

A New Approach: Participatory Land Consolidation

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SUMMARY

In the Netherlands a new approach towards land consolidation has been introduced. It allows farmers and other stakeholders to actively participate in land consolidation projects, especially with regard to the reallocation plan. Public participation may take place in various ways, depending on the local context and followed procedure. The new methodology matches with a recent trend in the Netherlands of politicians invoking citizens to take responsibility for their own environment and neighbourhood instead of expecting the government to take care.

Participatory land consolidation has been applied in rural land consolidation, which can be subdivided in voluntary re-allotment and formal land consolidation. Possibilities for urban land consolidation as an instrument to cope with fragmented property rights are investigated, drawing on the experience in the application of land consolidation in rural areas and experiences with urban land consolidation in Germany.

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1. WHY PARTICIPATORY LAND CONSOLIDATION?

1.1 Introduction

Fragmentation of agricultural land continues with the ongoing enlargement of farms. Much has been written on land fragmentation and the effect on agriculture (King and Burton, 1982; Van Dijk, 2003 and 2004; Tan et.al., 2006; Niroula and Thapa, 2005; Demetriou, 2014). Land fragmentation can have a severe negative impact on the productivity and costs of farming, especially in developed countries where agriculture is highly mechanised. One of the instruments to decrease land fragmentation is land consolidation, which aims at an improved allocation of land that is better adapted to its agricultural use. Therewith it strengthens the agriculture sector and consequently aids food security. In addition, land consolidation may contribute to better water management, environmental management or the realisation of new nature conservation areas. Multi-purpose land consolidation thus contributes to a sustainable rural development.

Different types of land consolidation do exist. Demetriou (2014) recognises (1) rural land consolidation, (2) urban land consolidation, (3) regional land consolidation, (4) environmental land consolidation and (5) forestry land consolidation. In this paper we concentrate on rural land consolidation and urban land consolidation as applied in the Netherlands. Rural land consolidation can be subdivided in several types of rural land consolidation that are described in the Law on the development of rural areas (2007; IPO et.al., 2008). Some types are more popular than others; therefore we focus on voluntary re-allotment and formal land consolidation as these are mostly applied in rural areas in the Netherlands.

1.2 A New Approach

Recently politicians invoked citizens to take responsibility for their own environment and neighbourhood instead of expecting the government to take care. This coincides with the trend of a diminishing welfare state due to severe budget cuts. This trend also affects the attitude towards land consolidation. Whereas in the past governmental bodies initiated land consolidation to effectuate a sustainable rural development, nowadays this role is not a matter of course anymore. With the shift of responsibilities from central to regional governments and the reduced available budget for land consolidation, choices have to be made. Regional governments rely more and more on bottom up initiatives to improve parcelling, although in most provinces financial incentives still exist to stimulate voluntary re-allotment. Governments explain this approach by pointing out that it are farmers who benefit most from a better allocation, and as a consequence can be asked for a higher financial contribution to facilitate the process of land consolidation. Recent calculations by Wageningen University and the government service for land and water management have shown that an average improvement of the allocation of land saves an average dairy farm (35 hectares) in the Netherlands approximately 250 euro per hectare per year.

To a certain extent farmers are willing to pay more, if they also get more influence in the outcome of the process. With respect to these trends and considerations, a new approach towards land consolidation has been introduced in the Netherlands. It allows farmers and other stakeholders to actively participate in land consolidation projects, especially with regard to the reallocation plan.

A commonly used theory about public participation comes from Arnstein (1969) delineating hierarchically structured forms of public participation. Arnstein's ladder of participation shaped thinking about public participation in spatial planning. Since its introduction it has been adapted by different scientists (Burns et al, 1994; Wilcox, 1994; Edelenbos and Monnikhof, 2001), depending on the context it was used for. A valuable asset of Arnstein's ladder is that it shows different extents of public participation, from manipulation (no public participation at all) to citizen control (citizens having power). Public participation in land consolidation may take place in various ways, depending on legislation, the local context and followed procedure.

In the next chapter we elaborate on the role of the allotment barometer as a means to commence land consolidation projects from bottom up, whereas the next two chapters explain how a participatory approach is applied in voluntary re-allotment and rural land consolidation respectively. Chapter 5 sets out on urban land consolidation which is under consideration to develop in the Netherlands at the moment. The paper wraps up with conclusions and discussion.

