on sustainability has remained fundamentally confined to the technical register; while there is a consensus regarding sustainable living, it is anchored in environmental and technical/normative registers. The case of Tivoli illustrates that beyond these registers, negotiation is more difficult. This is evident in the tensions which emerge during the definition of the type of contract to adopt. Certain people defend the implementation of a single development contract, thus showing a mistrust of architects who are felt to be too artistic, with little concern for financial stakes, and too sensitive to aesthetics which go out of style quickly. Developers are presented as partners who guarantee the proper execution of the project, respect deadlines and budgets which are made up in part of public money. On the contrary, others defend the implementation of several contracts at once, established for each plot, separating the architectural design and financing/construction phases. Their arguments testify to a mistrust of developers whose choices are driven mainly by economic performance – an attitude which contradicts with the sustainable neighbourhood project. For these stakeholders, the architect is considered as the main partner who guarantees general interests, as he or she is less influenced by financial issues, and who is the only one able to design a sustainable neighbourhood through his or her creativity and sense of innovation.

29. The solution of the single development contract was chosen in the end. Concomitantly, the designers are faced with a significant number of normative restrictions. As in any sustainable neighbourhood, the requirements related to an exemplary environmental nature, the subdivision permit and certain parts of the programme (nurseries and social housing) are added to the regulations which are usually in effect. According to the architects interviewed, the scope of these restrictions limits their contributions to mainly aesthetic considerations, which are also subject to performance challenges supported by real estate developers.

30. In summary, while the reference to sustainability calls into question the relationship between a living space and the natural environment, it is dealt with almost exclusively in terms of the integration of eco-innovation. Likewise, the social role of the architect is underlined less than his or her technical role, being relegated mainly to the integration of techniques, the control of the additional costs of environmental standards and the formal expression of supposed environmental awareness. The challenges of sustainability could however constitute an opportunity for a more global redefinition of the societal role of architecture and its stakeholders, provided that sustainable development is considered more as a notion which questions the modern relationship to the world, than as a stabilised, consensual and operative notion.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

11

4. Sustainable living, or the question of appropriation

31. While one of the objectives of the group "*Quartiers durables*" was to observe *in vivo* the appropriation of a sustainable neighbourhood by its inhabitants, the delays in the completion of the Tivoli neighbourhood project led it to focus its attention on other new and sustainable building projects in Brussels. The observation involved two particular plots, both of which are recognised by the Brussels Region as "exemplary buildings": Brutopia (an ecological grouped housing project in Forest, with 29 housing units) and part of Rue Bruyn in Needer-over-Hembeek (250 passive or "low energy" housing units built by the *Centre public d'aide sociale* (CPAS) in Brussels in the framework of the *Plan 1000 Logements*).

Figure 8. Rue Bruyn project – Bruyn North site: screens placed along private gardens. Source: photo by A.-L. Wibrin

4.1. Rue Bruyn: the appropriation of a housing site by tenants

32. In the space of a few years, Rue Bruyn has been transformed. A long street with single-family houses and small buildings with three floors, next to fields and the military hospital, has been transformed into a street with two or four lanes. The fields have been replaced by 350 new "average" housing units, rented out at the market price by the CPAS in Brussels. Interviews conducted with future tenants when the site was rented out show that there were three main motivations behind moving to the new housing units: living in new housing, living in a quiet neighbourhood and having a (private) garden or a (collective) green space.

