

# PERFORMANCE AGREEMENTS FOR SUSTAINABLE BUILDING IN THE RENEWAL OF POST-WAR HOUSING AREAS

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## Summary

In the Netherlands, the renewal of post-war urban housing areas is an important policy. Through renovation of social-rented housing or demolition and building of new owner occupied dwellings, the post-war housing areas will become upgraded. These practices generate opportunities for the implementation of sustainable building. However, research shows that ambitions on sustainable building are often not fulfilled. In Dutch public housing a performance agreement has been a common policy instrument since the privatization of housing associations in the 1990s. A performance agreement is a written agreement, which encompasses the performances that involved actors agree upon. The agreement forces parties to pursue shared goals. This paper explores the possible effects that a performance agreement can have on the decision-making process in urban renewal and whether this instrument can stimulate the implementation of sustainable building. An exploratory case study research led to preconditions for establishing performance agreements and to preconditions for the implementation and execution of these agreements. In addition, a theoretical framework was established for the possible effects of performance agreements on decision-making processes in urban renewal projects. This framework forms the starting point for further research.

## 1. Introduction

Since its introduction by the Brundtland Commission in 1987, sustainability has become an important issue in many policy areas. The implementation of sustainability in urban renewal projects in the Netherlands has been the subject of several studies (Bus, 2001; Van der Waals, 2001; Boon and Sunikka, 2004). These studies focused on the complex decision-making processes in urban renewal and the application of sustainable building measures. Practice shows that the implementation of sustainable building has not been very successful so far. At the beginning of a project, actors do formulate ambitions for implementing sustainability, but ultimately very few targets are reached.

A performance agreement has been a common policy instrument in Dutch public housing since the privatization of housing associations in the 1990s. Performance agreements are also applied in urban renewal projects in the Netherlands. Recently, the government has obliged local parties concerned with 56 urban renewal areas to formulate performance agreements in order to speed up the restructuring processes. By signing a performance agreement actors commit to the objectives that are formulated in the decision-making process. So far, little attention has been paid to the effect of a performance agreement on the decision-making process and on the implementation of different sustainable building measures in urban renewal projects.

An exploratory research on existing performance agreements shows that few performance agreements incorporate sustainable building. However, policy makers do share the opinion that performance agreements could have an important role in realizing ambitions on sustainable building (Boon and Sunikka, 2004). The aim of the present paper is to explore what possible effects a performance agreement can have on the decision-making process in urban renewal and whether this instrument can stimulate the implementation of sustainable building. The paper is structured as follows. The next section gives insight into the position of performance agreements in Dutch public housing and elaborates on regulations and instruments for the stimulation of sustainable building. Further, it discusses some characteristics and functions of performance agreements. The third section describes the context in which urban renewal projects take place and elaborates on the ambitions of actors on sustainable building. The fourth section pays attention to a set of preconditions for the establishment of performance agreements and for the implementation and execution of performance agreements. The fifth section discusses the possible role of performance agreements in urban renewal projects. In the last section conclusions are drawn and recommendations for further research are presented.

## **2. Performance agreements for sustainable building in Dutch public housing**

This section elaborates on performance agreements for sustainable building in Dutch public housing. First, insight is given into the position of performance agreements in Dutch public housing. Second, the regulations and instruments available for the stimulation of sustainable building are described. Finally, some characteristics and functions of performance agreements are discussed.

### **2.1 Performance agreements in Dutch public housing**

With the decentralization of the public sector in western societies, performance measurement became a well-established policy instrument. As a consequence of the shift in responsibilities between the government and local authorities, local authorities had to give account for their activities to the government. Many western governments have then implemented a system for steering on performance or results (Denters, 2001). A practical application of performance measurement theory is a performance agreement.

