Urban Land Readjustment After Disaster and Other Depression

Johan GROOT NIBBELINK, Peter DE WOLF, The Netherlands

Key words: urban land readjustment, legislation, valuation

SUMMARY

The Dutch government is developing a set of rules for the settlement of urban land readjustment. This system of rules seems to be a new idea in the context of Dutch government. However, one precedent can be found in the reallocation of plots in Rotterdam which were destroyed during the Second World. After the war, owners of the damaged area were expropriated and in exchange they got a claim for a new plot. This claim could only be cashed in by building on the allocated plot. Due to the implementation of a sophisticated system, land and buildings values were estimated in former situation and in new situation. This post-war system of allocating plots survived many decades, right up until the early 1980s.

The rules for urban land readjustment in their present form are not based on expropriation. Owners have to agree voluntarily to an exchange of property. However, lessons can be drawn from the Rotterdam readjustment. Moreover, in the case of voluntary readjustment it is advisable to work with two different estimated values, one regarding the offered land and one regarding the allocated land. Similar to the Rotterdam case, added value due to reallocation of functions and accessibility of land, can be attributed to the project. It is also important to note that the means of allocation during a long period of time, can be significant for urban land readjustment today.

SAMENVATTING

De Nederlandse regering werkt aan een regeling voor stedelijke herverkaveling. Een dergelijke regeling is nieuw voor Nederland. Toch is er een voorganger te vinden in de herverkaveling na de verwoesting van Rotterdam in 1940. Toen werden eigenaren van het getroffen gebied onteigend, maar kregen zij daarvoor in de plaats een recht om een nieuw stuk grond terug te ontvangen. Dit recht kon alleen worden verzilverd, wanneer de nieuw toegewezen kavel werd bebouwd. Voor de waardering van de grond en de gebouwen in zowel de oorspronkelijke situatie als in de nieuwe situatie, was een doordacht systeem ontwikkeld, dat zelfs tot in begin jaren '80 van de vorige eeuw stand hield.

Hoewel de regeling voor stedelijke herverkaveling die nu wordt vormgegeven, niet gebaseerd is op onteigening, maar juist op vrijwilligheid, kan er toch van de Rotterdamse herverkaveling worden geleerd. Zo is het verstandig om ook bij vrijwillige stedelijke herverkaveling te kiezen voor aparte waardering van de inbreng- en van de toedelingssituatie. Hierdoor kan, evenals in de Rotterdamse casus, de waardevermeerdering door verschuiving en verandering van functies, ten goede komen aan het project. Ook de wijze waarop gedurende een lange tijd in het herinrichtingsproces toewijzingen van grond kunnen plaats vinden, kan van betekenis zijn voor het vormgeven van stedelijke herverkaveling vandaag de dag.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

Urban Land Readjustment After Disaster and Other Depression

Johan GROOT NIBBELINK, Peter DE WOLF, The Netherlands

1. INTRODUCTION

In 2008 the world faced the economic crisis. This was a global disaster with huge local consequences. In the Netherlands the number of transactions pertaining to the sale of houses decreased by 40%. The economy shrunk, shop and offices became unoccupied.

Since 2008 the number of unoccupied shops has increased from 5.5% to 9.2% of the total shopping area.

This correlates with similar figures regarding the vacancy of offices, which increased from 10.2% of the offices that were empty in 2008 to 17.2 % of offices that are empty today (CBS and PBL, 2016).

This dynamic is especially prevalent in the city centres creating a downward movement resulting in less attractive shopping areas, fewer people shopping, more bankruptcy and even less attractive city centres.

The problem is not simply one of conjuncture. Rise of internet sales and an increase in the number of people working from home and no longer occupying offices, result in a structural overcapacity of square meters of shops and offices.

At the same time demand for housing areas still exists, especially in areas like Amsterdam and Rotterdam. In order to realize this demand within the city borders political choices about spatial planning need to be made. For example the choice of whether to transform brownfields or to build at the urban fringe.

Compact cities result in preservation of open landscape and more vitality in the city. In the highly populated Netherlands, this open landscape is highly valuated.

This choice results in a spatial task force being set up to concentrate vacancy and to transform the unoccupied buildings to housing.

It has to be noted that the situation in various parts of the Netherlands is different. However, that is beyond the scope of this paper.

A second development in the Netherlands is that the government is withdrawing from the land market.

