

## **FEATURES FOR SUSTAINABLE URBAN NEIGHBOURHOOD DEVELOPMENT**

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### **ABSTRACT**

An important challenge of urban regeneration lies in the development of sustainable programs improving housing and living conditions. In the Netherlands, since 1990s, creating lasting solutions is one of the basic concerns that have become part of strategies for urban regeneration. The other basic concern is an integrated approach of physical, environmental, social and economic programmes. Urban renewal and regeneration needs to respond to new conditions and adapt ever-present societal and economic changes in neighbourhoods. Based on research of regeneration programmes in the Netherlands and referring to the international debate, the paper will provide criteria for sustainability on features of urban regeneration. In this paper the main focus will be on urban design and planning, the social structure and economic structure. Following the changes in the social fabric important issues are reduction of inequalities, avoiding exclusion and displacement of disadvantaged groups as well as the safety issue.

The economic features that will be considered are related to the development of economic property values due to regeneration. Evaluations of urban regeneration and renewal policies show that, partly due to physical efforts, cities have improved in the Netherlands.

**Key words:** Sustainable Programs, Urban Regeneration, Urban Design, Social Structure, Economic Value.

### Introduction

Urban regeneration needs to respond to changing context with new economic concentrations in cities that are accompanied by new markets for new population groups within the existing urban population and to suit new conditions, social requirements and demands. Two basic concerns have become part of the agenda in all strategies for urban regeneration, namely the search for lasting solutions and an integrated approach to physical, environmental, social and economic programmes. Urban renewal was an important issue in the Netherlands and particularly renewal Rotterdam was a shining example nationally and internationally in the period 1975-1993 [1]. Due to large investments, financial and social capital, large parts of old neighbourhoods have been modernised. But do they reveal lasting solutions? The truth of this is obvious from the fact that even after years of extensive and fundamental government initiatives and the investment of billions in physical renewal and the subsequent social and economic renewal, further measures and investment still seem to be necessary. The main question is what are the features referring to sustainable development? The approach taken in this paper assumes an increase in the lives of the urban fabric, buildings and neighbourhoods with their adaptability and flexibility. Social sustainability involves satisfaction with living conditions and demand relating to housing and the residential environment, the composition of the population of the area or neighbourhood, participation in the labour market and income distribution, but also economic development in the neighbourhood economy, the combating of poverty and, finally, the economic value of dwellings and the assurance of exploitability are important. This is shown in the development of two urban renewal areas in Rotterdam. Sustainable urban design was the main concern in some projects e.g. of the previous site of the water works of the municipality of Amsterdam.

### Sustainable Urban Development

Economic growth and striving for higher levels of technological progress and priority for growth in consumption have meant that the production of urban space has come into conflict with nature and the environment. The report of the Brundtland Committee (1987) introduced sustainable development in a worldwide policy. The 2002 Earth Summit in Johannesburg considered three components of sustainable development, social, ecological and economic, sometimes known as the 'Triple P' – 'People, Planet and Prosperity'. Matters requiring attention included urban growth, and the environment, partnership and finance, and social inclusion (and exclusion) and cohesion [2]. Sustainability discourses create an opportunity to reshape urban environments, making them more equitable for disadvantaged groups. Economic sustainability is dependent on connectivity – participation in existing networks and the ability to create links - and the availability of human resources capable of creating added value. Social sustainability has several sub-categories, such as the ability to acknowledge and create bridges, plural identities and active policies to avoid social

exclusion. Social sustainability touches liveability, residential stability, safety, care for elderly and education whereas the perceived liveability is the appreciation and subjective perspective by an individual of his or her environment. Last decade, a new approach is being taken to urban regeneration, indicated in England as 'Sustainable Communities Plan' [3]. But as in the current economic crisis in the Netherlands shows, the feasibility of sustainability seems to be in conflict with short-running approaches of market-thinking [4].

### Urban Regeneration and Sustainability

Urban Regeneration today is a well-established subject for design aimed at providing more lasting solutions [1]. One of its core activities relates to the functional obsolescence of buildings and sites e.g. change of offices into dwellings and the changing requirements of their users. Roberts [5:17] summarised the essential features of urban regeneration by defining it as: 'comprehensive and integrated vision and action aimed at the resolution of urban problems and seeking to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subjected to change'. The main components are essentially a strategic activity, included economic regeneration and funding, physical and environmental aspects, social and community issues, employment and education (including training), and housing.

