

**Ariënne MAK\*, Paul STOUTEN\***

## **URBAN REGENERATION IN ROTTERDAM: ECONOMIC AND SOCIAL VALUES**

**Abstract.** Development of economic and social values is regarded as a key factor in urban development and urban regeneration. With its history of urban renewal and regeneration since the 1970s, Rotterdam provides an example to assess the profound changes from a socialized mode of housing provision and urban renewal towards more market-oriented strategies. In this light, new forms of gentrification are becoming a regular strategy in former urban renewal areas, mainly dominated by social housing. The paper examines the development of economic and social values in areas of Rotterdam that have been transformed through the vast urban renewal and subsequent regeneration programs. Mostly these programs are area-based approaches that got priority in more European countries.

**Key words:** urban regeneration strategies, economic values, social values, gentrification.

### **1. INTRODUCTION**

In the Netherlands since the 1970s major changes in urban planning, including the stagnation of land revenue, have been caused by the shift from urban expansion to city regeneration. Currently, the municipality of Rotterdam, as other Dutch municipalities, is looking to prioritize public investments based on economic value development. An increase in real estate value stimulated by public investments might encourage private investors to participate in real estate development projects, making the city more attractive for living and working particularly for middle and high(er) income groups. Due to the market-led policies, since the 1990s' gentrification processes might be in conflict with the living conditions of sections of the urban population that are excluded from 'regular' prosperities. And thus

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increase of economic values might be corresponding with improvement of social-economic conditions of the current residents of an area but can also lead to displacement of a share of these residents.

According to the Big City policy,<sup>1</sup> in Rotterdam, nearly half of the neighbourhoods have been designated as low-income area by the government. The ambition is to counteract the problems in these deprived areas through area-based initiatives by dealing with physical, social and economic aspects integrated. Most of these areas were also part of urban regeneration programs in the past (Stouten, 2010). Between 1975 and 1993, urban renewal and social housing had a major effect on urban planning in the Netherlands, particularly in its major cities. In this respect it should be emphasized that the Netherlands has the highest proportion of social housing in the EU, about 36% of the total housing stock, and for the large Dutch cities this proportion measured as high as 50% in 2009. In comparison to other Western European cities, Rotterdam provides an early example of more profound measures taken to combat decay: a socialised mode of consumption, a welfare state policy and a high degree of institutionalised forms of tenant participation. The approach taken prior to 1993 involved more decentralized decision-making by which local authorities and tenant groups worked in cooperation.

The main question guiding this paper is: how have economic and social values changed in urban regeneration areas in Rotterdam? An important issue in answering this question is gentrification versus displacement of current tenants. Besides, the impact of urban design and planning on the changes in economic and social values will be evaluated. This is an interesting challenge for creating lasting solutions for urban regeneration and planning e.g. improvement of the residential environment by completion of pocket parks, modernization of buildings and revitalization of riversides.

The research concerns an ex-post evaluation of the constructed quality resulting from urban renewal and regeneration initiatives and is focused on two cases that were addressed by these policies. Research by SteenhuisMeurs (2009) and Stouten (2004), policy papers, statistics of the municipality and housing associations provide important information about these areas. In this context, the change

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<sup>1</sup> The Big City policy covered five fields of activity: work, education, security, quality of life and health care (Stouten, 2010): (1) Work and education: long-term unemployment, mainly concentrated in deprived areas, should be appreciably reduced: education should improve the chance of entry to the labour market; (2) Security: action should be taken to reduce insecurity feelings experienced in public space by both residents and visitors; (3) Quality of life and health care; real improvement should be achieved in quality of life in deprived areas and in the city as a whole. An area-based approach was assumed for the implementation of this policy, and a link was established between social, spatial and economic factors: (1) Strengthening of small and medium-sized businesses; (2) Special attention to retailing, commercial services and tourism; (3) Development of new forms of industrial activity; (4) Deregulation and priority in spatial development; Experimental projects for creating jobs.

in the property prices was analyzed, with reference to the improvement of the residential environment and interventions in the urban and social fabric. The case studies focus on the changes to the urban fabric, socio-economic features, development of economic values and social qualities. The development of economic values was defined based on values that are used by Dutch local governments for determination of property tax (so-called 'WOZ-values'), and aggregated at the level of a building block. The representative value of the estimate has been checked through consultation with experts at the municipality. Differences in the development of values at the local level were based on mapping and matching the changes in the urban fabric concerning the economic value (particularly property prices) before and after the regeneration process. Moreover, the value of social qualities was analyzed by referring to the national monitor of livability (*Leefbaarometer*) of the Ministry of Internal Affairs and two indicators of the municipality of Rotterdam; the *safety index* and *social index*.

For this research the areas Oude Noorden and Spangen were selected according to the following criteria: the areas considered had to be part of the urban renewal approach according to 'building for the neighbourhood' during the period of 1975 to 1993 and addressed by the following Big City policy, area-based policy and designation as 'empowerment areas'. Furthermore, the urban regeneration scheme had to be completed within the urban fabric such that an evaluation of value development was possible. Secondly, each area had to be representative for Rotterdam of differences in economic development based on environmental features, location and effects of the approach.

