

## **DECREASING LAND CONSUMPTION BY USING PPP IN LAND USE MANAGEMENT**

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The public financed research project “Public-Private-Partnership (PPP) in land use management at the regional level” deals with the high land use in Germany. Between 2005 and 2008 the average daily land use for new settlement and transport-related areas in Germany was up to 115 hectares per day. This high land use has a multitude of economical, ecological and socio-ecological consequences, like loss of space for agriculture, loss of function of ground by sealing, social and geographical disparity or rising cost of settlement structure. By creating a better synchronisation of public and private stakeholders in land use management, the research project forces a revitalisation of brownfields and a reduction of the land consumption. The following paper will discuss the dimension of land use for new settlement and transport-related areas in Germany, the different kinds of stakeholders with their often diverged interests and the main modules of the land use management concept which were developed by the research project.

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### **The research project “Public-Private-Partnership (PPP) in land use management at the regional level”**

Based on the national sustainability strategy “Perspectives for Germany”, which was decided by the German Federal Government in 2002, numerous research projects were processed in the program “Research for the Reduction of Land Consumption and for Sustainable Land Management (REFINA)” of the Federal Ministry of Education and Research (cf. Website Difu). The cooperative project “Public-Private-Partnership (PPP) in land use management at the regional level” is one of it. The research project tries to fulfil the aims of REFINA concerning the liability of properties. By creating a better synchronisation of public planning and private development objectives in land use management, the project forces a reintegration of brownfields into the economic circuit and so a reduction of land consumption. The joint research project is a co-operation of academic facilities, communes and private companies. The network partners are the PROBIOTEC GmbH (project manager: Kai Steffens), the Faculty of Spatial Planning at Dortmund University of Technology (project manager: Univ.Prof. in Dr. Sabine Baumgart) and the RAG Montan Immobilien GmbH (project

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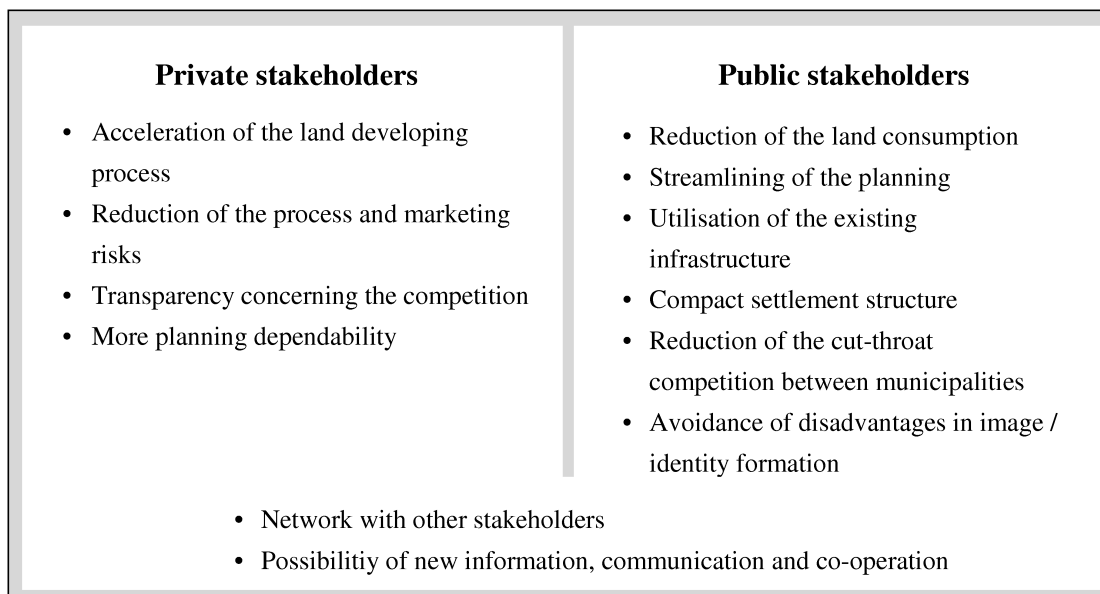
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manager: Peter Renetzki). The research partners attach importance to an early coordination in an informal process in the run-up to formal planning. Against the background of intermunicipal competition of additive settlement of inhabitants and companies, a regional approach is very important in this process.