2. THE ALLOTMENT BAROMETER

2.1 Role of the Allotment Barometer

An allotment barometer for the rural areas in the Netherlands has been developed to support a bottom up approach on voluntary re-allotment or land consolidation. The barometer shows the quality of the agricultural parcel structure for more or less homogeneous areas. It is not a detailed analysis but gives, based on a few parameters, a good overview of the quality of the agricultural structure in the area (Figure 1) and an indication of the possible savings for a farmer (Figure 2) when this structure will be improved. Since the allotment barometer is publicly available online, all people can access the information. Therewith it might start up discussion among farmers and create awareness as they can compare the quality of the agricultural parcel structure in their area with other areas. Governments on the other hand can easily identify areas where voluntary re-allotment or land consolidation is desirable.

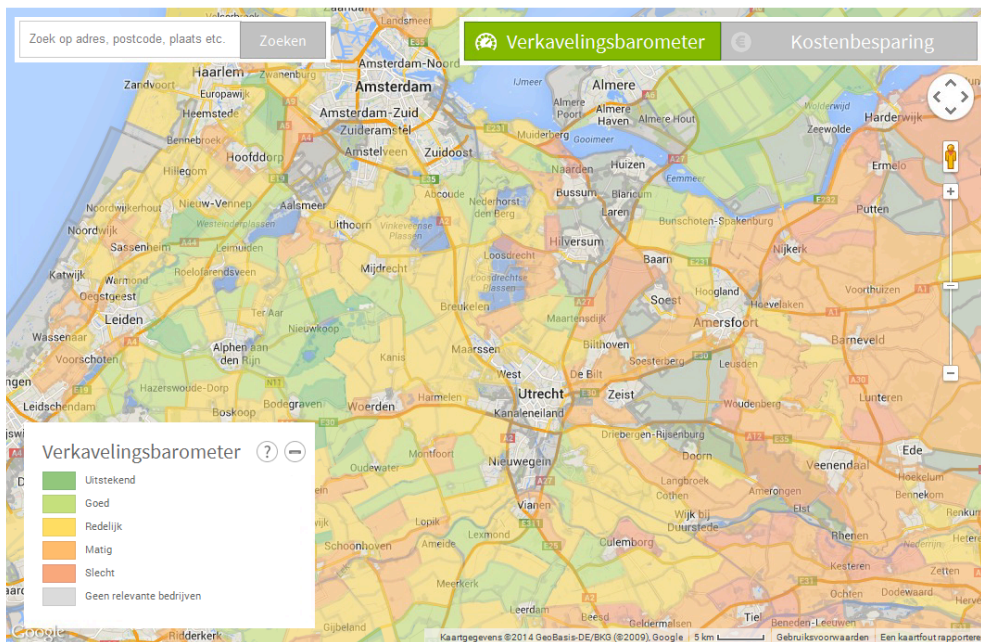


Figure 1 Quality of current allotment

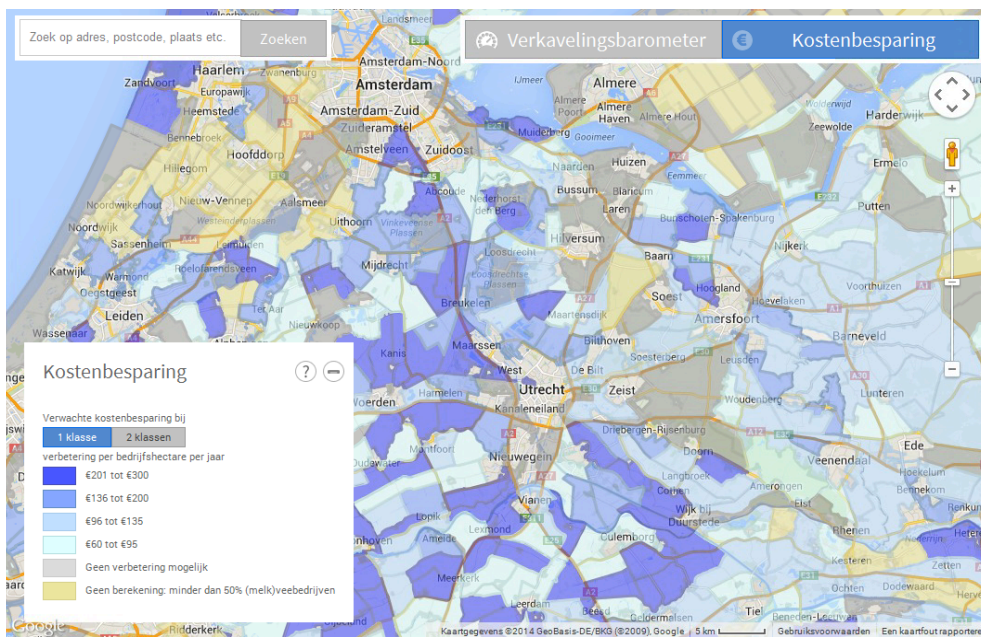


Figure 2 Cost savings with improved allocation

2.2 Methodology

A spatial multi-criteria analysis has been applied to determine the quality of the agricultural parcel structure in an area. Four criteria are used:

- Average % of parcel with farm buildings
- Average % of parcels at a distance
- Average number of parcels at a distance
- Average size of parcels at a distance

The first step of the analysis is to determine the agricultural parcel structure for each farm based on the four criteria. The parcel with farm buildings and all adjacent cadastral parcels of the same owner or user are considered as the parcel with farm buildings (see Figure 3). Parcels at a distance are defined as all other parcels owned or used by the same farmer which are not part of the parcel with farm buildings. All adjacent cadastral parcels of the same owner or user are again considered as one parcel at a distance.

Second, the results are calculated for each area based on the farms that are located in the area. Third, the resulting values are classified. Classification ranges have been determined based on expert judgement by the Dutch Federation of Agriculture and Horticulture. Classifications have been adapted to compensate for regional differences. Each province (administrative area of the regional government) has therefore its own classification. This also implies that it is only possible to compare the results of the homogeneous areas in the same province.

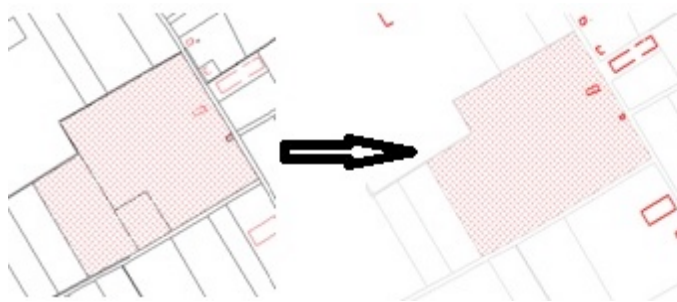


Figure 3 Determining parcels with farm buildings

Cadastral data has been used in combination with data on leased land for the spatial analysis. Thus, the analysis is based on a combination of land ownership and land use. The barometer is online available on www.verkavelenvoorgroei.nl (in Dutch only) since 19 September 2013 and has on average 400 unique visitors a month.

3. VOLUNTARY RE-ALLOTMENT

Land consolidation is to a large extent based on data about land administration as the ownership of land is exchanged. In a voluntary re-allotment farmers and other land owners are invited to discuss the new allocation together. Contrary to a formal land consolidation process, voluntary re-allotment has no specific rules coming from legislation. The only condition from legislation is that a minimum of three parties take part in the reallocation, of which at least two exchange land. The third party may only bring in land or get it allocated.

Since no prescribed form exists for the re-allotment process, possibilities for participation are high. In the new approach all involved actors (land owners and users) do participate in one or more group sessions. Issues that are discussed in these sessions are: check on accuracy and completeness of data, wishes regarding new allocation, possibilities for exchange of land, and consensus on first draft of new allocation(s). With respect to the previous approach, where all possible participants were approach on an individual basis, the novelty in this approach is that participants explore together possibilities for exchange and design the new allocation together. In other words, the re-allotment plan comes about collaboratively. Trust, power, attitude, responsibility, and negotiations are aspects that play an important role in the group

dynamics during the project. It also implies that governments have another role compared to the traditional approach. They are considered a land owner just as others and therefore act on an equal basis with other participants, although their wishes regarding the new allocation may have a more public character such as the accomplishment of new nature areas. This form of public participation ranks high on Arnstein's ladder of participation, whereby citizens co-create and decide on the new allocation of land together.

Since it is on a voluntary basis not all land owners are involved, which sometimes limited the possibilities to exchange land. Nevertheless, the first results in several projects have shown that the improvement on allocation of land is equal or better than expected based on average results in previous re-allotment projects using the regular method.

4. RURAL LAND CONSOLIDATION

Most rural land consolidation projects do have a multi-purpose character. In contrast to voluntary re-allotment projects land consolidation projects have a highly formalised character. The process requires formal governmental decisions at several moments with the right of appeal to court (Falkgard and Sky, 2002). Furthermore, all landowners in this type of project are involved as it has a mandatory character. Public participation is therewith more formalised. On the other hand, the structured phasing of land consolidation projects might be an advantage for the development of applications to automate processes (Jansen et.al., 2010; Lemmen et.al. 2012).

In a formal land consolidation project participation is among others supported with an e-government service to exchange geo-information (Louwsma, 2012). The developed e-government service is tailored to public participation within the earlier described framework, allowing title holders to register land lease contracts, wishes regarding the new allocation, view the reallocation plan, and at last submit an objection. Because governments stay responsible for formal decisions that have to be taken, public participation has a more informative character whereby government and citizens exchange (geo)information (two way communication). Therewith participation in formal land consolidation projects ranks lower on Arnstein's ladder of participation than the new approach in voluntary re-allotment projects.