Before the economic crisis the government, especially the municipalities, had an active role as both seller and buyer of developing areas. In this way the municipalities could steer the direction of development. However, due to the crisis faced by the municipalities, the risks involved in this kind of land policy turned out to be larger than expected and this resulted in huge financial losses. As a consequence the government now chooses a facilitating role instead.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

The Dutch legal system provided the municipalities with enough legal instruments to take a more active role. Furthermore changes in the law ensure that instruments for land policy, such as expropriation, privilege right, land readjustment and cost recovery for public spaces and infrastructure, are more suited to the new role of the government.

The Land Environment Act will be introduced in 2018, and with this act a renewal of the land policy instruments will take place.

A new act pertaining to spatial planning is expected in 2018.

The implementation of this Land Environment Act will be accompanied by a further renewal of the land policy instruments.

One of the new instruments that the Minister of infrastructure and environment mentions, is urban land readjustment. Urban land readjustment is expected to help to solve the transformation issue by exchanging land, building and spaces.

Urban land readjustment in the Dutch context is quite a new subject. Different European and Asian countries have rules for exchange of ownership in built up areas. Until now The Netherlands has not had an act or any other kind of regulation for urban land readjustment, although The Netherlands can look back at a century of land re-allotment in rural areas. But at this very moment the Dutch government is working out rules for urban land readjustment.

The Netherlands has not always been a country without urban readjustment. In the Second World War the city of Rotterdam was bombed and the city centre was completely destroyed. To rebuild the city a new plan was made. An important part of the plan was the right for owners of the damaged houses to return to the rebuilding area.

This paper discusses the system of readjustment of property rights and security rights during the rebuilding of Rotterdam in the period 1940 - 1970; it further discusses the current system that is in place for the regulation of urban land readjustment. A careful overview of the similarities and differences between both of these situations will enable the writers to draw conclusions relevant to the contemporary discussion on urban land readjustment.

2. THE ROTTERDAM CASE

2.1 The Rotterdam plan for reconstruction

At the 14th of May 1940 the inner city of Rotterdam was bombed by Germany. About 11,000 buildings were destroyed. The entire city centre had to be rebuilt.

The city council decided quickly to assign Mr. Witteveen to make a reconstruction plan (Van Schilfgaarde, 1987). The plan Witteveen provided a clear separation of spatial functions: shopping, office and housing areas were allocated to different locations.

Particular to the plan that Witteveen proposed was the participation of citizens after launching the plan. The municipality discussed the plan with stakeholders and as a result of this consultation the plan was adjusted. Mixed zones and service streets for the shops were integrated in the plan.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

Despite the initial enthusiastic reception of Witteveen's plan, some resistance gradually began to surface. In 1944 a new plan was made, the Base Plan of Rotterdam. The city centre of Rotterdam was extended towards the west, a new road infrastructure was planned and different functions, such as housing, working and shopping were mixed up. The base plan was intended to be flexible and functioned more than 40 years, until 1984.

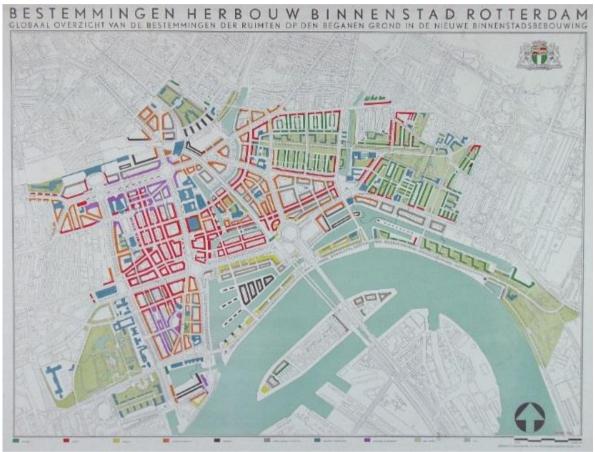


Figure 1: Base Plan for the reconstruction of Rotterdam

Directly after the bombing the rebuilding of the city started. Only ten days after the bombing had ceased, rules for expropriation of destroyed buildings were in place. Six days later, on the 30th of May 1940, the first expropriations were established. The expropriation was possible in such a short period of time, because of the valuation was executed at a latter date. After the first tranche of expropriations, a second was needed, partly because of a change of the plan.