During the three years of the research phase, a concept model based on national and international experiences and findings was developed, which facilitates an innovative connection between the public planning and the private portfolio management of the big institutional landowners. The revision and validation of the concept model took place in context of simulation games for the model region Ruhr Area in the West of Germany. The intermunicipal competition in this region entails amongst other things that a lot of brownfields cannot be reused so far and that the development takes place on apparently more attractive areas out in the open country. For the simulation games a multitude of relevant stakeholders and institutions of the Ruhr Area with different interests were invited to check the practical feasibility of the land use management concept and to find solutions for still open conflicts.

Figure 1: Benefits of a land use management concept at the regional level



Source: Own source, adopted from the research project “Public-Private-Partnership (PPP) in land use management at the regional level”

The regional management concept offers a new way for the revitalisation of brownfields by organizing an early adjustment between private and public stakeholders in a transparent process. A coordinated course of actions between the municipalities can boost the pressure on the land market. But the regional coordinated land management concept also affords additional benefits in many other respects for the different stakeholders (see figure 1).

### **The background of the research project: Land use in Germany**

The terms „land use“ and „land consumption“ are nowadays often used in debates about the mostly irreversible conversion of nature-orientated agricultural or silvicultural areas to settlement and traffic areas. During the last decades, the amount of settlement and transport-related areas in Germany was rising continuously. It grew by 3.8 % during the years 2001 and 2004 and formed the highest increase of all types of land use (cf. StaBa 2005: 17). In the last 50 years the settlement and traffic areas doubled, although the population only rose by about 30 % and the working population only by 10 %. Consequently there is a rising of land use per capita. In the 1950s, the settlement area per citizen constituted 350 square metres, today it grew up to 534 square metres. (cf. Deutscher Bundestag 2007: 15-16)

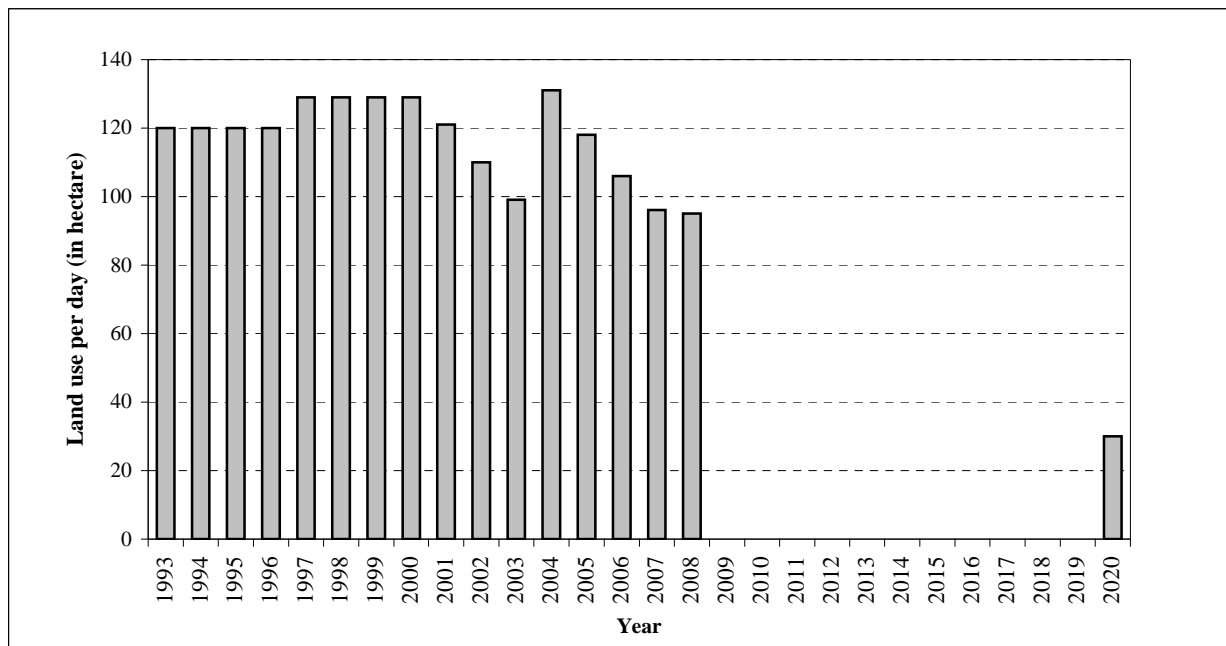
The main reasons for the higher land use for settlement and traffic areas during the last 50 years are the rising of space consumption for living space through increasing wealth standards, escalating demands of habitation as well as the rising number of households caused by the decreasing size of each individual household. During the last years, the focus for building sites was more and more concentrated to the hinterland around urban agglomerations and rural areas, because of the significant difference in price between town and country areas. The communes' competition about inhabitants, employees and business establishments is regarded to be the main reason for the generous designation of land for building sites. The communes hope to settle new business establishment and inhabitants by providing building sites in the open country to amend their financial position. A higher population pledges for example higher income taxes and new business establishments lead for example to rising business taxes (cf. Jörissen; Coenen 2007: 79).