The chosen areas have quite different positions in relation to the city centre; the southern part of the Oude Noorden area is directly adjacent while for Spangen this is not the case. This means that comparison of both areas provides insight into the impact of location on value development.

In this paper, we first set out the theoretical foundations and definitions of economic and social values connected to urban regeneration. After identifying these issues, we focus on urban regeneration in Rotterdam, particularly in the two selected areas, and the development of economic and social values.

## **2. URBAN REGENERATION AND GENTRIFICATION; ECONOMIC AND SOCIAL VALUES**

As in many other European cities, urban regeneration and urban renewal were and are accompanied by debates about gentrification. Jones and Evans (2009) define gentrification as 'the process by which buildings or residential areas are improved over time, which leads to increasing house prices and an influx of wealthier resi-

dents who force out the poorer population'. Though gentrification is basically driven by the private sector, urban regeneration and renewal processes are very dependent on governmental national and local policies.

In the Netherlands, as e.g. in the UK (see Jones and Evans, 2009) the label urban renewal with its community-led policies changed to the physical modernization of infrastructure and large urban projects (e.g. areas around railway stations, brownfields) which is broadly defined as urban regeneration of cities and regions (Stouten, 2010). The essential features of urban regeneration were summarized by Roberts (2004: 17) 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 put forward as relevant to the regeneration of UK cities (as in the Netherlands), are strategic activities including economic regeneration and funding, physical and environmental aspects, social and community issues, employment and education (including training), and housing.

Urban regeneration, as Sassen (1991) already indicated in the 1990s, needs to respond to changing conditions with new economic concentrations in cities that are accompanied by new markets for new population groups. Urban regeneration aims to stimulate this process. In most of the Dutch cities (like the UK, Tallon, 2010, p. 205) national and local policies have encouraged the repopulation of the city centre exemplified by urban renaissance, brownfield development and mixed-use development. There is a wide range of strategies from restructuring and privatization by demolition of the social housing stock to upgrading and modernization measures involving community-led improvements: physical, social, economic and cultural.

Some of these strategies are more or less connected to gentrification and accompanied by increases in land prices and displacement of people (Porter and Shaw, 2008). This mostly state sponsored gentrification is a multi-faceted and heterogeneous process that affects neighbourhoods in and near the city centre (Tallon, 2010). The process identifies physical, social, economic and cultural transformation as part of urban regeneration.

This paper focuses on economic transformation with economic 'reordering' of modernized property values and social transformation as a process involving questions about displacement and/or marginalization of a variety of indigenous residents by 'invading outsiders' (Tallon, 2010). That means that the focus is on spatial-economic issues, addressing the development of the market value of an area and socio-cultural aspects including upgrading quality of life and safety. The ratio between these economic and social values is influenced by government measures. Accordingly, less attention will be paid to a socio-economic approach, for example issues such as segregation and poverty.

The potential for conflict between social value and market value and the effect of such conflicts on the new status of urban renewal areas and new and modern-

ised complexes is back on the agenda. This certainly applies in cases of restructuring. Residents and administrators both find that new interventions and additions to the housing stock and the urban fabric lead to an increase in value, though this can differ between owner-occupiers and tenants (Stouten, 2010). The tension in policy on community renewal between the idea of bottom-up community-led empowerment and the ideas of centrally driven priorities remains. Concerning gentrification and urban renewal in individual neighbourhoods, this tension is in most cases a relatively limited process from a temporal as well as spatial perspective. To understand these perspectives, more insight in the development and changing context of urban renewal towards urban regeneration is needed.

### **2.1. From Urban Renewal to Urban Regeneration**

Stimulating gentrification versus combating displacement is, as described above, strongly related to government policies. At the end of the 1960s, there was growing dissatisfaction with slum clearance operations and programs stimulated by central and local government, aimed at displacing residents from these urban areas to peripheral estates or other poor-quality housing in Rotterdam as in other Western European cities (see also Couch, Fraser and Percy, 2003). An area-based approach became the basic principle underlying policy at this time (Stouten, 2010). Urban renewal has always been broadly defined in the Netherlands, considering not only social housing and spatial planning but also traffic, business, education, art, services, assistance, employment, unemployment, the environment, management etc. These comprehensive strategies demonstrate the wide-ranging nature of the problems experienced by the residents with respect to their living and housing conditions. Despite significant modernization of the housing stock, the improvement of the urban fabric according to current standards mostly failed to solve the high concentration of social problems in these areas, such as low-income groups, unemployment, high crime rates and school drop-outs (Stouten, 2010; Netherlands Environmental Assessment Agency, 2010). A distinction should be made between changes in conditions for urban renewal brought about through external developments and those that can be traced back more or less directly to the urban renewal policy itself, such as the building of social housing for the neighbourhood population and purchasing housing from private landlords by the local government. External developments include the economic recession, unemployment and changes in the structure of employment, the affordability of housing, changing ratios of immigrants to natives, social and cultural changes and changing relationships between central government, municipalities, housing associations and residential groups. Economic developments in the 1980s, including an economic recession, had a radical effect on urban renewal. Area-based activities declined in the wake of these national developments.