33. During interviews with tenants, none of them mentioned the choice to live in passive or ecological housing. One couple even said that if they had known that the dwelling was passive, they would never have chosen it. The wife explained that she had had a "negative" experience of passive housing. In reality, the information regarding the passive nature of the dwelling had been given to the couple on two occasions: the first time was when they brought their application to the office, and the second time was when they visited the dwelling. The couple admitted that perhaps they had received the information, but explained that what mattered at the time was to find a new dwelling. They said that they were probably not paying attention. Rather than seeing the ecological advantages, the tenants saw the economic advantages which could result from their passive dwelling. The fact that it was "new" was also put forward. Living in new housing may be seen as a sign of social advancement. Certain people explained that they had left "rotten" housing situated in "rotten" neighbourhoods which they were happy to take their children away from. "New" housing is appealing and is also often associated with "no problems", no dilapidation, no deterioration, no humidity, etc. As one of the first criteria mentioned with regard to the choice of housing was to live in new housing, it is easy to understand the dissatisfaction of tenants who slowly discovered the early problems of the buildings and the small technical glitches which sometimes took a long time to resolve (problems with rainwater flushing systems, odours and ventilation, etc.). The interviews highlight dissatisfaction in this respect.
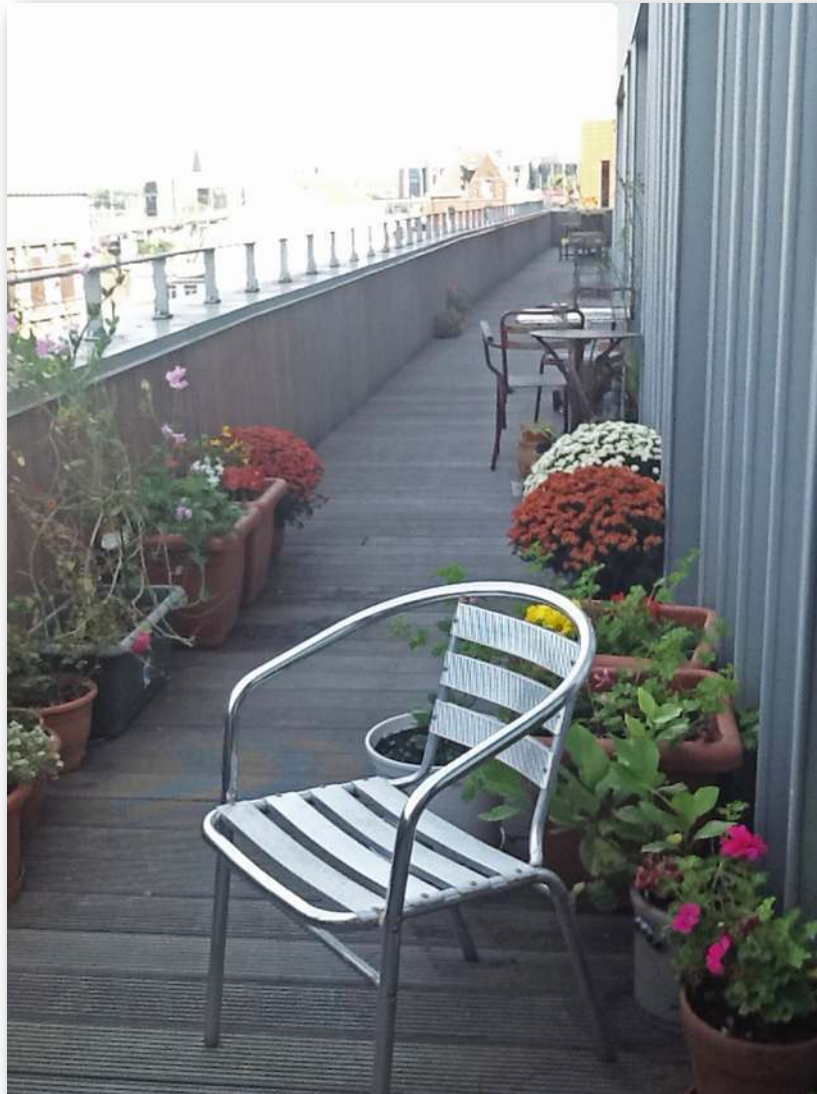
Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

12

Figure 9. Brutopia project: appropriation of passageways by the inhabitants
Source: photo by A.-L. Wibrin

34.   The major characteristics of the three sites are that they have small buildings with three or four floors and that they place special emphasis on private (private gardens) and collective outdoor spaces. But while the architecture firms favoured open or semi-open spaces and gardens opening onto the street and/or the block, there were many tenants who tried to partition their space even more using screens placed along railings or private gardens. On a daily basis, the outdoor collective spaces are used mainly by children. There are frequent complaints by the inhabitants about the noise or about the children ruining the lawn (or the shrubs, etc.). And, apart from being used as a playground, the space is used very little. As regards the indoor common spaces (corridors, stairwells), there is little room for manoeuvre to give them a personal touch. Their appropriation is hardly visible. Some people decorate the landings and entrances to their flats by choosing a doormat, a frame or a small plant. One of the most significant challenges in the appropriation of the outdoor space is to integrate the expectations – which are sometimes very different – of large families and people who live alone. The site's appeal is that tenants are able to benefit from a garden (private or collective). Some people seek peace and quiet in these spaces, whereas others see them as a place to play and meet people. The co-existence of these opposite expectations causes difficulties as regards the use of the space.