In fact there is a continuing conflict in the field of design between the more static character of a dwelling, constructed according to the standards then, and the dynamic characteristics of its users with their different and constantly changing requirements. Adaptability and viability both have an important impact on continued use. The sustainability of a building is measured by the length of the period during which it can be used, let or otherwise exploited, a length that can be reduced by the both technical and normative ageing. Due to the crisis this situation becomes quite serious e.g. when we look at the high share of office vacancies. In Dutch cities, sustainability and the need to maintain and improve buildings are more affected by normative ageing than by technical ageing. In urban regeneration, improvement in the quality of a dwelling or a residential environment can bring about changes in usability and so affect social and economic sustainability. The urban design employed will be linked to the question of the extent to which adjustments are or have been necessary and the extent to which solutions have been seen as positive (or negative) on development of social and economic values.

### Sustainable Urban Neighbourhood Development: Case Studies

In this section we discuss the Dutch state of art by showing three cases. For concerning more broader socio-economic features two cases were selected [1,6]. These two areas, Oude Noorden en Spangen are representative of the approach to urban renewal in Rotterdam since the 1970s. According to the strategy of 'building for the neighbourhood', a high production of new built and modernised social housing

was reached. Both areas show a representative picture of more general trends such as the decrease in the number of families, the increase of singles and immigrants, and the level of unemployment in these sorts of areas. Last decades special programs have been developed, aimed at improving social qualities in the two areas founded on the local governments' efforts to create an undivided city. The third case concerns the first Dutch sustainable urban plan in Amsterdam, within the urban fabric on a former industrial site. This project was one of the five key projects out of 200 projects that was selected for an evaluation research [4]. The main focus here is sustainable urban design creating a compact built environment with the emphasis on improving conditions for a healthy and safe residential environment.

### Oude Noorden

In the period of 1975 to 1993 comprehensive urban renewal occurred, mainly aimed at the modernisation of housing stock and refurbishment of inner courts through the clearance of old businesses. One of the shortcomings of the area was and is the lack of public space, particularly in the neighbourhoods that have tight lot configurations. In this period the main changes to the urban fabric and housing stock were 28 percent new built social housing and 45 percent modernisation, also in the social sector. Partly due to this approach, the amount of small businesses and shops decreased by 27 percent. Since the 1990s, public investments have been aimed at an integration of social, physical and economic policies with a focus on reducing long-term unemployment, enhancing facilities, for example the creation of enterprise areas as 'breeding grounds', and further improvements of the building stock and public space. Coordinated investments of housing associations, the municipality, entrepreneurs from the cultural/creative sector and an art foundation were made in a shopping area to stimulate small scale employment. The share of owner-occupied housing rose from 9 percent in 1999 to 18 percent of the housing stock in the area in 2009 e.g. due to new built owner-occupied housing, accessible for 'social climbers' (people living in the neighbourhood that can afford to buy cheap owner-occupied housing) after demolition old social housing.

### Spangen

Spangen was built in the period between 1920 and 1940 as a coherent ensemble, different from the individual lot developments along main streets that occurred in the Oude Noorden area a few decades before. Most of these dwellings were constructed as social housing. As in the Oude Noorden area, there was a lack of public green spaces in Spangen. A lot of investments have been made to create new public squares and a new river front. In the period between 1982 and 1993 about 22 percent of the total housing stock of Spangen was newly built and about 34 percent was modernised. At the beginning of the 1990s residents experienced severe problems with the quality of life due to drug-tourism, prostitution etc. particularly concentrated in the private rented sections of the area. In protest, residents did try to control car access to prohibit

drug-tourists from visiting dealers. The area was part of the special programs for social and physical upgrading; slum landlords were targeted by local government policies [6]. A remarkable modernisation strategy was developed with support of the municipality concerning self-built housing and co-housing. Newly built housing and modernisation caused a change in tenure; the share of the owner-occupied sector increased from 5 percent in 1999 to 24 percent in 2009 and the social rental sector declined from 77 percent to 64 percent in the same period.