By the end of the 1980s, a market-oriented approach responding to new sets of challenges had become dominant in much of Europe. An important new issue was the need to take into account environmental objectives as part of sustainable development. In the Netherlands, urban renewal became part of an even more comprehensive form of regeneration of a city or region and became a subject for design aimed at providing more lasting solutions.

Last decade, due to sharper conflicts shown in the debate on politics to attack segregation and improvement of livability in urban areas, integration and safety were added to the economic, social and physical pointers of the urban agenda. It did fit in the area-based approach that got priority all over Europe. These policies extended to more areas, also beyond the four main (Big) cities to areas of more than thirty smaller cities. Main policy changes are the decentralization of budgets from national government to municipalities and provinces, and the approach being more tailor made and dependent on the local context. This seems to be adequate, for research has shown that in Dutch cities social and economic problems arise in small, dispersed concentrations (Kempen, 2005). Besides, cities become affected by gentrification and urban regeneration where no longer individual neighbourhoods become gentrified, but larger parts, particularly brownfields and inner city areas, are upgraded e.g. by building luxury apartments.

### 3. URBAN REGENERATION IN ROTTERDAM

With its history of urban renewal and regeneration since the 1970s, Rotterdam provides an example to assess the profound changes from a socialised mode of housing provision and urban renewal towards more market oriented strategies, for other cities in the Netherlands and elsewhere in Europe. Most of the programs of social renewal, subsequent Big City policies (*Grote Stedenbeleid*) and neighbourhood approaches such as the strategic area-based approach (*wijkaanpak*) started in Rotterdam and were later adopted by central government. The objective of the Big City policy was to combat inner-city deprivation by strengthening and taking advantage of economic potential at city and area level. The policy was inspired by concern for the urban labour market, where the demand for the highly educated no longer bore any relation to the generous supply of unskilled and semi-skilled workers. The policy covered five fields of activity: work, education, security, quality of life and health care (Stouten, 2010, p. 126). Though Tallon (2010) criticised Roberts' definition, outlined above, stating that the approach in the UK cannot be considered comprehensive, 'comprehensive' is certainly an appropriate description of urban regeneration in Rotterdam since the 1970s.

Partly due to tenants' protests, the 1970s saw a fundamental change in approaches to solve problems in pre-war deteriorated areas, mostly around city centres. The urban renewal policies, launched in 1974 by the new elected local gov-

ernment, placed a greater emphasis on rehabilitation and improvement rather than large scale demolition of existing building stock. Moreover, the approach called for participation of residents in the planning process and decentralized control. The fact that priority access to new or modernized housing was given to lower income groups made the aims, techniques and results of 'building for the neighbourhood' (*bouwen voor de buurt*) unique in the history of social housing. 'Building for the neighbourhood' meant that the current tenants were given priority to improve their housing and living conditions.

New approaches that were taken in the 1980s, 1990s and in this century, have led to a higher degree of integration of social, economic and building policies. Since the 1990s, the aim has been to achieve a population with more variation in income and household composition whereas during the 'building for the neighbourhood' period, priority was given to increasing housing quality through new social housing and housing improvement. In the 1990s, the provision of more differentiated housing was seen as a way to combat the threat of spatial segregation. The theme that became central in urban renewal was housing in relation to other more economic functions, in combination with strengthening the housing provision for higher income groups rather than for economically weaker social groups. Differentiation of the residential environment became a new objective. Differentiation, sustainability and the designed quality of residential environments were emphasized, in combination with strategic planning as important elements in giving shape to the new framework for regeneration. The development of new housing types and residential environments is seen as a way of matching supply to changing requirements and demands. The design of public spaces as well as urban management is necessary to strengthen public spaces as places for informal activities, and to ensure that such spaces are not only used as transitional zones for transport and mobility.

However, many problems, such as unemployment, proved to be stubborn. Horizontal and vertical integration of different policies and problem areas at different levels of scale, and cooperation between different parties continued to give rise to conflicts. There has also been much uncertainty regarding the completion of the plans. Since the mid-1990s housing production in the Netherlands remains far behind central government forecasts, a situation that has been reinforced by the economic crisis of 2008: from 30% to 40% not completed before 2008 to about 50% to 60% after 2008.

In 2002, the Minister for Housing, Regional Development and the Environment launched the *Actieprogramma Herstructurering* (Action Program of Restructuring) including instruments for the improvement of 56 priority districts (Stouten, 2010). According to this approach, the program was initiated in Rotterdam in five areas, taking a large-scale and long-term physical approach to battle the complex problems of quality of life. Once again the areas in question had for years been included in lists prepared as part of earlier urban renewal policies. Since 2007 the central government has renamed 'problem areas' and 'priority areas' as 'empow-

erment areas' (*krachtwijken*) of which there are 40 throughout the country. The areas have been selected on 18 criteria referring to English experiences. These areas are defined by a high representation of residents with hardly any access to the labour and housing market, including problems of quality of life. Rotterdam is considered a 'champion' on this list, comprising seven of the 40 areas on the national list. In total, about one third of the Rotterdam population lives in areas that are assigned as 'empowerment areas' with policies on physical and social issues driving the agenda. Within the Netherlands, both the municipality and the region of Rotterdam are not very prosperous: 29% and 24% of the households respectively are considered low income.