2.2 The system of claiming land

The Rotterdam case of land readjustment was based on expropriation. This is an essential characteristic. At one hand the owner lost his real estate, but on the other hand the owner still kept

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

the right for compensation in land or in cash. Principally the compensation of expropriation of land was given in land. This is the reason the Rotterdam case is a case of land readjustment.

An owner could exchange his compensation right for a plot by claiming a plot. To promote rebuilding the city, a plot was given back with the restriction the owner had to develop the plot fitting the base plan. Together with claiming a parcel a building plan had to be handed over. In the meantime de property rights were secured.

The damage of the building, often totally destroyed, was paid in cash. The subject of land readjustment was factually not the building (if it was still there) but the offered plot. There was no possibility to claim the building in land. Receiving money was conditioned by the aim this money had to be used for rebuilding.

2.3 The valuation of the offered plots

Two valuations were executed. The subject of the first valuation was the real estate property the owner had lost. The value of this real estate was based on the market value at the moment before the war started – on 9 May 1940. Also the value of the real estate after bombing was determined on date 9 May 1940, but then in condition after bombing. The difference between both values was called the war damage.

The subject of the second valuation was the plain building plot the owner received. This plot could be situated at another location and could also be higher rated in value by the development of the base plan.

The valuation was executed by a committee which was especially established for this task, the land value committee. The task of this committee was a severe one, because estimating the value of buildings that don't exist anymore, is very difficult. The valuation method of the committee was mainly done in two steps:

- The determination of the value of land and building together.
- The determination of the value of only the land.

The difference between both was presumed to be the value of the building (the war damage), when the building was totally destroyed.

The first step was done by using different methods, depending on the situation. When a building was hired out, estimation was done by capitalizing the rent. In most cases this rent was still traceable. When a building wasn't hired out, reference buildings were determined and the market value of those references was estimated on the date of 9 May 1940. When the subject of valuation was an extraordinary building (like a monument or a fabric) and no reference buildings could be found, then the last known selling price was taken into account and actualized to the reference date of 9 May 1940.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

The second step of the valuation was quite more simple. The valuation of land was done by establishing the value of the building strip for each street and appointing a lower value for the land behind the building stroke, which was not directly accessible to the public road. The value of the building strip was determined mainly by the most favorable exploitation of the land, taking into account the location of the land and the destination rules.

In an accounting system - the ledger - it was tracked which owners were expropriated, the amount of the claim to land and the amount of compensation for war damage.

For example:

Owner A possessed a parcel of 400 m2 with a shop and first floor home before the bombing. The market value of his property was 50,000 Netherlands guilders (NLG) on 9 May 1940). By the bombing the building was completely destroyed. The value of the plot without a building should be NLG 10,000 on 9 May 1940. The war damage in this case is NLG 40,000. The owner has the right to receive a plot with value NLG 10,000 on condition he is going to build. Subsequently he receives NLG 40,000 to spend on the new building.

The reconstruction of Rotterdam was really started after the Second World War. Since plots were appointed much later than the expropriation, interest had to be awarded. Presume owner A of our example received a new plot in 1950, his right for land was increased to NLG 14,106 (with an interest rate of 3.5%) and the payment for war damage was risen to NLG 56,424.

2.4 The allocation of the plots

The allocation of new plots to owners was also subjected to rules. Firstly, an owner should claim a right by indicating which plot he wants to get allocated. This lot will be reserved for this owner. It may happen that several owners want to reserve the same plot.

In this case priority rules apply:

- Highest priority has the owner who is willing to rebuild immediately.
- Second best is the owner who wants a new plot at the same place or nearby the original plot, under the condition the original tenant or plant manager has to return to exploit the building.
- Next best is the owner who wants to rebuild at another location, but with returning of the original tenant.
- Furthermore the plot is allocated to the owner who wants to rebuild in the same place, but with the intention to hire out to another tenant than the original one.
- After that the plot is appointed to the owner who wants to rebuild at another location and besides that with another tenant.
- And finally an owner gets a plot when he is a new coming owner who did not possess real estate before the bombing Rotterdam.

2.5 The valuation of the allocated plots

The allocated plot is regarding the reconstruction of the city, in a very different situation than the expropriated urban land. Therefore the value of the plots can be very different than at the moment of expropriation. This was called the "environmental change". Therefore, the land valuation

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

commission proposed a land prices map for the assignment of land. The basis for the price of land was the price of land at that same location on 9 May 1940, plus the added value for environmental change.