4.2. The Brutopia project

35.   The history of the Brutopia project is different. Brutopia is not the fruit of a political decision, but stemmed from the desire of a few people who wished to build ecological housing themselves. The choice of sustainable building and the choice to share certain spaces constitute the basis of the project. It took five years of meetings between the 29 households before this project was completed and the buildings were inhabited. The firm Stekke+Fraas Architectes designed the two buildings of four and five floors connected by a collective garden. While there are many differences between the Rue Bruyn and Brutopia sites, only the ways of using the space are examined in this work. At Brutopia, there are more common spaces – a common garden, a laundrette and a common room – than at Rue Bruyn. The layout and maintenance of these spaces is taken care of by the inhabitants. Brutopia does not

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

13

have any private gardens. At Brutopia as well, children use the common spaces. In terms of noise, there is without a doubt no difference. However, while certain tenants at Rue Bruyn complained of a lack of peace and quiet, the collective opinion regarding Brutopia is unanimously positive. Admittedly, at certain moments, certain inhabitants may find that there is too much noise in the garden, but this does not involve complaints or neighbourhood disputes. In summer during the evening, the space is used by adults more than at Rue Bruyn. Either certain families gather together, or a family uses part of the space with their guests. At Bruyn, in the evening, the common gardens are rarely used, as people tend to use the private gardens. The large passageways at Brutopia, which were designed to be meeting spaces, are used by the inhabitants (plants, tables, children's games, etc.) as living spaces. At Bruyn, the passageways and the paths are used only for passing through. In a few rare parts of the site, neighbouring families have the same expectations and allow their children to play in these spaces. But, in general, when a family uses the space, they are reminded of the internal regulations by the neighbours or the caretaker, or when relations are strained, by the owner. Another visible difference is that at Brutopia, there are no attempts to hide from the neighbours when people are on their terraces. No one has a screen and no one has expressed a need for one.

36. The differences in the use of the sites are probably related to many factors. The fact that at Brutopia the internal regulations were established collectively and intended for 29 households made up of people who know each other, makes them more flexible than those of Rue Bruyn, which are intended to be applied in an identical manner and without negotiation in all CPAS housing. It is of course more difficult to use common space when the regulations forbid any form of personalisation. Furthermore, when people know each other before living together, this creates collective dynamics which are more difficult to implement *ex nihilo*. In the case of Brutopia, the appropriation is pronounced and maintained by the existence of a common and proactive project which means something to the group, who own the place. Other elements come into play. The level of sociocultural mix is different between the sites. While the social differences in terms of income are the same at both sites, the cultural backgrounds are much more ho-

mogeneous at Brutopia than at Bruyn. The cultural diversity at Rue Bruyn without a doubt participates in building different expectations among tenants.

37. This leads us to say that in order to create a sustainable project which the inhabitants want to live in, feel good in and make use of the space, their needs and desires must be heard. When they are listened to, the inhabitants – owners or tenants – may often say what suits them, what should be adapted and what is difficult to negotiate with their neighbours. In a grouped housing project, the participative process is central. With time, some people may propose some landscaping in the garden and others may propose changes to the bicycle room, and everyone participates in decision-making as well as in the concrete realisation. But this method of operation requires a strong involvement, time and means, and will only bear fruit if all of the inhabitants agree with the approach. On a site inhabited by tenants, the decisions are taken by the owner. In the end, one may wonder if it is also necessary to reconsider the relationship between owners and tenants in order to take the different expectations of hundreds of tenants into consideration and encourage "sustainable behaviour".

