# Land Consolidation – An Instrument to Provide Areas for Water Retention by Mutual Consent

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## **SUMMARY**

The flexible procedures laid down in the Land Consolidation Act make it possible to solve land use conflicts, to make required land available and to secure the result permanently. In the context of the ecologically orientated flood protection the river Lippe will be presented as an example of realization. Supported by these procedures, which closely involve the landowners and the planning authorities, large-scale projects, for example to provide areas for water retention, were implemented there by mutual consent.

#### ZUSAMMENFASSUNG

Mit Hilfe der flexiblen Flurbereinigungsverfahren ist es möglich Landnutzungskonflikte zu lösen, Flächen bereitzustellen und das Ergebnis dauerhaft zu sichern. Im Rahmen des ökologischen Hochwasserschutzes wird beispielhaft die Lippe aufgeführt. Dort konnten mit Hilfe von Flurbereinigungsverfahren, bei denen die Grundeigentümer und die Planungsbehörden umfangreich beteiligt wurden, flächenintensive Projekte, z.B. zur Schaffung von Retensionsräumen, einvernehmlich umgesetzt werden.

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#### 1. INTRODUCTION

In the past, rivers were straightened and the former flood plains were used intensively. As a result most of these flood plains are no longer available for flood protection.

In the state of North Rhine-Westphalia exists a support programme which is called "Gewässerauenprogramm". The aims of the programme are to conserve flood plains and rivers and to redevelope them into natural habitats. Supporting the ecologically orientated flood protection is one aspect of these aims. Flood plains are to be developed as retention areas again and the results have to be permanently secured. It is of special importance that the realization of the programme takes the principles of cooperation, consensus and social acceptance into account.

#### 2. THE ROLE OF LAND CONSOLIDATION

The key to a realization by mutual agreement is the solution of existing land use conflicts. The agricultural holdings in the flood plains need their parcels of land as a basis of their livelihood. Usually they don't want to sell these parcels.

On the other hand are the predetermined conditions of cooperation, consensus and social acceptance within the context of the support programme.

The key to a realization by mutual agreement is rural land readjustment performed by the Land Consolidation Agency. In the context of the flexible procedures pursuant to the Land Consolidation Act it is possible to receive arable land in exchange, if these parcels of land are for sale. Negotiations to solve the land use conflicts are conducted with the land owners by mutual consent. The results of the procedures are permanently secured within the land consolidation plan.

The Land Consolidation Agency, the administration of rural development, works as a mediator in the concerns of all stakeholders. If there is enough land available for flood protection, public works will be planned and the plan will be officially approved.

This procedure and especially the role of the Land Consolidation Agency as an experienced stakeholder in rural areas is accepted by the land owners.

#### 3. EXAMPLES

To demonstrate the significant role of Land Consolidation to provide areas for water retention by mutual consent two examples at the river Lippe are shown.

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The river Lippe is a medium size river in North Rhine-Westphalia. It flows from the East to the West and is about 215 km long. The upper reaches of the river pass through rural areas, the lower reaches flow through a more urban area on the edge of the Ruhr-Area. Since the beginning of the nineties, several stakeholders operate on ecologically orientated flood protection in the context of the "Gewässerauenprogramm". All activities are coordinated by two public corporations, namely the Staatliches Umweltamt Lippstadt and the Lippeverband. In the urban area of Lünen and Werne and in a rural area near Lippstadt, the so called "Hellinghauser Mersch", procedures pursuant to the Land Consolidation Act were instituted.

# 3.1 Example one: Hellinghauser Mersch

In a rural area near Lippstadt, the so called "Hellinghauser Mersch", an eight kilometres stretch of the river Lippe is to be restored to its original state and the flood plains are to be developed as retention areas again. The planning authority of this project is the Staatliches Umweltamt Lippstadt.

In 1991, long before detailed public works were planned, the Staatliches Umweltamt Lippstadt charged the Land Consolidation Agency to acquire land in the context of several procedures pursuant to the Land Consolidation Act. The land aquisition was financed by the state of North Rhine-Westfalia and the North Rhine-Westfalian foundation of nature, homeland and culture.

