

## **Innovating Regional and Environmental Planning in Germany From Industry to Innovation – from Grey to Green**

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### **Abstract**

The paper gives an idea about innovations in German regional and environmental planning at the example of the current development of Germany's largest agglomeration, the Ruhr region, which has led to a fundamental paradigm shift. The heavy industry has gone and was successfully replaced by innovative technologies; the region's appearance turned from grey to green, and new urban development projects contribute to an enhanced life quality, which makes the region competitive for the future.

### **Keywords**

Regional Planning, Environmental Planning, Revitalization

### **Introduction**

Traditionally the Ruhr region in Germany was regarded as an industrial zone, characterized by environmental damages, low life quality and a predominantly unlettered population. The industrial production mainly focused on coal and steel production. Apart from the University of Duisburg which was founded in 1655 and closed by the Prussian King in 1818, the first universities were founded in the 1960ies, such as Ruhr University of Bochum (1965) and Dortmund University (1968). Since those times universities played an important role in the Ruhr region to master the need for a fundamental structural change, caused by a gradual decline of the coal and steel sector (Henze et al. 2009). With the process of closing down both collieries and steel production plants huge areas within the urban fabric fell out of use. Parallel to this number of inhabitants of the most cities within the region decreased caused by migration and other demographic changes. Hence, cities like Essen or Gelsenkirchen lost about 100,000 or more inhabitants within two or three decades and therefore belonged to the most rapid shrinking cities in Germany. The decline of the major economic pillars of the regional economy did not only lead to a high unemployment rate (Prosek et al. 2009). Much more it was sensed by local people as decline of the total region itself. A depressed atmosphere diffused into the hopeless region.

The today's Ruhr region more and more develops to a vital agglomeration, characterized by an exceptional industrial heritage, a broad range of cultural offers, large areas of parks and green belts and a huge number of revitalized brownfields which at large enhance both live quality and the image of the Ruhr region (Dpt. of Urban Design and Land Use Planning 2008). What are the reasons for this paradigm shift?

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### Methods and Area Description

The paper is mainly based on an analysis of the historic development of the Ruhr region. The paper includes findings of the most relevant investigations carried out for the last couple of years. The Ruhr region is the largest urban agglomeration in Germany. It is located in the federal state of North Rhine-Westphalia. It has an area of more than 4,000 km<sup>2</sup> and a population of about 5 million.



Figure (1). Area of RVR (Regionalverband Ruhr) according to Ulrich, D. (2004)

The Ruhr region consists of several large, formerly industrial cities which are located at the rivers Ruhr, Lippe and Emscher (Figure 1). The latter one flows through the central part of the Ruhr area. Therefore, geographically the term “Emscher region” would have been more adequate than “Ruhr region”. But for more than 100 years local people were ashamed of the Emscher, because the 83 km long river was used as an open sewer, whereas Ruhr and Lippe were used for the supply of potable water. Due to subsidence caused by mining it was not possible to build subsurface sewers in the region. Hence, the only possible solution to get rid of sewage as well as pit water was to make use of the Emscher river.

Before the process of industrialization started in the early 19<sup>th</sup> century, the region was mostly agrarian and thus indistinguishable from surrounding parts of Westphalia and Rhineland (Häpke 2009). Its fertile loess soils made it one of the wealthier parts of Western Germany. By 1850, almost 300 coal mines were in operation. The coal was processed in coking ovens into coke, which was needed to fuel the region’s blast furnaces, which produced iron and steel. Before the coal deposits along the Ruhr were exploited, new mines were sunk. The mining industry migrated northward from Ruhr to Emscher and finally to Lippe river (Henze et al. 2009).

## Results and Discussion

Since the 1920ies regional planning was established in the Ruhr region (RVR = Regional Association Ruhr) to organize traffic as well as urban and economic development and to protect green belts on a supra local level (Gruehn 2010). Another institution of outstanding importance is the Emscher Association (Emscher-Genossenschaft) founded in 1899. Its task was to organize sewage disposal. For this purpose Emscher river was converted into an open canal. Since mining activities went to the North Emscher association started to rebuild and to revitalize the Emscher watercourse.