Although the yearly growth of settlement and traffic areas in Germany was lightly decreasing in the last years, the land use is still on a high level. Between 1993 and 1996 the daily land use was at the level of 120 hectare, between 1997 and 2000 at about 129 hectare per day. In the last periods from 2001 to 2004 the additional land use drops to 115 hectare per day and between 2005 and 2008 to 107 hectare per day (cf. Website StaBa). The cyclical development of the last years and the connected collapse of building investments can be named as the main reasons for this trend (cf. Jörissen; Coenen 2007: 79).

This high land use has a multitude of economical, ecological and socio-ecological consequences, like loss of space for agriculture, loss of earth function by sealing, social and geographic disparity and rising costs for settlement structure. The negative consequences of the high land use in Germany clarify an urgent need for political actions. In April 2002 the German federal government adopted the national sustainability strategy "Perspectives for Germany" and emphasized the ambition of sustainable development. The national sustainability strategy aims to reduce the land consumption of settlement and transport-related areas and to boost a prior inner-development using land use management with the vision of a land area circuit through land recycling. Among other things it is the aim that till the year 2020 the daily land use for settlement and traffic areas should be reduced to 30 hectare per day (cf. Website Difu).

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Figure 2: Average daily land use in Germany



Source: Own source, based on Krumm 2004: 9, Website of StaBa

This goal of the German federal government to reduce the land use to an upper limit of 30 hectare per day requires enormous adjustments of the current habits (see figure 2). To accomplish the aim of 30 hectare per day, a reduction of 68 % (based on a land use of 95 hectare per day in 2008) is necessary (cf. Website StaBa).

### **The main interests and views of the private and public stakeholders**

The research project determined that the identification and the integration of the relevant stakeholders are essential for the implementation and the success of the regional land use management concept. In the regional context, a stakeholder represents a person, an institution or company that influences the development of land area. Most of the times, stakeholders are big private land owners, as well as public stakeholders like the local governments, the district governments and the provincial governments with its accordant administrations.

Every stakeholder has its specific scope of action with a specific focus. The realisation of profit and the dependability of investment is most of the times the main concern of the private stakeholders, like realty owners and developers. They have to work economically and need to aim for a definite return on invest. Therefore, land areas are considered as a capital asset, which permits profit. But an economic point of view cannot be equated with a short-term realisation of profit. A fixing of a long-term and firm development

strategy for several portfolio managements and the whole portfolio is more important than a rapid benefit. Therefore, the legal certainty for area development is a main aim of the strategic focusing of the portfolio.