Due to positive experiences in voluntary re-allotment projects, elements of that approach have been applied in a formal land consolidation project in addition to the formal procedure. Before the formal decision on the new allocation has been made by the government, involved citizens were invited to collaboratively consult and adapt the proposed allocation. The proposed allocation has been adapted at some points. Therewith it was hoped that more citizens were satisfied with the new allocation and, as a consequence, fewer citizens would appeal to court. Provisional reactions of involved citizens showed that some indeed wanted to adapt the proposed allocation, whereas others indicated that they would never have been able to come up with the (ingenious) proposed solutions. If the actual number of appeals to court was lower due to this approach is difficult to conclude since we do not know what would have happened if we did not add the extra step of public participation.

Experiences so far showed that people are satisfied with the possibility for extensive e-participation and participation in groups.

5. URBAN LAND CONSOLIDATION

Traditionally, land consolidation in the Netherlands only takes place in rural areas. However, the negative effects of the worldwide crises are visible in urban development as well. This resulted in a stagnant real estate market and has brought urban development to a near standstill. Looking in more detail at the current standstill of urban development several causes can be distinguished. One of the causes is fragmented property rights which in turn leads to awkward land positions that can frustrate urban development. In the light of these developments the Dutch planning community, government agencies and real estate developers have been searching for new propositions and solutions to revive urban development. The possibilities for urban land consolidation as an instrument to cope with above described effects are investigated, drawing on the experience in the application of land consolidation in rural areas and experiences with urban land consolidation in Germany (Kadaster, 2010; Bregman, 2012; Bonke et.al., 2013; Wolff, 2013).

A commission consisting of experts from public and private agencies, Cadastre and scientific researchers is laying a foundation for new law on urban land consolidation. While this process is at work, throughout the country several voluntary urban land consolidation projects are started up from local initiatives. A bottom up approach is mostly followed whereby actors themselves are responsible for designing the allocation plan. The role of the government is in this situation limited to decide on the proposed allocation plan taking into account prevailing (spatial) policies. Experiences from this voluntary urban land consolidation projects will be evaluated and taken into account in the further process to establish a formal urban land consolidation regulation.

6. CONCLUSIONS AND DISCUSSION

6.1 Conclusions

Public participation takes place to initiate new land consolidation projects and during the implementation of the project. In order to stimulate more bottom up initiatives for land consolidation an allotment barometer has been developed that shows the quality of the agricultural parcel structure in homogeneous areas. Therewith it might play an important role in the discussion among citizens and governments if it is reasonable to start land consolidation projects, whether it be formal land consolidation or voluntary re-allotment.

The type of public participation during the implementation of the project may vary according to the project's context. Participation in a formal land consolidation project is in general characterised by a more formal approach because roles and responsibilities of involved actors (regional government and citizens) result from legislation. The type of participation in a voluntary re-allotment is more flexible. With the new participatory approach citizens get the power to cocreate the allocation plan together with all involved actors. As the process is based on a voluntary basis, results are dependent on partaking of actors. Therewith it tends to be on the highest rung of the participation ladder according to Arnstein. First experience with this approach in re-allotment projects has shown that actors are satisfied with this type of

participation. Due to positive experiences in voluntary re-allotment projects, elements of that approach have been applied in a formal land consolidation project in addition to the formal procedure.

At last, possibilities for urban land consolidation as an instrument to cope with fragmented property rights are investigated, drawing on the experience in the application of land consolidation in rural areas and experiences with urban land consolidation in Germany. Until formal law has been established urban land consolidation is based on voluntary participation.

6.2 Discussion

We focussed in this paper on land fragmentation and fragmented property rights with respect to several types of land consolidation. It should be noted that in rural areas land fragmentation is not only caused by enlargement of farm holdings. Other spatial developments might lead as well to land fragmentation.

Second, the new approach has been applied in several voluntary re-allotment projects. Provisional results are promising, but a more thorough evaluation is needed to gain more knowledge about the role of trust and power among involved actors in the new participatory approach. This applies mainly to voluntary re-allotment projects where actors have extensive power in the reallocation process.

In addition to the possibility to exchange (spatial) data between government and citizens online, an extra step is added in some formal land consolidation projects to discuss the provisional allocation plan. If this trend will continue has to be proved over time. Also the various arguments in favour of and against this type of participation in a formal setting have to be discussed, after more experience has been gained and data has been collected.

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BIOGRAPHICAL NOTES

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