### GWL Area

On the previous industrial area of the Municipal Waterworks built dwellings were completed in 1998 intended for residents from the Westerpark area. The 591 dwellings were meant for a heterogeneous population, for low and high-income groups, mirrored in 46% social-rental and 54% owner-occupied housing. The project also provide accommodation for five communes (including studio apartments), and six dwellings for handicapped people [11]. Some dwellings are flexible in use; providing the possibility to create space for work. With 100 dwellings per ha, the project is referring to concepts of compact built areas and other sustainable urban design issues were economical energy use, rainwater discharge separated from the sewage system, roof-top vegetation, extensive structure of hedges and car-free inner areas [5].

### Features for Sustainable Urban Neighbourhood Development

Evaluation research done in Rotterdam, particularly in the 'Oude Noorden' neighbourhoods [1,6] and Spangen [6], and Amsterdam [4] supported by the findings of other studies of actual practice and the implementation of sustainable urban renewal [3] and referring to the ideas developed by theorists, led to a number of features for sustainable neighbourhood development. The policies that were tested deal with problems embedded in urban regeneration policies, focusing on the needs of less affluent groups and the presence in the Netherlands of a well-established welfare system that has prevented extended concentrations of poor people in urban areas. Despite these policies and due to more general changes on the labour market, changes in the local economy have led Rotterdam still in the position of one of the Dutch cities that reveals the largest numbers of areas with a high degree of deprivation and social exclusion. Avoiding the displacement of low-income groups was a central feature of Rotterdam's approach to urban renewal. That people move house in itself is not a problem; however, if this moving enlarges inequalities between different social groups, then it is a problem.

In this context the urban fabric as a result of urban regeneration is evaluated referring to sustainable development and considering environmentally friendly 'urban design': housing and human environment should be well maintainable and allow multifunctional use following the international debate on the connection between sustainable development and the compact city concept. Consideration of topics of

urban design such as the accessible public spaces, provision of a wide range of amenities re-use of office sites and buildings for housing, the minimisation of transport journeys and the spatial conditions for high-quality public transport. Housing provision should be characterized by accessibility, availability and affordability for all social groups; taking in consideration their flexibility to accommodate various lifestyles. For the 'urban planning' issue should be considered the importance of strategic planning to connect inward- and outward-looking approaches [7] including a strong mixture with housing. Approaches referring to the social fabric should avoid social exclusion and displacement of disadvantaged groups, contribute to reducing social inequalities, respecting plural identities and bridging them as well as the social safety issue. Features referring to the 'economic structure' should underline the relevance for the neighbourhoods to link up and become part of urban networks, creating added value. The changes of the physical quality as result of urban renewal need to be analysed in a broad context and on the impact these modernisation processes have on the social fabric on the various levels of scale. Governance focusing on community activation during the neighbourhood renewal process, and changes in the structure of housing provision and planning towards privatisation have been essential issues in Dutch urban regeneration recently; these issues have had a great impact on the planning and design aspects, the social aspects and the economic ones. This shift towards market-driven forms of urban regeneration, as occurred in the Netherlands since mid-1990s, put a number of governance issues on the urban agenda, involving decentralisation of power, new forms of partnerships including (local) housing associations, organisations of local residents of tenants and owner-occupiers, (local) entrepreneurs, schools, flexibility in the planning process, new forms of participation and interactive democracy with help of the internet and new 'social' media.

Functional ageing of the urban fabric and housing could be assessed by reference to recent standards and norms. Current urban design aiming sustainability are strongly influenced by innovation of sewage systems, waste water, processing and water purification. Real advance can be made by focusing on the entire sequence from energy infrastructure with concepts for developing compact built areas [4]. In the GWL project many design measures were integrated. Residents' participation by planning and constructing sustainability matters were essential for sharing the designers' enthusiasm with the residents. But avoiding cars from the area leads to more mobility of cars in search of a parking place in the adjacent neighbourhood. On housing the most important variables being total floor area and the sizes of individual rooms. If there is to be any prospect for sustainability it is important that flexibility in use of the building and floor plan does not require radical structural adjustment. For this reason various aspects of use should be analysed in relation to housing typology, such as flexibility within the dwelling and the possibility of working at home. Changes in household categories and the increasing diversity of such categories influence the assessment of the quality of housing and the residential environment. Changes in the composition of the population are partly influenced by radical and sizeable urban renewal measures. Some developments, however, are less the



consequence of these programmes than a component of general social development. In the Oude Noorden and Spangen area of Rotterdam, about half of the population was made up of people who fall in one or more of the categories unemployed, single parent families, elderly people on low incomes and ethnic groups. New types of household, such as singles, have taken over the dominant position previously occupied by families [1].