The main concern of public stakeholders is an improvement of quality of life, which should also assure a financial actionability, as well as a public advantage in the long run. In the context of land area development, public stakeholders are focused on the definition of specific rules for usage, which suit the needs of the urban planning. There is definitely a certain necessity to achieve these goals with a restricted amount of resources and money. Because of the process of consideration, the town planning could come to another conclusion for the land use than it is desirable for the property owner, although the reuse of this brownfields also conforms to the aims of the public stakeholders.

The different aims of the private and public stakeholders cause a different view on the subject “flat”. Flats afford an option of use for the town planning and guide the district development to focus on a sustainable urban development. In contrast to this, private stakeholders regard flats as an investment. The adjustment of the mentioned interests and views of the private and the public stakeholders is arbitrative for the successful realisation of a regional land use management concept.

The research project was able to find and to classify the main experiences with co-operation between public and private stakeholders with the help of an analysis of obstacles. The census of private property owners, developers as well as representatives of town and environmental planning reveals basic obstacles in the fields of lack of information flow, organisation and motivation, as well as in justice and law.

- Lack of information flow: Missing flat information of the concerned brownfields can exist on private as well as on public site. Contractual secrecy obligations also inhibit the transparency of a project. Some projects become as complex that the involved people cannot handle the information overload any longer. In addition to that, there area often lacks of knowledge of the respective aims, commercial needs and necessities, a halting information flow as well as a resistance in advice of some persons or institution.
- Problems of organisation and motivation: An unequal distribution of cost and benefit in a flat development reduces the motivation of the involved stakeholders to advance this process. The initiation of new and unpractised project management structures can cause a lag of time. A lack of flexibility of the project organisation can also result in a disappointing brownfield development process.
- Obstacles through regulatory frameworks: Laws and provisions obligate stakeholders to a regulated processes. However, the public stakeholders are often accused not to use the possible discretionary decision. The public stakeholders can only create a limited reliability of planning, which is wished by the private stakeholders. Project risks are often shared unequally.

The mentioned obstacles and conflicts cause the same consequences again and again: Lack of transparency, loss of efficiency, uncertainty and time lags. Only an impartial co-operation with a publication of the necessities and aims as well as their understanding can counter the obstacles in the process of site development.

### **Modules of a land use management at the regional level**

During the analysis and search phase, the research project identified ten main modules, which had been concretised for the land use management concept at the regional level. These ten concept modules include information, recommended procedures and arrangements for a successful initiation and implementation of the land use management concept. The ten modules can be summed up to the following four subject areas:

- Purpose: To fix the collective purpose, the stakeholders have to decide on the spatial delimitation, the period of the purpose and the aims in substance of the land use management concept (1).
- Base of information and conditions: Before the formulation of the purpose, the stakeholders have to interchange their interests (2). They have to agree on a form of organisation (3). After that a site-related data base (4) has to be fixed and created to provide the same quality of information to all stakeholders. Moreover a collective appreciation of the flat market (5) like demographic and economic development of the region is necessary to get a basis of decision-making.
- Operational tools: Some modules inform about important tools of the running land use management. They afford information of the possible promoting set and financing of brownfield development (6) as well as of the basis of conditions of contractual agreements (7) which offer reliability in planning. With a rising complexity of the land use management, a process flow management (8) is essential to make the information flow and decision process transparent. Another module is marketing and public relation (9) to get a wide acceptance of the public and the policy.
- Accompanying Evaluation: An accompanying evaluation (10) is indispensable for an improvement of the processes.

