

## SUSTAINABLE CITY AND ECO-DISTRICT: NEW FORMS OF URBANISATION FRAGMENTATION OR COMPILATION?

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**Abstract:** The *eco-quartier* (the ecological district) is an urban district which is conceived, constructed and built, based on sustainable development perspectives and where a large number of social, economic and environmental problems were taken into account. This form of urbanization combines the art of “building sustainability” and at the same time the art of managing a sustainable city. In this paper the author is going to examine different typologies of location of an ecological district and answer the question whether this kind of urbanization could well lead to situations characterised as “fragmentation or integration”

**Keywords:** sustainable development, sustainable city, eco-quartier, eco-district, urbanization.

The developing links between cities have always had a fundamental impact on what occurs within them, how urban expansion and form are structured and how they relate to each other. Significant work has emerged over the past decade on mapping the geography of the contemporary world city network. However, very little empirical evidence exists on the impact the growing connections amongst cities is having on their sustainability.

Sustainability has become a major priority in many aspects. The expression sustainable development appeared for the first time in 1980, during a conference entitled “Global strategy for conservation”. In 1987, it was integrated into the *rapport Brundtland* of Unesco which gives the definition of satisfying the needs of present generations without putting in danger the possibility for future generations of satisfying their own needs. The term was confirmed in 1992 at the *Earth Summit* at Rio and has since become a matter of global ethics.

In March 1996, a group of experts working for the European Union published a work which was begun in 1993, “Sustainable European cities”. This document is focused on all urban systems of different sizes. It redefines social implication, political integration, the territorial approach of transport infrastructures, cooperation and partnership. We understand that sustainability has become an educational system and at the same time a model of development resulting in new forms of urbanisation. The purpose of this paper is to specify

a model in order to determine different terms that have to do with sustainable initiatives.

The model that should be proposed has to be thought of both independently as a unit and at the same time as a whole with its environment. A small unit can be easily interpreted in the urban context and have its components thought out in a way so that they create a dialog with developed localities. The invented model has to accomplish the requirements of managing sustainability in order to include it in our cities, either by inventing new forms of urbanisation or by adapting existing ones.

## THE ECO-QUARTIER, ECO-DISTRICT OR SUSTAINABLE DISTRICT: LOCATION TYPOLOGY

In order to understand the relationship between this form of urbanisation and the sustainability of cities, it is important to dissect and correlate the various indicators of each. The transformation of existing cities into sustainable ones appears partially possible as it delivers positive outcomes for certain cities, or even segments within cities, while disregarding or excluding others. Additionally, recently constructed regions such as the *eco-quartiers* can more easily adapt to sustainable design models, and appear more attractive when compared to the inner-city urban model. In these cases, society faces the prospect of allowing segments of its own social fabric to disconnect from the city: once this fragmentation begins to occur, the urban system becomes complicated and unstable, and therefore unsustainable.

The *eco-quartier*, *eco-district* or *sustainable district*<sup>1</sup> is an urban district which is conceived, constructed and built, based on sustainable development perspectives and taking into account a large number of social, economic and environmental problems. It is a concept which gathers all the improvements needed in order to ensure the citizen's wellbeing. This form of urbanisation combines the art of "building sustainability" and at the same time the art of managing a sustainable city<sup>2</sup>. The concept of the *eco-quartier* forms an idealised vision of a future city and offers a guarantee of all possible amelioration.

The location of the *eco-quartier* has to be carefully thought out by all the professionals participating in such a decision. On the one hand, they should not ignore the capacity of a place to absorb a new urban development: endless construction could threaten the biodiversity of a place and do severe damage to its coherence. On the other hand, access to the new districts should be guaranteed by suggesting new infrastructures.

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<sup>1</sup> In this article we are going to use the term *eco-quartier*.

<sup>2</sup> The *sustainable city* was defined at the time of the European conference on Sustainable Cities, held in Aalborg in Denmark in 1994.

In this paper we are going to examine different typologies of location, revealing that this kind of urbanisation could well lead to situations characterised by “fragmentation or compilation”.

### RURAL DISTRICTS<sup>3</sup>

Although the eco-quartier was initially focused on densely populated landscapes, that is, urban, suburban and peri-urban, it can also be constructed in the middle of rural fields. In this case it contributes to the acceleration of urbanisation in what used to be rural areas. In such cases, can we still consider it as a sustainable solution? First of all, the amount of energy needed in order to provide all infrastructure and assure transport connections between the eco-quartier and urban centres, and secondly the cost of construction, are negative factors in choosing this type of urbanisation. Furthermore, the decrease in land for agriculture and the influence on the area’s biodiversity are criteria that lead the experts to choose urban land for constructing new districts.