Performance agreements have become increasingly important in the Netherlands since public housing was decentralized in the 1980s and housing associations were privatized in the 1990s. These developments led to a more facilitative role for the government and to more responsibility for market players in achieving their ambitions. Municipalities and housing associations found themselves on equal footing and now had to work together. A performance agreement is a written agreement, which encompasses the performances that different actors agree upon. Performance agreements force the main parties in the public housing sector to accept responsibility and adhere to a set policy, which means that parties have to pursue shared goals and not just their own policy objectives (Boon and Sunikka, 2004). In this new scenario, performance agreements (a.k.a. covenants, accords etc. (Van Buuren et al., 1997)) can help to shape and regulate the new relationships in this sector. Initially, public housing performance agreements tended to be on specific issues, such as number of realizable dwellings and the size of the core stock (Van der Zon, 1996). Only incidentally were performance agreements reached on more topical issues, such as flexible construction and sustainable building. Starting from 1994 these subjects received more attention.

The government stimulates the use of performance agreements by local parties. In 2000, the Ministry of Spatial Planning, Housing & the Environment (MVRM) defined the national public housing policy, in which ambitions with regard to housing are described on nine performance fields. One of these performance fields is the implementation of sustainability, mainly with regard to energy saving of dwellings and surroundings (MVRM, 2000). Even though the use of performance agreements is stimulated, in most situations the composition of performance agreements is based on the willingness of local parties and is by no means mandatory. Exceptions to this rule are 56 urban areas, for which parties have to formulate performance agreements to show that they are willing to speed up the renewal process. These areas are the so-called 'priority communities', which have considerable arrears on economic, social and physical fields. The sanction municipalities receive for not handing in the agreement in time is possible exclusion of the priority programme and a loss of subsidies (MVRM, 2004).

### **2.2 Regulations and instruments for sustainable building**

The government has supported sustainable building since the early 1990s. The central ambition of the policy programme Sustainable Building 2000-2004 (MVRM, 1999a) was the embedding of sustainable building in policy and practice, which in 2004 resulted in leaving the implementation of sustainable building to market parties. As a consequence of this development, there is limited legislation on sustainable building available. The current national policy on sustainable building is only directed at energy-efficiency and the insulation of dwellings. In the Dutch Building Decree some stipulations on these subjects are included for new dwellings, whereas stipulations from an environmental point of view still have to be formulated.

Besides regulations on sustainable building, some voluntary instruments are available which actors can use to stimulate its implementation. The National Packages for Sustainable Building for residential buildings have been available since 1995 and are well known and in the construction sector. The National Packages are a collection of common measures and recommendations aimed at achieving sustainable building. In 1998, 61% of all building permits adopted some features from the Package (MVRM, 1999b). In addition to these National Packages, several other performance-based instruments are available for the realization of sustainable building. First, there is the Sustainability Profile for a Location (DPL), which is being developed as a means of determining sustainability levels for neighbourhoods and comparing design options. Second, Eco-Quantum and Greencalc are both important calculation models for working out the environmental impact of a building. Both instruments are based on the environmental Life Cycle Analysis (LCA). Third, in 1999 the Energy Performance Advise (EPA) was established for existing buildings. An EPA consists of overall energy-saving recommendation to reduce the energy consumption of an existing dwelling. Finally, there is the On-Site Energy Performance (EPL), which municipalities can use when shaping their energy policies for new and existing sites (Boon and Sunikka, 2004).

### **2.3 Characteristics and functions of performance agreements**

The juridical status of a performance agreement depends on the character and the function of the agreement. If agreements are performance or result orientated and conditions for sanctioning are included, legal steps might be possible. In this perspective, quantification of the conditions enables the assessment of the achievement of performances. The above-mentioned performance-based instruments could be used for quantifying performances on sustainable building. However, if a performance agreement has the characteristics of a declaration of intent, with vague and unclear statements, not much value can be assigned to the juridical character of the agreement (Van den Heuvel, 1998).

De Bruijn (2001) distinguishes four different functions for performance measurement, which encompass a progressive degree of compulsion. Firstly, performance measurement leads to transparency and therefore can play a role in accountability processes. Secondly, organizations can use performance measurement to learn about good and bad practice. Thirdly, performance measurement can be used to judge about the functioning of an organization. Finally, the judgement can be followed by a positive sanction for good performance and a negative sanction for bad performance.