Social obsolescence caused by changing housing needs and requirements result in more emphasis placed on the utility of housing and environment, and the evaluation by residents of their living conditions. Social sustainability should be analysed in terms of assessing housing, use value and urban qualities achieved, including the rating given to the residential situation by residents. Social exclusion including polarisation versus confidence in the neighbourhood is based on indicators like length of residence and reasons for moving. Other topics considered include the composition of the population, the relationship between the degree of stability and mobility of the neighbourhood and developments in the housing market. The value put by residents on social aspects of living conditions, such as quality of life and public safety, should also be examined.

For the socio-economic prospects of developing sustainable communities indicators are needed like monitors of liveability and social safety, and a number of specific indicators such as dependence on rent allowances and social security benefits, and rent arrears.

The 'social Index' score of the municipality of Rotterdam shows that the socio-economic situation in both areas is vulnerable, 'sufficient income' still being the main problem field of the areas: about two thirds of the residents have a low income. However, unemployment in these areas decreased between 2000 and 2010, as did the share of residents receiving social security. The form of gentrification that has been developed last decade means that not all (former) residents moved out, because still large parts stayed in their area.

The score of the area on the Liveability Monitor (Leefbaarometer) and the Safety Index (Veiligheidsindex) improved from negative to mediocre. The liveability of the neighbourhoods that have tight lot configurations remains behind in this, because the liveability of these neighbourhoods is negatively evaluated. This can be explained by the high claims on the use of public space, due to the high housing density of these neighbourhoods. However, the situation has improved in the last decade, probably due to additional investments. Also in Spangen, which demonstrates a limited increase of economic value, the liveability and the safety improved. The situation is still vulnerable, but greatly improved compared to the 1980s and 1990s. The improvement of the liveability is visible as well in the satisfaction of the residents with their living conditions: in both areas, about two thirds of the residents are satisfied with their area. In Spangen, that is a doubling compared to 2002.

Two indicators suggested for future financial developments include an evaluation based on value as a going concern, which is the projected income and expenditure of housing associations as landlord, and the local property tax values [1]. For instance, referring to the property tax value, the economic value of the Oude Noorden area

greatly increased during the period of 2000 to 2008. The average house value per square meter in this area increased by 136 percent, compared to an average increase in Rotterdam of 97 percent in this period. The above mentioned increase of economic value in the Oude Noorden is explained by the location adjacent to the city center and high concentration of facilities and the strong representation of the creative sector. Next to these inherent qualities of the area, the high increase of the economic value can be explained by large investments. For instance, around a refurbished square and a new square. Undoubtedly, the historic buildings and the location adjacent to the city center also played a significant role in this valuation [6].

### Conclusion

Combining sustainable development with urban regeneration became a challenge since the 1990s. That means to consider features of urban design and planning, the social fabric, economic structure and governance. This puts forward that sustainable urban regeneration is a strategic activity including objectives that should not only solve physical deprivation but also development of plans adapting within the urban fabric and building stock to meet changing conditions with new demands and requirements. Urban renewal of Dutch neighbourhoods show that these enormous investments in spatial qualities have led to a considerable lengthening of use of the building stock and urban fabric. Though in some cases new interventions were needed. The aim of improving liveability of areas in deprivation is mostly in literature connected to gentrification, particularly to the spatial process of social-economic upgrading. The cases demonstrate an increase of economic value, the liveability and the safety improved. The situation is still vulnerable, but greatly improved compared to the 1980s and 1990s. The improvement of the liveability is visible as well in the satisfaction of the residents with their living conditions.

The integration of questions concerning planning, human environment and environmental processes including social and economic issues with finding the right urban form and building typology need more elaboration in research and practice. This could be quite in conflict with short term approaches of market-led policies. Particularly new forms of sustainable regeneration are needed to deal with the current and future situation with cutbacks on governmental investments and subsidies.

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