While overall measures of livability have improved and unemployment has decreased at the national scale between 2008 and 2010, the situation in Rotterdam has been better addressed than in many other cities. There is a large variety in the development of areas inside Rotterdam. On the one hand, many 'new' areas have developed with problems of livability. On the other hand, because of the positive results in the same period, there are also many areas that have been improved substantially. The improvement of the living environment means a more differentiated housing stock, and also decrease of social incivilities and increase of social safety (RIGO and Atlas for Municipalities, 2011, pp. 27–28). Mainly this situation is caused by the area-based approach focused on tackling unemployment and modernization of the housing stock. The public investments of the central and local government and housing associations for upgrading these areas of Rotterdam in the period of 2007 to 2011 were: 60 million euros by the central government and 212 million euros by the municipality of Rotterdam. Housing associations will invest another 878 million euros by 2018 (Ministry of Housing, Spatial Planning and the Environment and the Municipality of Rotterdam, 2008). Moreover, there are investments by real estate developers, for example new built housing in the market sector. Subsidies of the national government have acted as trigger money to multiplied effects: one euro public money did lead to 10 euro private investments on the urban environment.

Despite the improvement of the living environment in deprived areas, the aim of the municipality to attract higher and middle income groups seems to be too ambitious, considering the housing production (Netherlands Environmental Assessment Agency, 2010). In the period from 1990 to 2008 there were 54,000 houses built in Rotterdam, which is nearly half of the total regional production. But due to the demolition of 42,000 houses, the total increase in numbers of the housing stock is poor. Besides, targeting buildings in urban renewal areas towards middle and higher incomes has been threatened by building new housing at the edge of the city (e.g. VINEX locations) because particularly nuclear higher income families often choose to leave urban areas in favour of moving into fringe developments.

However, the research *Settle and Go (Komen en gaan)* (Municipality of Rotterdam, Office of Statistics (COS), 2010) shows a slight overall increase of these middle and high-income groups. By replacing the old obsolete rental housing with



new owner-occupied housing ‘social climbers’ have been more inclined to stay within the same neighbourhood and also there has been an influx of higher income households. The same effect is also being achieved by selling old social rental housing after modernization (see e.g. Spangen and Oude Noorden below).

#### **4. TWO CASE STUDIES OUDE NOORDEN AND SPANGEN**

An important aim of the municipality of Rotterdam is to stimulate gentrification in the areas around the city centre (Municipality of Rotterdam, 2007). As mentioned above, this paper focuses on two areas, Oude Noorden and Spangen, that are representative of the approach to urban renewal developed in Rotterdam since the 1970s.

Urban renewal in the Oude Noorden area started in 1975 and in Spangen in 1982. According to the strategy of ‘building for the neighbourhood’, a high production of new built and modernized social housing was reached. At the end of the 1990s, old housing had been replaced by new housing in neighbourhoods of both areas. A mix of social and owner-occupied housing remained, but the social rental sector still dominated the housing provision. The developments in 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 (see table 1). Since the end of the 1980s, special programs have been developed, aimed at improving social qualities in the two areas. The initiatives have been founded on the local governments’ efforts to create an undivided city. Both areas were chosen because they have serious problems to solve.

How have economic and social values changed over time in these areas? To answer this question, referring to gentrification, we will give a more detailed description of the urban renewal and regeneration approach in these areas, physical changes and the development of economic and social values and changes in the division of tenure.

##### **4.1. Oude Noorden**

In the period of 1975 to 1993, comprehensive urban renewal occurred, mainly aimed at the modernization 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, green spaces were missing in the neighbourhoods that have tight lot configurations. Sometimes the enlargement of community space was achieved by adjoining two original building blocks or through the demolition of an entire block (see figure 1).

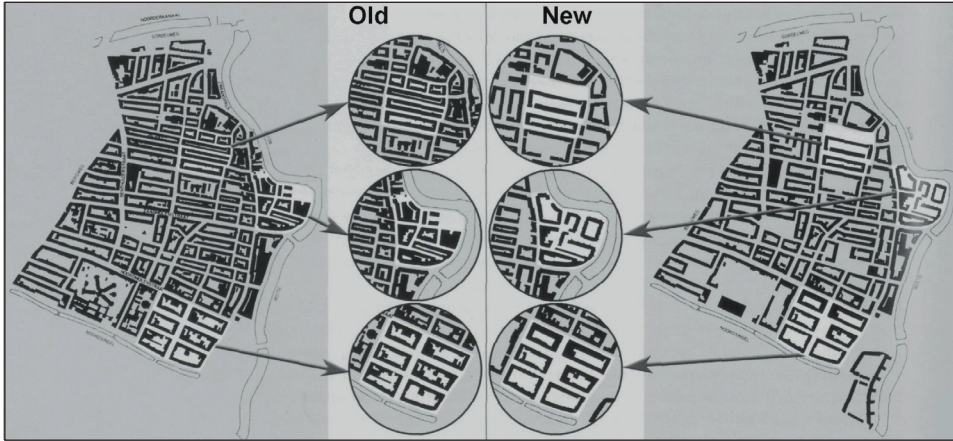


Fig. 1. Changes in the urban fabric as a result of urban renewal

Source: Stouten (2010)

However, these changes caused fragmentation in the neighbourhoods with the most compact building parcels. In this period the main changes to the urban fabric and housing stock were 28% new built social housing and 45% modernization, also in the social sector. Partly due to this approach, the amount of small businesses and shops decreased by 27%.