Performance indicators are used to measure performance. Depending on the objective of the measurement, indicators can be formulated on the input, the output, the outcome or on the overall process. The outcome measures the final effect of the intervention, whereas the output focuses on the direct effect. Although the measurement of an outcome is more difficult than the measurement of an output, the outcome receives more attention from policy makers (Denters, 2001). An example of an output indicator is the amount of solar panels placed on dwellings in a certain area, whereas an outcome indicator measures the total amount of energy savings. A performance agreement can consist of different types of performance indicators. Performance measurement only leads to meaningful knowledge when it is seen in the environment in which it is used (De Bruijn, 2001). In the next section the context of urban renewal projects and the ambitions on sustainable building are worked out.

## **3 Sustainable building in urban renewal projects**

In the Netherlands, the urban renewal of post-war housing areas is an important policy. The uniform housing stock of cheap and small houses in these areas has led to a uniform composition of the population, with a high percentage of underprivileged inhabitants. As a consequence, the liveability in these areas is at stake in terms of social cohesion and safety. Through renovation of social-rented housing or demolition and building of new owner occupied dwellings, the post-war housing areas will become upgraded. These practices generate opportunities for the implementation of sustainable building. An exploratory research was conducted to gain more insight into the characteristics of urban renewal projects and into the possibilities on implementing sustainable building by means of performance agreements. Interviews were conducted with key persons involved in two renewal projects. This section elaborates on the results of this research. First, the environment in which sustainable urban renewal projects take place is discussed. Second, the ambitions of actors with regard to sustainable building are worked out.

### **3.1 Context of urban renewal projects**

The objective of urban renewal projects is to upgrade post-war housing areas on a social and economic field, through interventions in the built environment. The present research focused on the implementation of sustainable building measures in two post-war housing areas. Two case studies were carried out in the area 'Oedevlietsepark' in Rotterdam and in the area 'Morgenstond Midden' in The Hague. Both areas were developed in the 1940s and 1950s. In the mid-1970s residents started to leave the areas in search of better housing and people with a weaker social-economic status started to live there. As a result, the average occupation level has fallen sharply over the years. As the supply outweighs the demand, there is a surplus of rented homes and flats.

Urban renewal projects take place in an interactive policy network. A network is a dynamical system of actors who are mutual dependent, who know a mutual variety and who are able to take up a relatively closed position in relation to others (De Bruijn and Ten Heuvelhof, 1999). The main actors involved in the decision-making of urban renewal projects are municipalities and housing associations. Present and future inhabitants of post-war housing areas also form an important actor. Furthermore, property developers, electricity companies or consultants can be involved in the decision-making process. The actors involved are dependent on each other in the realization of their goals. As a result of this dependency, no actor is able to control the network.

In both case studies only municipalities and housing associations were included, since these actors are commonly involved in establishing performance agreements and they are dependent on each other in reaching their objectives on sustainable building. Although only two actors participated in the decision-making process, the process was still complex, which was partly due to the fact that different departments of municipalities participated. For example, the Municipal Office of Urban Development and Housing had fewer objectives with regard to sustainable building than the Environmental Department of the Municipality of

Rotterdam (Boon and Sunikka, 2004). The ambitions of both actors on sustainable building are worked out in the next paragraph.

### **3.2 Ambitions on sustainable building in urban renewal**

Both actors in the case studies formulated ambitions with regard to the implementation of sustainability in the urban renewal projects. The two housing associations involved in the research both found the improvement of energy- efficiency of dwellings an important sustainable building measure. The housing association in Rotterdam also strived for a disconnection of at least 60 m<sup>2</sup> of rainwater, the use of residual industrial heat, sustainable demolition of dwellings and the separation of four types of waste. Practice shows that both parties perceive sustainability in the broader perspective of housing quality. In this perspective, they mentioned a flexible layout of dwellings with a surface of at least 100 m<sup>2</sup>, flexibility in the function of living space and the improvement of the living environment (Boon and Sunikka, 2004). Previous research on sustainable management of housing associations already showed that energy conservation and the use of energy friendly materials are regarded as important sustainable building features, followed by the adaptability and accessibility of dwellings (Boon and Sunikka, 2002).