The practical relevance of the developed concept models were tested in the mentioned simulation games. Among other things, the game ran through the agreement of the collective purpose, the development of a co-operation agreement and the choice of a right form of organisation of the land use management concept. The simulation game acknowledged a lot of existing assumption. Here are some of the findings:

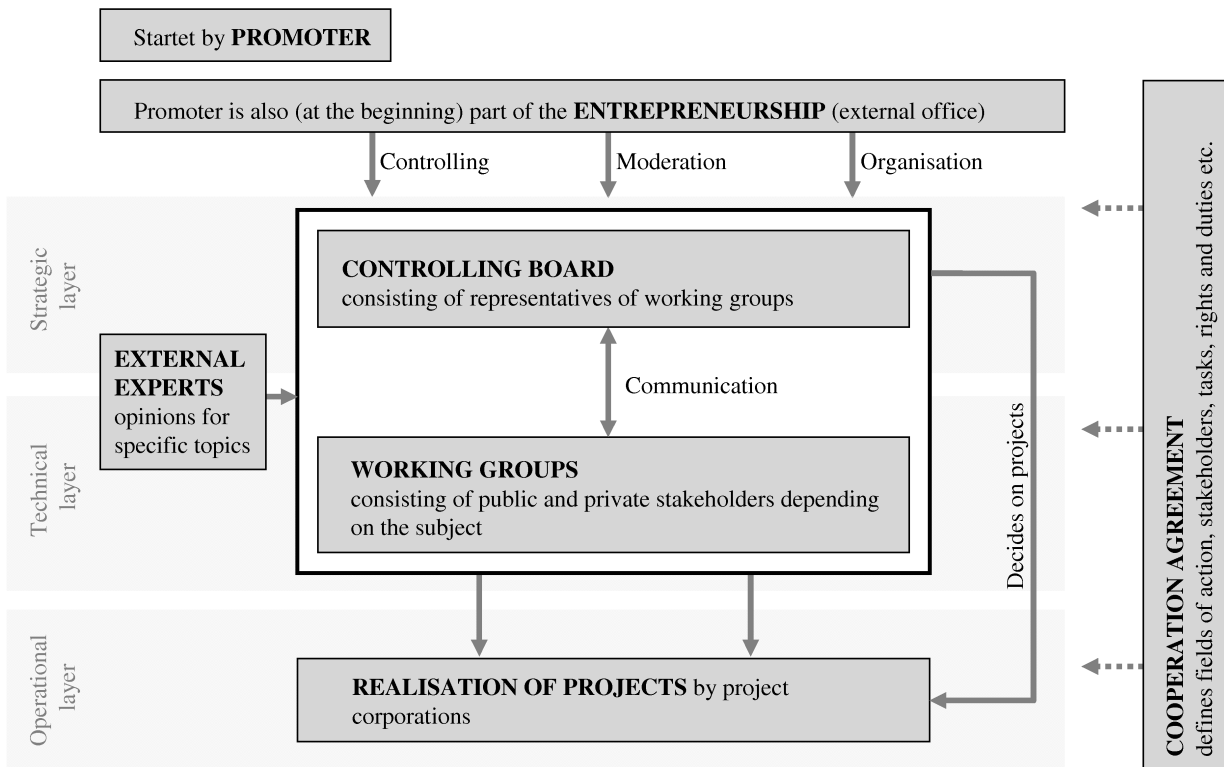
- Promoter: A promoter starts the initiation of the land use management. Especially for the initiation of such an informal instrument as the regional land management concept, it is important to have a representative, who can introduce the concept to other participants and to the public. Therefore it is very

important that the promoter stands for certain neutrality without personal interests, so that the benefit for the region and the individual private and public actors is reliably taken to centre stage. In the opinion of the simulation game participants, the promoter should be well known and accepted as a leader in the model region Ruhr Area. After a successful initiation of the processes, the promoter should step by step back out of his role within the project.