### SUBURBAN AND PERI-URBAN DISTRICTS

When the district is constructed in such areas (Bedzed<sup>4</sup> in London, Linz in Austria) it can provide a structure for the suburbs giving a coherent aspect to the urbanisation. In Freiburg<sup>5</sup> (Germany), which has a pilot example of an eco-

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<sup>3</sup>Much research and many publications have appeared dealing with the concepts of rural-urban differences, but the controversy regarding the conceptual clarity of the rural-urban variables remains. Traditionally, small, isolated homogeneous and economically independent communities are considered rural, and those communities with large heterogeneous populations and complex technologies are considered urban. But with the rapid changes in modern societies, many researchers have noted the convergence of rural and urban ways of life, and an “increasing degree of interdependence between the city and the countryside” (Fugitt 1963, 257).

<sup>4</sup>Beddington Zero Emissions Development (BedZED) is located in the south of London, in the borough of Sutton. BedZED combines impressive ecological architecture, a variety of transportation and potential for local development. The aim is to propose to the inhabitants a sustainable way of life without sacrificing modernity, urban living and mobility. It takes into consideration respect for the environment and research into social equity, and still remains affordable.

<sup>5</sup>This case study seeks to demonstrate how the green agenda of open space, water and renewable energies are integrated with the brown agenda of buildings, waste and transport. Central to Vauban’s model is the governance system with its emphasis on community engagement and a commitment to elements of the area that are beneficial to the public. Freiburg’s sustainable model district of Vauban, built over a ten-year period and now (in 2008) almost fully developed, illustrates this specific mix of policy initiatives. The main goal of the project is to develop a city district in a co-operative, participatory way which meets ecological, local, economic and cultural requirements.

quartier in Europe, the last rural areas are being developed and once the village communities around the city reach the maximum possible levels of density, urbanisation will stop: after reaching the limits, no more construction will be allowed so that rural areas will be conserved. This example proves that sometimes, some typologies of extension allow us to contain uncontrolled urban sprawl: this procedure is more expensive. The question now is how to achieve the qualities of development in a partially rural environment as well as in an urban one.

## URBAN DISTRICTS

The location of an eco-quartier in an urban zone which is not actually being used (brownfield sites such as a port, a military base, an industrial area) allows, on the other hand, to redefine the urban experience, ensuring the development of the city and controlling its evolution to the benefit of the surrounding countryside. The re-use of urban land assures the construction not only of new buildings but also of new infrastructure which plays an important role in the revitalisation of the place (the Freiburg-district of Vauban, Tübingen, Augsburg and Munich<sup>6</sup>). In France, an eco-quartier usually follows the principle of building the city in the city (*croissance urbaine interne*).

## SEARCH FOR ORIGINALITY

Even if the urban extension planned as an eco-quartier is translated as a general tendency towards renaturalisation of public space and a residentialisation of the urban fabric in order to create new urban centres, it is combined with the

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Freiburg's sustainable urban development model represents the culmination of a 40-year history of innovative urban planning in the city and region. It is important to note that the integration of the green and the brown agendas in city policy was identified as critical at an early stage in Freiburg's recent history. It became manifest in the reconquest of the historic city for pedestrians and trams, and in the search for energy alternatives against the background of popular concern about the risks associated with nuclear power as well as impact on sensitive ecosystems. It was facilitated by the city's capacity for research and development, and by an entrepreneurial culture ready to capitalise on the commercial opportunities of sustainable technologies and practices. All of these trends were well established in Freiburg by the late 1970s and this translated into a political expectation of governments to achieve world best practice in urban sustainability policy, or in fact to redefine the goalposts of world best practice.

<sup>6</sup>The "München Perspektiv", adopted in 1998, is the project for the city's spatial development. Its aim is to keep the urban character of the city compact and green. The principal objective is to avoid uncontrolled urban expansion by re-using brownfield sites and aiming at a functional mix of services, residences, commerce.

need to find original sites. Sometimes the new districts are designed in a way to fit in with a landscape formation (*canal de la Robine*, Narbonne).