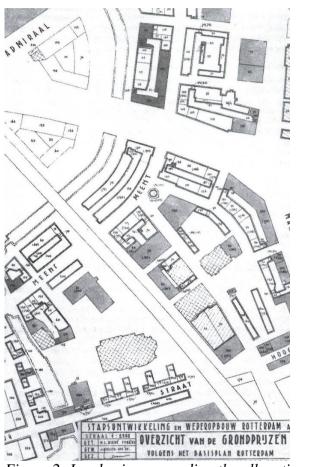


Figure 2: Land prices regarding the allocation of plots (Van Schilfgaarde, 1987)

In most cases the owner got less land allocated than put in, because of the increase of value due to the environmental change.

Then the owner had to choose whether he would accept a smaller plot without extra payment, or he would accept a plot of the same size but also with a payment for the difference in value. It was also possible that the owner bought the claim of another person and enlarged his claim in this way to get a bigger plot.

The total plan was made in such a way that the total value of the allocated plots was more or less equal to the total value of the expropriated land. Because of the higher allocation value, more space was created for public space, which was assigned to the local government without payment.

The system of land prices functioned for quite a long time. Namely, until the early '80. At that time almost all claims were allocated or sold out.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

3. RULES FOR URBAN LAND READJUSTMENT AFTER ECONOMIC CRISIS

3.1 The return of urban land readjustment

In 1952, as a result of the land readjustment in the reconstruction period of the Netherlands after the Second World War, mr. J.M.C. Witvliet pleaded for a regulation of urban land readjustment (Witvliet, 1952). Nevertheless it took until the '70 before this becomes a political issue. In the early '80 mr. P. de Haan designs a proof of concept of an Urban Land Readjustment Act. This Act fails for political reasons. At the same time pilots are initiated for readjustment in shopping streets. In 2001 the theme appears again in the national land policy paper (Ministerie van VROM, Ministerie van Financiën, 2001). Urban land readjustment is mentioned as an instrument that can have added value for the existing land policy. According to the national government, the instrument needs to be examined further.

This is done in 2004 and in 2007, but it seemed not to be urgent enough to make rules for urban land readjustment. The situation changes when the economic crisis appears in 2008. In 2012 the Minister of Infrastructure and Environment starts a pilot program with 12 cases to be examined. The Dutch Cadastre participates in two of these pilots, bringing in its know-how of land readjustment in the rural area.

After the pilot program the minister establishes a commission for Urban Land Readjustment. This commission has to give advice to the minister which kind of legal rules are necessary for successful urban land readjustment.



Figure 3: Proposal for Urban Land Readjustment in one of the 12 pilot cases. Shown left: ownership before reallocation, shown right: ownership after reallocation (Van der Stoep e.a., 2013).

3.2 The advice of the commission for Urban Land Readjustment

The commission proposed that owners should try to agree to a readjustment in a voluntary way (Commissie Stedelijke Herverkaveling, 2014). When one or some stakeholders won't agree to the

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

readjustment, the majority of owners can present the readjustment plan to the municipality. The municipality then has to check the plan regarding a given set of criteria, like if the interests of all parties are secured sufficiently. When the plan satisfies the criteria, the municipality will impose the readjustment plan, also to the unwilling owners.

Despite the advice of the commission, the minister has decided to exclude the compulsory part of the proposed way of urban land readjustment. The minister thinks a compulsory exchange of urban land is not desirable and is also not necessary (Ministerie van Infrastructuur en Milieu, 2015). Not necessary, according to the minister, because expropriation is the most preferred instrument, when one of the owners will not or cannot join the redevelopment. Not desirable, because compulsory urban land readjustment contravenes property rights severely and owners can be forced to take risk in development.

3.3 The proposal for voluntary urban land readjustment

The Dutch minister of infrastructure and environment is now preparing legislation for voluntary urban land readjustment.

The existing rules for voluntary rural land readjustment are the starting point to shape the new rules. Owners have to agree to the exchange of their property rights.

During 2015 research is done which obstructions can be mentioned when the rules for voluntary rural land readjustment are implemented for urban land readjustment (Braakensiek, 2015). The added value of legislation is the elimination of those obstructions.

Firstly, registering the new legal situation is simpler when you can use the deed for exchanging plots in the rural area. In this case more than two parties can exchange land. It also can be arranged in the same legal document that some owners voluntary won't get property rights back (leavers) of some participants acquire real estate without bringing in property rights (entrants).