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 ('breeding grounds', see figure 2), and further improvements of the building stock and public space, for example the potential of the river front. Finally, investments have been focused on stimulating the owner-occupied sector. This enables residents that would otherwise move away (the so-called social climbers), to improve their housing conditions within their own neighbourhood. These opportunities for staying in the neighbourhood support social cohesion. 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. Due to new built housing in the owner-occupied sector, after demolition of old social housing, and sales of social housing after modernization, the share of owner-occupied housing rose from 9% in 1999 to 18% of the housing stock in the area in 2009. As a result of restructuring, the housing density declined. After already decreasing from 90 dwellings per hectare in 1975 to 83 dwellings per hectare in 1999, by 2009, the density was 79 dwellings per hectare.



Fig. 2. The ROTABS Style Centre: units for rent to the 'creative class' in a former firehouse

Source: photo Paul Stouten

## 4.2. Spangen

Spangen, in the western part of Rotterdam, was built in the period between 1920 and 1940 as a coherent ensemble (SteenhuisMeurs, 2009), 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 along the Schie. Prior to the 1990s urban renewal was mainly concentrated on the modernization of social housing, meaning that the original urban fabric was maintained, but the street frontage was changed by adding new stores and balconies. In the period between 1982 and 1993 about 22% of the total housing stock of Spangen was newly built and about 34% was modernized.

At the beginning of the 1990s residents experienced severe problems with the quality of life due to drug-tourism, dealers, prostitution etc. particularly concentrated in the private rented sections of the area. In protest, residents cordoned off the area and controlled 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. The most deteriorated section including drugs, crime and social safety issues became one of the largest restructuring projects located along the canal. This estate of about 450 dwellings, mixed with a school, community centre and room for small enterprises was constructed between 1998 and 2008. As in the Oude Noorden area, changes within the

urban fabric resulted in more public space in Spangen as well; the current housing density per hectare is about 65, compared to 95 houses per hectare in 1975. A remarkable modernization strategy was developed with support of the municipality concerning self-built housing and co-housing (*collectief particulier opdrachtgeverschap*) after delivering the building shell by the local government free of charge, but with the obligation of investing at least 70,000 euros (for one floor of 50 m<sup>2</sup>) to 200,000 euros (for four floors) (see figure 3). Newly built housing and modernization caused a change in tenure; the share of the owner-occupied sector increased from 5% in 1999 to 24% in 2009 and the social rental sector declined from 77% to 64% in the same period.



Fig. 3. Renovation by means of self-built housing and co-housing.

Source: photo Paul Stouten

## 5. ECONOMIC AND SOCIAL VALUATION OF THE URBAN REGENERATION AREAS

Table 1 shows the scores of the Oude Noorden area and Spangen according to the various indicators, also in comparison to the average of the city. The economic and social valuation of the areas is explained successively.

Table 1. Neighbourhood characteristics of the Oude Noorden area and Spangen

Specification	Oude Noorden		Spangen		Rotterdam	
	initial measurement	recent	initial measurement	recent	initial measurement	recent
General						
sub municipality	Noord		Delfshaven			
building period	1870–1900		1920–1940			
surface (hectare)	107		64			
Demography						
number of inhabitants (1999–2009)	18,246	16,895	10,705	9,801	592,597	587,161
age groups (1999–2009)						
inhabitants 0–15 years (percentage)	20%	18%	28%	23%	17%	17%
inhabitants 15–65 years (percentage)	72%	74%	67%	71%	67%	69%
inhabitants 65 years and older (percentage)	8%	9%	6%	6%	15%	14%
share of immigrants (percentage)	58%	65%	80%	85%	39%	47%
Housing stock						
number of dwellings (1999–2009)	initial measurement	recent	initial measurement	recent	initial measurement	recent
dwelling density (dwelling per hectare) (1999–2009)	83	79	4,479	4,183	284,227	289,337
owner-occupied housing (percentage) (1999–2009)	9%	18%	5%	24%	21%	32%
share of social rental housing (percentage) (1999–2009)	69%	64%	77%	64%	58%	49%
index of the average property tax value of dwellings per m <sup>2</sup> (2000–2008)*	75	90	65	62	100	100
Socio-economic characteristics						
	initial measurement	recent	initial measurement	recent	initial measurement	recent

Table 1 (cont.)