Furthermore, when it comes to inner city areas, one of the purposes is to introduce the presence of nature, for example by greening open areas. Water treatment is another important aspect to take into consideration. This new methodology is based on natural phenomena in order to ensure different urban ambiances: the aim is to find the most natural scenes possible.

Another solution is the garden-city, which is also associated with the vision of a sustainable city, even if in this case the density is weaker. For example, Solar City in Linz is inspired by the English garden-city and its linear evolution. In Denmark (Vesterbro district) or in Berlin (Kreuzberg district) we can see natural structures enclosed in an urban islet. In France, a new concept – revealing more commercial technology than landscape practices – has emerged, suggesting living in a forest.

We need, though, to emphasize that there is not always a need for new construction: it is important to know the potential for transforming and renovating an urban area so that building can adapt to contemporary needs.

## CONCLUSION

Is the idea of sustainable city growth an oxymoron? The gravity of the socio-economic problems in some megacities may seem to imply this. On the other hand the creativity and problem solving capabilities displayed in some cities are impressive. Indeed, cities have often been described as the cradles of creativity and as innovative milieus. It is clear that if there is a path to sustainable city development it lies in administrative, organisational, institutional and technical innovation. To stop the growth of cities is not an option. The location of sustainable structures is not only a matter of urban methodology but largely a political, social and economic one. What we need to do is think of conceptual, methodological and operational suggestions answering different forms and scales of urbanisation in order to achieve a territorial strategy which will allow the application of urban suggestions, from a single building to a neighbourhood or a district. Achieving sustainable urban development also means inventing a dialog between nature and the city and facing the climate changes.

The most valuable contribution of design practitioners is to generate ideas with a technical understanding and creative flair for the design, organization, and use of spaces. The aim is finally to imagine on a local scale other possibilities of development. In other words, we need to transform the discussion on urbanisation, to a discussion on sustainable urbanisation that is able to ensure that cities can provide a suitable environment for present and future generations to

satisfy their basic, social, and cultural needs in a sustained manner, enabling the local culture to offer the inhabitants a distinct cultural identity.

## REFERENCES

- Alexander A., 2009: *Britain's New Towns: Garden Cities to Sustainable Communities*. Routledge.
- Burgess R., Jenks M., 2001: *Compact Cities: Sustainable Urban Forms for Developing Countries*. Spon Press.
- Cooper R., Evans G., Boyko Ch., 2009: *Designing Sustainable Cities*. Wiley-Blackwell.
- Frey W., 2010: *Green City Freiburg*. Herder Verlag.
- Gaines J., 2009: *Albert Speer & Partner, A Manifesto for Sustainable Cities: Think Local, Act Global*. Prestel.
- Hamm B., Muttagi P. K., 1996: *Sustainable Development and the Future of Cities*. Oxford & IBH Publishing.
- Irace F., Berrini M., Bonomi A., Colonetti A., Dorfles G., Poggio A., 2010: *Green Life. Building sustainable cities*. Editrice Compositori.
- Jenks M., Kozak D., Takkanon P., 2008: *World Cities and Urban Form: Fragmented, Polycentric, Sustainable?*. Routledge.
- Jenks M., 2005: *Future Forms and Design For Sustainable Cities*. Architectural Press.
- Lefevre P., Sabard M., 2009: *Les éco-quartiers*. Apogée.
- Treberspurg M., 2008: *Solar City Linz Pichling: Sustainable Urban Development*. Springer Wien New York.
- Viljoen A., 2005: *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*. Elsevier.

## MIASTO ZRÓWNOWAŻONE ORAZ DZIELNICA EKOLOGICZNA: NOWE FORMY URBANIZACJI, FRAGMENTARYZACJI CZY KOMPILACJI?

### Streszczenie

Tak zwany eco-quartier (dzielnica ekologiczna) to dzielnica miasta, która została zaplanowana i wybudowana w oparciu o perspektywę zrównoważonego rozwoju, gdzie pod uwagę wzięto szereg problemów natury społecznej, gospodarczej i środowiskowej. Ta forma urbanizacji łączy równocześnie sztukę „budowania zrównoważenia” ze sztuką zarządzania miastem zrównoważonym. Celem artykułu jest analiza typologii lokalizacji dzielnicy ekologicznej oraz próba odpowiedzi na pytanie czy ten rodzaj urbanizacji może prowadzić do sytuacji określanej jako „fragmentacja albo integracja”.