Secondly, the deed has legal effect to legal successors. When parties have made an agreement, this agreement can be registered in the public registers at the cadastre. Legal successors, for instance the inheritors when an owner passes away, are bound by the agreement made by the deceased person, even when the exchange of land wasn't executed yet.

If it turned out that owners can't be found, expropriation can be used. Then a spatial plan to base the expropriation is needed. At the moment one can image situations without a spatial plan to justify expropriation, for instance when the land readjustment will result in no other kind of use of the plots. The minister intends to arrange new planning tools in the new Environmental Act which can be used in such situations.

The third obstruction which has to be taken away is the impossibility to exchange rights on apartments, when not all the owners of the property rights in the apartment building agree with the decision of one owner to exchange his rights.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

And fourthly, rules for verifying mortgages are adjusted. At the moment old mortgage rights have to be removed when real estate is exchanged, and new mortgage rights have to be established. Together with this new establishment, conditions on giving mortgage are checked. The conditions to give mortgage are sharpened since the crisis. So it can happen that an owner gets an equivalent object (or even more worthy object) back than he put in, while he doesn't pass the check for a new mortgage. The adjustment on verifying mortgages intends to prevent this kind of situations.

The minister also wants to investigate the possibility of reduction of the tax duty at the delivery of real estate in case of urban land readjustment.

Finally a manual is made for valuation of real estate regarding urban land readjustment. At the moment it is not clear how the valuation will take place. Leading in the Netherlands is the system of valuation given by the Expropriation Act. In this system expected value of new functions has to be taken into account. This obstructs the way of estimating in case of urban land readjustment (see par. 4.2).

4. **DISCUSSION**

4.1 Comparison between the Rotterdam readjustment and the new rules for urban land readjustment

While comparing the new rules for urban land readjustment and the Rotterdam case, we mostly see differences.

Nowadays we talk about a voluntary readjustment, while the Rotterdam readjustment at the time knew the obligation to accept the allocated plots. Today it is about rules in which expropriation is the ultimate remedy, then expropriation the base of the reallocation. In 1940 a sharp division was made between the right to receive land and the right to receive money to rebuild, and therefore a separate valuation for land and building was made, now land and building are seen as one object which can't be valuated separately. More things like that can be mentioned.

But at the other hand there are also similarities.

In case of voluntary urban land readjustment it is essential owners participate in planning. The plan has to be their plan. But also in Rotterdam owners and stakeholders did influence the plan.

In both cases we see owners possessing land at the start of the readjustment process, who are still remaining owner after reallocation. The location of their property afterwards is mainly determined by the owners themselves.

And in both cases it is possible to participate in the adjustment process or to leave it.

The goal of readjustment both in Rotterdam and nowadays, is to get a better exploitation of the project area. Again in both cases starting point is to create added value to the area.

Legally we see similarities in rules for mortgages in a way a mortgage doesn't have to be contracted again, but can be transformed to the new legal situation.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

Both in Rotterdam and in the new rules for urban land readjustment the project area doesn't have to be reallocated at once. A longer period of time can be taken with different and sequent allocation plans, deeds and deliveries. Nowadays we called this kind of development the 'chain of exchange'.

4.2 Lessons of the Rotterdam Land Readjustment

The new rules for voluntary urban land readjustment are not shaped completely yet. The ministry had founded a program to stimulate pilots to make the rules as applied as possible. During 2016 the rules are developed more and more and in 2018 the rules should be implemented.

Regarding to this it is important to take into account the Rotterdam reallocation. Valuable elements can be transformed to the rules for voluntary urban land readjustment.

Three issues are mentioned:

1. The way of estimating the value of real estate. In Rotterdam two moments of valuing are taken into account: one based on the situation before starting and one based on the situation after reallocation. The date on which is valued is the same date.

Now an other problem in Dutch legislation occurs. The Dutch Expropriation Act imposes that the expectation of added value, derived from new functions, has to taken into account when real estate is valuated. As long as there is no exception of this rule for the first estimation in urban land readjustment processes, owners will wait to exchange land; they better can hope the government will expropriate their property, for they will get a better price then.

Now at the same time legislation for urban land readjustment will take place, legislation for expropriation will be changed and it gives the possibility to solve this problem.

The method of estimating in the Rotterdam case is in such way that deliveries or exchange agreements can be situated in time. This is a strong element in the Rotterdam method. The manual for valuation could work this out.