Specification	Oude Noorden		Spangem		Rotterdam	
share of low incomes (percentage) (2002–2008)	62%	65%	75%	66%	52%	51%
unemployment (percentage)** (2000–2010)	10%	6%	11%	6%	6%	4%
share of social security recipients (percentage) (2000–2010)	12%	9%	12%	8%	8%	6%
Livability (1998–2008)***	negative	mediocre	very negative	negative	mediocre	fairly positive
Safety Index (2001–2009)	unsafe (3.8)	threatened (5.6)	unsafe (2.5)	attention (6.3)	threatened (5.6)	safe (7.3)
share of inhabitants that is satisfied with their area (percentage) (2002–2009)	47%	64%	31%	66%	68%	73%
Social Index (2010)		vulnerable (5.3)		vulnerable (5.1)		vulnerable (5.8)

Source: <http://rotterdam.buurtmonitor.nl>, unless indicated otherwise: \* Indexed to the Rotterdam average (€ / m<sup>2</sup>) of respectively 2000 and 2009. Based on: Braun *et al.* (2011). \*\* Percentage of the potential labour force, unemployed for more than a year. \*\*\* Source: Ministry of Internal Affairs Livability Monitor (Leefbaarometer), [www.leefbaarometer.nl](http://www.leefbaarometer.nl)

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 the area increased by 136%, compared to an average increase in Rotterdam of 97% in this period (see table 1 and figure 4). There were only four areas in Rotterdam where the economic value increased more during this period (Braun *et al.*, 2011).

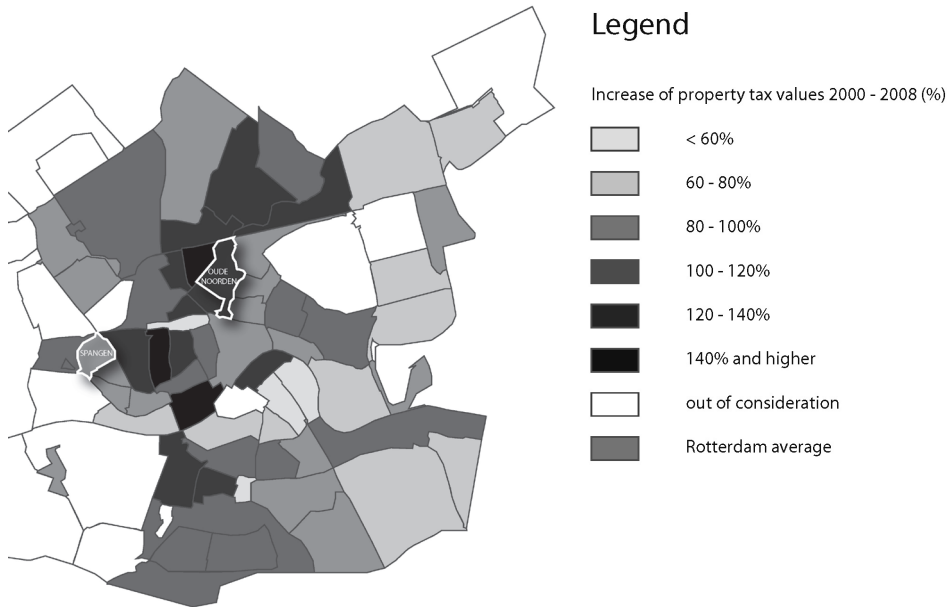


Fig. 4. Relative increase of property tax values per square meter of Rotterdam neighbourhoods between 2000 and 2008 (%)

Source: based on Braun *et al.* (2011)

It should be noted that the focus is on increase of economic value. The level of the average home value in the Oude Noorden area in 2008 was comparable to the average of Rotterdam. On the other hand the increase of economic value in Spangen between 2000 and 2008 remains behind the average of the city (an increase of 89% in Spangen, compared to 97% in Rotterdam). The average home value in Spangen in 2008 was actually the lowest in Rotterdam (Braun *et al.*, 2011).

What factors can explain the above-average increase of economic value in the Oude Noorden area? The location of the area, adjacent to the city centre, is expected to be an important factor. The positive impact of proximity to the city centre on the increase of economic values was found in studies by Visser and van Dam (2006), Schuurman (2010) and Braun *et al.* (2011). The first study

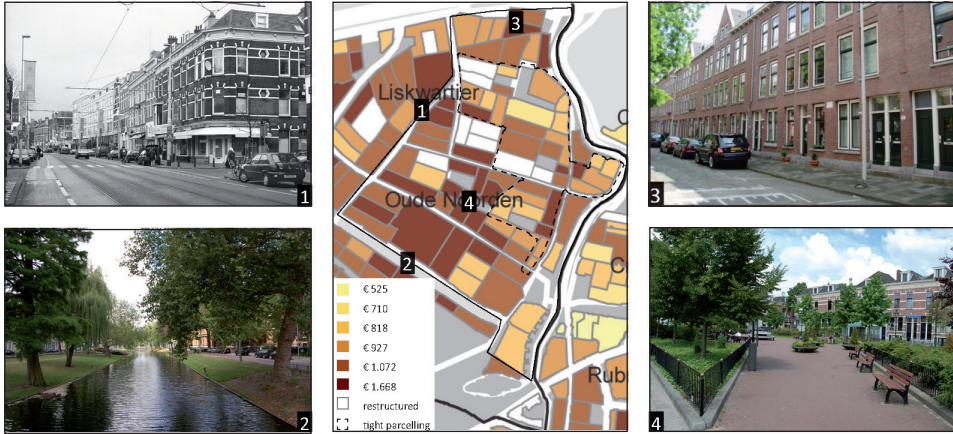


Fig. 5. Relative increase of WOZ values per square meter per block (with a minimum of ten dwellings) in the Oude Noorden area in the period 2000–2008