The municipalities in both case studies had no additional ambitions on the energy reduction of dwellings. On the dwelling level they only mentioned the sustainable demolition of dwellings and the flexible building of new dwellings. Their main focus lies on establishing a sustainable living environment. In Rotterdam the municipality has high environmental ambitions with regard to noise, odour and external safety. Furthermore, the aim is to develop a less uniform surroundings, with more emphasis on water and the greenery. The local authority of The Hague addressed improvements to the water system, asphalt limitation and limitation of mobility. In addition they mentioned the maintenance of the road structure and the underground infrastructure, the upgrading of public space and the reuse of existing materials in the public space (Boon and Sunikka, 2004).

## **4 Preconditions for performance agreements in urban renewal projects**

The question is whether a performance agreement can stimulate the implementation of sustainable building in urban renewal projects. In both case studies the actors did not have experience with performance agreements relating to sustainable building. Consequently, no conclusions about the efficiency and effectiveness of this type of performance agreements could be drawn. Nevertheless, the key persons were asked to describe their experience of performance agreements in general and assess the suitability of performance agreements as an instrument for promoting the implementation of sustainable building. From these interviews two types of preconditions were extracted: preconditions for establishing performance agreements and preconditions for the implementation and execution of performance agreements.

Regarding the first type, it is necessary that parties have a shared objective when entering a performance agreement. Furthermore, an agreement should constitute a win-win situation for all parties concerned. In addition, parties who are involved in formulating the agreement should have resources available. Also important is the creation of a field of support within the own organization before entering a performance agreement. The content of an agreement should have value, which means it should not be too vague and it should lead to execution. However, parties can be put off if ambitions are too high. The interviewees also mentioned that a performance agreement should be related to a performance and its financial implications. Finally, a performance agreement should not be too rigid; it should be able to capitalize on new trends in the urban development process.

The preconditions stated above are important for establishing a performance agreement. However, it is equally important to ensure the implementation and execution of the agreement. Several research projects show that although housing associations and municipalities formulate ambitions on sustainable building at the beginning of the planning process, these ambitions are often not fulfilled (Bus, 2001; Van der Waals, 2001; Boon and Sunikka, 2004). Van der Waals (2001) states that options for reduction of CO<sub>2</sub>-emissions are often neglected in the process, because actors pay more attention to subjects like spatial quality, economic development and housing goals. Furthermore, perceived higher costs and possible technical preconditions put up barriers for the implementation of sustainable building. To ensure the implementation of an agreement, parties should already have considered sanctions for non-fulfilment when an agreement is drawn up. In addition, parties must give timely warning and explanation if they cannot achieve the performances they agreed upon. When parties are incapable of fulfilling the agreement, it is important they keep talking to each other. Although all the parties are responsible for the process, one party must be appointed to report on the performances and report on the process. Even when all preconditions are met, a performance agreement is not a guarantee. The right people need to be involved in the agreement, as execution is heavily dependent on the people who make the agreement (Boon and Sunikka, 2004).

## 5 Possible effects of using performance agreements in urban renewal projects

While the parties in the case studies had no experience with performance agreements on sustainable building, the effects of an agreement on the decision-making process could not be investigated. In this section insight is given into the possible effects of performance agreements in urban renewal projects. These effects are based on a literature study.

Literature on performance measurement in the public sector mentions many possible effects of using performance measurement to achieve objectives (De Bruijn, 2001; Johnsen, 2005). Regarding the outcome beneficial effects are, amongst others, increased accountability, increased transparency, increased credibility and increased legitimacy. However, a performance measurement system can also lead to perverse effects. For example, it may lead to sub optimization; actors do not set their goals too high in a performance agreement, because they want to be sure they can fulfil them. Another possible effect is so-called tunnel vision; actors only focus on the performances they have agreed on and do not succeed in reaching other objectives.

Once a performance agreement is established, it can effect the environment it is working in, but the environment can also effect the performance agreement. These relations are displayed in figure 1. A performance agreement has a temporary life span, which can be explained positively and negatively. In the positive explanation, all goals are achieved by using the agreement and it loses its usefulness. In the negative explanation, actors learn how they can optimize their behaviour within the agreement, which leads to perversion of the agreement. These possible effects of a performance agreement are known as the intern dynamics. For example, these intern dynamics may lead to changes in the network of actors in which the decision-making process takes place. Extern dynamics occur when the environment, in which the performance agreement was established, changes and therefore a new performance agreement is required (De Bruijn, 2001). When a housing association does not have enough financing for implementing insulation measures in existing dwellings, the performance indicators on energy-efficiency should be adjusted.