- **Solution of the obstacles:** The discussion of the initiation of a land use management concept in the simulation game acknowledged the mentioned results of the obstacle analysis. Collective rules for the interaction between public and private stakeholders were formulated to solve the obstacles. The interchange of the aims and necessities as well as the impartial acceptance of it is underscored. The rules deal on the one hand with communication and the handling of conflicts between the involved parties and on the other hand with the approach to the establishment of projects. Rules were for example: “Bringing up conflicts in the team frankly” or “Early involvement of political decision-makers”. Even if these rules seem to be self-evident, the simulation makes clear, that a lot of projects in the past were affected with unexpressed conflicts.

- **Form of organisation:** The participants also discussed a possible form of organisation for the land use management concept. Although the constitution of an organisational form should be formed out of specific regional and stakeholder features, some needs have to be achieved: There should be a personal consistency inside of the involved, so that the contact persons and the operations are known and the process flows smoothly. Moreover the business management of a land use management has to be perceived as a service provider and must not be positioned at the involved stakeholders but at an external office. This structure guarantees the necessary autonomy for the organisation, moderation and control of the land use management process. In addition to that, a controlling board has to be established where all major strategic decisions belonging to the regional cooperation are made (see figure 3). The controlling board brings the decision-making authority of the involved institutions together. In the process of finding a way of regional cooperation to enhance the reuse of brownfields, a great variety of aspects has to be discussed. For this reason, different working groups should be established, where representatives of the players with occupational background to the discussed themes take part. Possible topics are for example: Questions concerning the marketing, the higher planning, the financing and profitability. Concrete projects of realization like the revitalization of single brownfields have been organized in separate affiliated companies to exculpate the land use management.

Figure 3: Organisation chart of the land use management concept



Source: Own source, adopted from the research project “Public-Private-Partnership (PPP) in land use management at the regional level”

- **Collective view of the flat market:** A collective view of the flats and the flat market is a base of decision-making for the choice of the flats for the regional management. Characteristics like location, size, chances for commercialization, need of decontamination, and regional significance are possible for this choice. After that there follow the selections of the flats for the regional land use management and the ranking of this flat development. The unification process of the stakeholder for a ranking is the basis of the land use management concept at the regional level. A consensus in this case is a success.

### Conclusion and outlook

The land use management concept at the regional level focuses in the early adjustment between the main stakeholders of the flat market in a transparent process. If it is possible to integrate this informal process of a regional cooperation into the formal planning activities at the regional and municipal level, it might be possible to reduce the supply of sites and the cut-throat competition of the municipalities. A reduced supply of sites can raise prices for real estate properties and will make brownfield revitalizations much more attractive for investors. In addition to that, the cooperation offers the chance to take a step further and to use



the priority list of sites for location marketing. The different municipalities can place themselves as one region and will be more attractive for international investors or other groups that need a space to settle.

Today first attempts of a land use management at the regional level can be found in Germany. In the former industrial Ruhr Area in North Rhine-Westphalia, which was the model region of the research project, a census of all land areas was accomplished. The Wirtschaftsförderung metropol Ruhr GmbH, a regional economic promotion association, had collected the data of brownfields and sites for industrial use in the administrative area of the towns from all 53 communes of the region, as well as from some private land owners like important companies in the metropolitan region to identify the available site potential. This data are available in a geographic information system named ruhrAGIS. Now a real estate conference is planned. At this conference, a cooperation of the Wirtschaftsförderung metropol Ruhr GmbH and the 53 communes of the region want to develop a priorities list of the existing development potential for the next years. In the future, the government of North Rhine-Westphalia will only invest in the development, if the region has defined a prioritisation on these sites. In a speech at the Expo Real 2009 in Munich, Mr. Brauser, the executive of the Wirtschaftsförderung metropol Ruhr GmbH, accentuated that among the establishment of surface priorities of the communes, a "development masterplan" of the biggest municipal and private real estate owners will be necessary in the next years. It will be interesting to see, whether the recommended cooperation between private and public players will be realized in this context.

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