2. *The way added value benefits the project*. In Rotterdam an increase of value was made, mainly because of improvement of the accessibility and of the better possibilities to exploit the plot. The allocated owners pay this added value. The land needed for the increased public area is paid by the added value.

In voluntary urban land readjustment no such system can be obliged. But participants can make an agreement to pay project cost from the added value and share the rest of the increase together. It has to be very clear then the added value only will occur when the readjustment will succeed.

3. The long period of time allocations take place. Nowadays discussions are made how to handle subsequent developments in the project. The owners don't have equal urgency to develop and will not want to invest at the same time. How can the interest of the owners be placed in time? We can learn from the Rotterdam case: it is possible to facilitate urban development by appointing plots

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

during a long period of time. Land can be put in and taken out much later. A system like the Rotterdam ledger is possibly a right option.

5. CONCLUSION

Nowadays legislation for urban land readjustment is shaped in the Netherlands. The rules intend to end the stand still of economic development in shops and offices markets. Although created in quite another context, lessons can be drawn of the urban land readjustment of Rotterdam after the Second World War. These lessons focus on the way of estimating, the way added value benefits the project and how to handle land exchange over a long period of time.

REFERENCES

Braakensiek, M. (2015), Eindrapportage Open consultatieronde wettelijke regeling. Vrijwillige stedelijke herverkaveling. Antea Group, Heerenveen.

- Bregman, A (2012), Herverkaveling als instrument voor gebiedsontwikkeling, Amsterdam School of Real Estate, Amsterdam.
- Buitelaar, Edwin, Niels Sorel, Femke Verwest, Frank van Dongen & Arjan Bregman (2013), Gebiedsontwikkelingen commerciële vastgoedmarkten, een institutionele analyse van het (over)aanbod van winkels en kantoren, PBL, ASRE.
- Centraal Bureau voor de Statistiek [CBS], Planbureau voor de Leefomgeving [PBL], Wageningen UR (2016). www.compendiumvoordeleefomgeving.nl. Date: 02-02-2016, CBS, Den Haag PBL, Den Haag/Bilthoven en Wageningen UR, Wageningen.
- Commissie Stedelijke Herverkaveling (2014), Grenzen Verschuiven, Eindrapportage, Commissie Stedelijke Herverkaveling, Amersfoort.
- Ministerie van Infrastructuur en Milieu (2015), Kamerbrief grondbeleid, <u>www.rijksoverheid.nl</u>. Date: 02-02-2016.
- Ministerie van VROM, Ministerie van Financiën (2001). Op grond van nieuw beleid, SDU, Den Haag.
- Schilfgaarde, P. van (1987), De wederopbouw van Rotterdam, Stedelijke herverkaveling in praktijk, VUGA Uitgeverij B.V., 's Gravenhage.
- Stoep, H. van der, J. Groot Nibbelink, M. Bonke, E. van der Krabben (2013), Stedelijke herverkaveling als aanjager van stedelijke ontwikkeling. Real Estate Research Quarterly 12 (2), pp. 40-51, VOGON, Amsterdam.
- Witvliet, J.M.C. (1952), Stedebouwkundige herverkaveling en toewijzing in verwoeste gebieden van Nederland, N. Samson N.V. Alpen aan den Rijn.

BIOGRAPHICAL NOTES

Johan Groot Nibbelink is senior consultant at the Netherlands' Cadastre, Land Registry and Mapping Agency. He has a Master's degree at the Delft University of Technology in geodetic engineering. After years of managing rural land development projects, now his main focus is on innovations in urban land readjustment.

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)

Peter de Wolf is innovation manager at the Netherlands' Cadastre Land Registry and Mapping Agency. He has a Master's degree at the Delft University of Technology in geodetic engineering. After being responsible for many years as a team leader for rural land development projects, now his main focus is on innovations in area development.

CONTACTS

Johan Groot Nibbelink MSc. Netherlands' Cadastre, Land Registry and Mapping Agency P.O. Box 9046 7300 GH Apeldoorn THE NETHERLANDS Tel. +31 88 183 3321 Email: johan.grootnibbelink@kadaster.nl Web site: www.kadaster.nl

Urban Land Development: the Meaning of the Rotterdam Case for the New Dutch Voluntary Urban Reallotment Act (8185)

Johan Groot Nibbelink and Peter de Wolf (Netherlands)