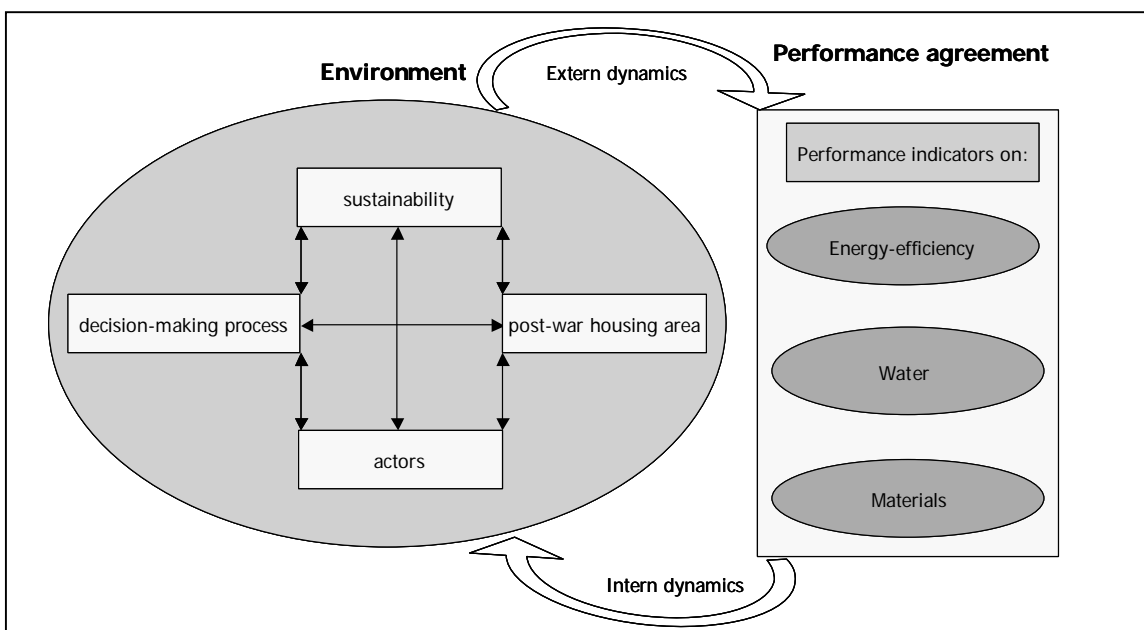


Figure 1 Relations between a performance agreements and its environment

## 5 Conclusions and further research

The aim of this paper was to explore what possible effects a performance agreement can have on the decision-making process in urban renewal projects and whether this instrument can stimulate the implementation of sustainable building. An exploratory research showed that in both case studies no experience was gained in establishing and implementing performance agreements on sustainability. However, the interviewed key persons did share the opinion that a performance agreement could play an important role in realizing ambitions on sustainable building. That is, if several preconditions were met for establishing performance agreements and preconditions for the implementation and execution of performance agreements.

The possible effects of performance agreements on decision-making processes could not be investigated by using the results of the exploratory research. Instead a theoretical framework was given for the possible effects of a performance agreement on the decision-making process in urban renewal projects. This

framework forms the starting point for further research on the effectiveness and efficiency of performance measurement for sustainability in urban renewal projects.

The first step in this research project is to find out to what extent a system of performance measurement is applicable in urban renewal projects. A performance measurement system will be designed for the implementation of sustainability in urban restructuring projects. This system will consist of performance indicators on ecological, social and economic sustainability. The second step will focus on the internal dynamics the performance measurement system displays when it is in use. The third step will investigate to what extent and in what way the system is exposed to external dynamics. The last step in this research focuses on the possibility of designing different performance measurement systems, which encompass specific goals on sustainability. For instance, a system that only aims at realizing ecological sustainability in urban renewal projects.

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