Source: based on Municipality Rotterdam, dS+V (2009) (addition of accents by authors, photo 1 by Hans Krüse, photos 2–4 by Paul Stouten)

mentioned includes a national comparison. Schuurman (2010) compared the increase of economic value of areas in Amsterdam and Braun *et al.* did so for areas in Rotterdam. The relatively high concentration of facilities (see figure 6) is a possible explanatory factor for the increase of economic value. The positive impact of the presence of facilities was also found in a study by de Groot *et al.* (2010). Furthermore, the creative sector is strongly represented in the Oude Noorden area. A study by Brouwer (2009, p. 15) shows that the presence of this sector positively impacts the economic value of an area. Brouwer notes that this effect is particularly found in deprived areas.

Beside these functional characteristics, there are physical characteristics that explain a high increase of economic values. The area has a high share of buildings dating from before 1906; the share of these buildings in the housing stock (mostly modernized) is 33%, compared to an average of 6% in Rotterdam (COS, 2011). Visser and van Dam (2006) concluded from their study *Price of the Location (De prijs van de plek)* that housing dating from before 1905 is an explanation for differences in home values. The increase of economic value of the neighbourhoods that have a compact lot configuration remains lower (see figure 5).

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, the average home value increased by almost 1,700 euros per square meter in the period of 2000 to 2008. Undoubtedly, the historic buildings and the location adjacent to the city centre also played a significant role in this valuation.



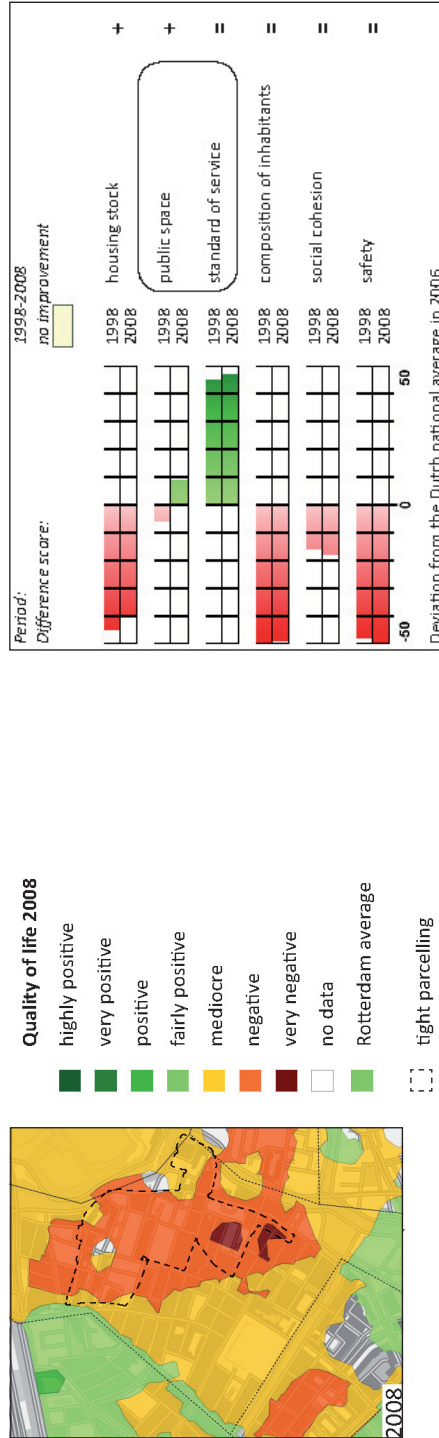


Fig. 6. Left: Livability in the Oude Noorden area in 2008 on cluster level.  
 Right: Development of the livability in the Oude Noorden area in the period 1998–2008  
 Source: [www.leefbaarometer.nl](http://www.leefbaarometer.nl) (translation and addition of accents by authors)