Nevertheless the main idea of this huge project was developed within the International Building Exhibition "IBA Emscher Park", which started in 1989. IBA Emscher Park was initialized as future program by the government of North Rhine Westphalia in co-operation with 17 cities, two counties and the Regional Association Ruhr. The aim was to improve life quality by means of architecture, urban design and ecology as sound basis for the economic change of this old industrial region. A total of 120 projects with a budget of 2.5 billion € were developed and realized within IBA Emscher Park, for instance

- Emscher Landscape Park (300 square kilometres open space),
- Revitalization of Emscher river,
- Preservation of historical monuments of industrial architecture, and
- Urban development projects.



**Figure (2/3). Comparison of two Emscher sections: Emscher canal in Dortmund-Mengede (left) and revitalized Emscher river in Dortmund-Barop (right) (Gruehn 2012)**



IBA Emscher Park is considered as key factor for the above mentioned paradigm shift. From that point Ruhr region was not any more regarded as an ugly and devastated "no go area". The region itself became presentable by including historic monuments into the future "green concept", which disclosed unanticipated perspectives. Figures 2 and 3 illustrate the impact of revitalization projects. Emscher in Dortmund-Mengede is still an unamusing sewer canal whereas the revitalized Emscher in Dortmund-Barop mirrors the beauty of a natural water course.

In Figure 4 Nordsternpark Gelsenkirchen is presented, which was designed as German State Garden Show in 1997. Nordsternpark was constructed on a former colliery site. After closing the colliery in 1993 the area was developed in accordance with IBA Emscher Park to connect two city quarters of Gelsenkirchen by a newly created park considering historic architecture of the industrial age. The idea was to create a new park as symbiosis of a landscape park and a commercial park.



**Figure (4). Nordsternpark Gelsenkirchen (Vincentz 2012)**

From today's point of view IBA Emscher Park was a starting point for a huge number of single projects which have been carried out by different local and regional authorities in the last decade. Though, its impact is still noticeable. The most of those single projects integrate well into the visionary concept of IBA Emscher Park. Hence, the ascertainable trend of different authorities to adopt ideas and to support the implementation of IBA Emscher Park goals verifies its strong impact.

The next step to continue the process which was triggered by IBA Emscher Park from 1989 to 1999 was the development of a "Masterplan Emscher Landscape Park 2010" (Figure 5 and Projekt Ruhr GmbH 2005). This process took five years, starting from 2001. During the whole planning process the government of North Rhine-Westphalia and all concerned local and regional authorities were involved, including Regional Association Ruhr as well as Emscher Association. The area of the landscape park (457 km<sup>2</sup>) was enlarged compared to IBA Emscher Park (300 km<sup>2</sup>). The added park areas are primarily green belts in the inner cities and green connections. The Masterplan Emscher Landscape Park 2010 comprises more than 400 single projects which will be realized within a time frame of 30 years.



Figure (5). Masterplan Emscher Landscape Park 2010 (Projekt Ruhr GmbH 2005)

A further step to rearrange the Emscher river system was the "Masterplan future Emscher – the new Emscher valley" with main focus on flow conditions and technical requirements of the Emscher revitalization within the whole catchment area. This masterplan comprises 83 km watercourse of the Emscher as well as 270 km tributaries. The estimated costs are about 4.5 billion € (Emschergenossenschaft 2006). The co-operation between Regional Association Ruhr and Emscher Association during the co-ordination process induced a permanent co-operation with long-term perspective within the working group "New Emscher Valley".

The described projects were implemented mainly based in informal planning instruments. Despite of the fact that formal planning instruments in empirical investigations have proved successful (Gruehn 2006), informal approaches as described seem to be more promising especially in complex situations like the Ruhr region. Important prerequisites, at least in the case of Ruhr region are a long-term perspective, a comprehensive budget and political consensus which facilitates maximum support for the project goals.

## Conclusions

Informal approaches, such as "IBA Emscher Park", "Masterplan Emscher Landscape Park 2010" as well as "Masterplan future Emscher – the new Emscher valley" have essentially contributed to a paradigm shift in the Ruhr region in many respects. The region's grey turns into green, life quality enhances, a sewer is about to be transformed into a natural water course, a neglected area has become an attraction, not only for tourists. Informal instruments in Ruhr region have enabled stakeholders to develop a sustainable future perspective for the whole region.

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