In the project area there was not a great fragmentation and the parcels of land were used intensively by the agricultural holdings. Until today it has been possible to get about 380 hectares arable land and grassland for the project. Some of these parcels were for sale. The major part was received in exchange.

One farmer was the owner of about 54 hectares lying in the flood plains. He received arable land in exchange at a distance of 16 kilometres as the crow flies. Another land owner, the Catholic Church, received arable land in exchange, too. Furthermore substantial public works were stipulated with a view to protect the church against disadvantages caused by the restoration of the river.

Sometimes the negotiations took a very long time until all persons involved came to an agreement by mutual consent. All agreements were codified in the land consolidation plan. Public authorities assumed ownership of the acquired parcels of the flood plain. The Land Consolidation Agency undertook the task of leasing these sites.

After enough parcels had been acquired the first public works were planned. The plan was officially approved in 2004. Having concluded the negotiations to aquire land successfully in spring of 2005, the construction works in the Hellinghauser Mersch started in autumn that year.

In the areas of the upper reaches of the river Lippe it was possible to acquire about 700 hectares in the flood plains at all. About 75 percent were received in exchange. Meanwhile

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the Staatliches Umweltamt Lippstadt, as project executing organisation, has completed the first works in the context of the renaturation of the Lippe and some more are being planned.

# 3.2 Example two: Lippeaue Lünen, Bergkamen-Werne

Land consolidation is not only a useful instrument in rural areas but also in more urban areas. On the edge of a conurbation like the Ruhr-Area there are urgent needs existent to use the remaining plots of land which have not been developed yet. If more projects are being planned to develop flood plains as retention areas then the last existing agricultural holdings are at risk.

In the year 2000 two procedures for land consolidation were instituted in the area of Werne and Lünen with the objective to acquire land in the flood plains by mutual agreement. The Lippeverband, as project executing organisation, estimates that about 370 hectares of arable land will be affected by the public works for renaturation and flood protection and their effects.

In contrast to the examples of the upper reaches of the river Lippe mentioned previously, the plannings of the public works in the Werne area and the negotiations to acquire land run in a parallel manner. Therefore it is necessary that all participants are in close contact.

Until today it has been possible to acquire a large number of parcels of arable land. For example, one agricultural holding lying in the flood plain has been purchased. The current tasks now are to readjust the land in the flood plain and to make sure that the land which the farmers get in exchange is not affected by the renaturation and their effects. This aspect is obligatory, because in a procedure pursuant to the Land Consolidation Act the landowners have to receive land of equal value.

#### 3.3 Results

In general, it is an advantage that due to the procedures pursuant to the Land Consolidation Act land can be acquired in a larger surrounding area. Hence the prices to purchase the land might be at a lower level and often more parcels are for sale. Due to the obligation to act by mutual consent the procedures take a fairly long time. However, this time is useful to convince the landowners of the plannings or the alternative solutions. Solutions which are achieved by consensus are always preferable.

It is an obvious fact that due to the renaturation of rivers or other projects like that arable land is lost. Additionally, large areas of the flood plains are special protection areas, classified pursuant to EU-directives. With the aid of land consolidation it is not possible to solve these problems at all, but it is possible to reduce their effects on the agricultural holdings.

The flexible procedures laid down in the Land Consolidation Act make it possible to solve land use conflicts, to make required land available and to secure the result permanently. With the help of these procedures, which closely involve the landowners and the planning

authorities, large-scale projects, for example to provide areas for water retention, can be implemented by mutual consent.

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## **BIOGRAPHICAL NOTES**

Academic experience: Dipl.-Ing. Geodesy Hannover Technical University

Current Position: Departmental head, Upper Land Consolidation Agency of North Rhine-Westphalia 2005-

# Practical experience:

Land consolidation, Land development, Cadastral and Engineering surveying,

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Member, German Society for Geodesy, Geoinformation and Land Management 1993-Member, FARLAND-Project (Future Approaches to Land Development) within the INTERREG III C Programme of the European Union 2005-2007

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