Conclusion

38. This examination of the building process of the future Tivoli sustainable neighbourhood and the example of two different yet related projects which have already been realised, show that the reference of sustainability supports rather than turns upside down certain reorganisations already under way in terms of urban public action and ways of living. "Sustainability" is thus in keeping with the past evolution concerning the growing importance given to project culture, the increase in interdependence and the – sometimes futile – attempts to coordinate, between private and public stakeholders, the experiences of sectoral decompartmentalisation and the will to develop a coherent and global image despite the multiplication of stakeholders and entry points, and to include the stakeholders concerned through participation.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

14

39. That being said, the case of Tivoli shows that the introduction of the reference of sustainability and the stakeholders who support it indisputably brings about an evolution. It is as though the legitimacy of sustainability – or at least the recognition of the necessity to make progress on the subject – has favoured a certain consensus. Above all, the reference facilitates the introduction of participative procedures with the stakeholder in charge of the project, Citydev, which was hardly in the habit of doing so. Nevertheless, while the advances are significant in the area, as in other projects, it remains difficult to consolidate the practices of participation, especially when many very ambitious aims add strain (current and future social cohesion, raising awareness about sustainability, old and new inhabitants living together in harmony, the integration of "green" companies in the neighbourhood, etc.). The most consensual aspects for the experts, i.e. the technical aspects of sustainability, are also the least well understood by the "ordinary" participants and interest them the least, as these participants are more concerned about mobility and the accessibility of the future neighbourhood. Furthermore, participation is often hardly linked to major decisions, such as the choice of development team or project aesthetics. The increase in importance of sustainability illustrated by the case of Tivoli, promoted by ecologists who have since then returned to government opposition, appears (for the moment?) to reinforce certain stakeholders, such as the *Bouwmeester* and ADT, perhaps marking the (relative) comeback of architects who have long been slandered for their modernist dreams. The emergence of sustainability also prompts other stakeholders such as Citydev to adapt and innovate.

40. As regards the more technical aspects or the "greening of architecture", it is without a doubt the dimension of sustainable development which seems to be most capable of changing the boundaries between the experts and of building a consensus without getting rid of the debates on quality or architectural aesthetics. Furthermore, while architects seem to be finding a place in the urban project thanks to the increase in importance of sustainability, the hegemony of the technical dimension limits their role, without the development of a more global reflection on what a sustainable neighbourhood involves, beyond the integration of technical standards.

41. As the future inhabitants of the Tivoli neighbourhood have not yet been chosen from Citydev's list of housing applicants, it has not been possible to observe a participative procedure preceding their arrival, and even less the way in which they could appropriate this sustainable neighbourhood and its immediate environment. That being said, the analysis of the two other cases of sustainable habitats – Bruyn and Brutopia – has led to some observations. In Brussels and elsewhere, the situation of the housing stock prompts prospective tenants to value new housing, quiet neighbourhoods and the presence of green spaces. In the case of "Bruyn" dwellings, the passive character of the habitat is not very important to them, and even proves to be too restricting. As regards this aspect and others such as neighbours living together, differences in appropriation appear between owners who have opted for sustainability and tenants, in connection with the way in which the inhabitants participate in the design and realisation of the project and its day-to-day functioning.

42. In 2016, four years after the first call for candidates, the "housing" worksite of the Tivoli project, which was submitted to public inquiry during the last trimester of 2015, should soon begin and should be completed in 2019. The Greenbizz complex should soon be open to companies. New worksites and areas of analysis could therefore prove to be exciting. The choice of green companies and their integration in the local socioeconomic fabric, the neighbourly relations between the new and old inhabitants and between Citydev home-owner inhabitants and social housing tenants, the future importance of alternative housing projects, the appropriation of places and regulations of sustainable habitats which may prove to be restricting: so many areas of sociological experimentation in the daily life of a singular neighbourhood, shedding light on the ways in which the contemporary city is built.

Arnaud BILANDE, Cynthia DAL, Ludivine DAMAY, Florence DELMOTTE,
Julie NEUWELS, Christine SCHAUT, Anne-Laure WIBRIN,
The Tivoli sustainable neighbourhood: a new way of building the city in Brussels?,
Brussels Studies, Number 100, June 13th 2016, www.brusselsstudies.be

15

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