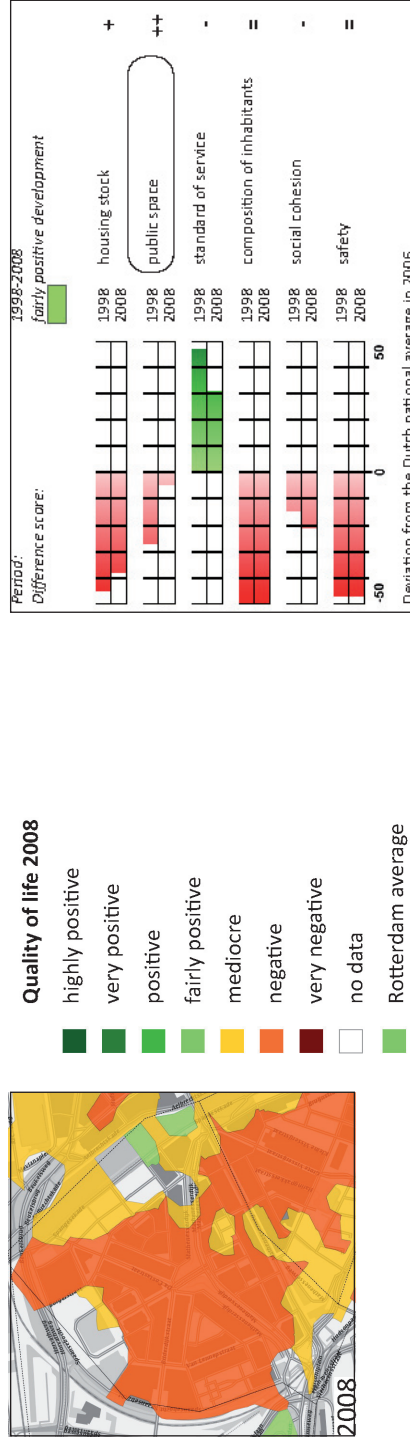


Fig. 7. Left: Livability in Spangen in 2008 on cluster level  
 Right: Development of the livability in Spangen in the period 1998–2008

Source: [www.leefbaarometer.nl](http://www.leefbaarometer.nl) (translation and addition of accents by authors)

The aim of improving livability of areas in deprivation is in the literature (see before) connected to gentrification, particularly to the spatial process of socio-economic upgrading. Compared to the increase of the economic value in the Oude Noorden area that was well above average in Rotterdam, the indicators of socio-economic development show a moderate picture. The score of the area on the Livability Monitor (*Leefbaarometer*) and the Safety Index (*Veiligheidsindex*) improved from negative to mediocre (see table 1 and figure 6).

The livability of the neighbourhoods that have tight lot configurations remains behind in this, because the livability of these neighbourhoods is negatively evaluated (see figure 6). 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. For example, a square was added and a building block was restructured. Also in Spangen, which demonstrates a limited increase of economic value, the livability and the safety improved (see table 1 and figure 7). The situation is still vulnerable, but greatly improved compared to the 1980s and 1990s. The improvement of the livability 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.

The *social index* score 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 – a large proportion stayed in their area.

## 6. CONCLUSIONS

Urban regeneration accompanied by a new mode of gentrification has been developed. Policies aiming at socio-economic and physical upgrading show similarities with processes that are identified in international literature. In areas of Rotterdam where investments in urban regeneration have been made, the development of economic and social values shows a diffuse image. Favourable results of livability in Rotterdam compared to many other cities in the period of 2008 to 2010 indicate the consequences of vast investments in deprived areas by the municipality, central government and housing associations according to the area-based approach. Since the 1990s there has been a sharper focus on spatial-economic development referring to urban regeneration, in other words the future value and position on the market of an area. This meant a fundamental break with the policies in place prior to the 1990s that were mainly driving modernization of social rental housing.

Changing planning conditions such as stagnation of revenue in the case of land development include a shift from urban extension towards interventions in the urban fabric. In the 1990s residential differentiation to diminish segregation became a new aim in urban regeneration. This meant giving more priority to building for higher and middle class households than economically vulnerable groups. Favourable effects might be that so called 'social climbers' will remain more permanently in the neighbourhood alongside a decrease in segregation, particularly of low income and non-western minority ethnic groups. But together with the aim to retain middle class and higher income groups, problems such as unemployment and the high share of low income groups remain structural. The two selected case studies show in depth an emphasis on spatial-economic and social-economic problems. In the last decade in both areas there was a rise in the economic values particularly in the property prices, that is partially explained by investments in urban regeneration. Moreover some neighbourhoods show an extra economic value increase. In the Oude Noorden area the differences between values of housing properties are larger than in Spangen: for instance value development in the southern part near the city centre is larger than in other parts of the neighbourhood. That means that the location issue is more dominant. Housing associations have opportunities to claim an extra rent increase for a succeeding tenant, for example, after a previous tenant moves away. Particularly, since the 1990s housing associations and the municipality have prioritized economic value development. In the case studies there are clear examples of the sale of modernised social housing around parks or public space, created by the demolition of building blocks. Also important are locations along rivers or canals. In both areas new built and modernized housing result in a higher share of owner-occupied housing at the expense of the share of social housing, which are indications of gentrification. However, gentrification in these areas remains limited to the level of building blocks and state sponsored projects, like the enterprise areas in the Oude Noorden and co-housing in Spangen. Gentrification in Rotterdam is related to larger developments, like brownfields and inner city areas, rather than individual neighbourhoods.

Though urban regeneration is accompanied by an improvement of livability and safety of neighbourhoods, including a decrease in unemployment, the socio-economic situation still is quite vulnerable. Displacement of economically vulnerable residents within the city will not bring a fundamental change in the employment structure and participation in the labour market. Though the development of social and economic values shows some positive results in Rotterdam, high priority on both issues is still needed. This requires active cooperation, involving schools, housing associations and e.g. organizations of local businesses to avoid a situation that special qualities referring to the social and urban fabric are modernized or bulldozed away.

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