

## The Image Study of Ruhr-Region

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### ABSTRACT

The Ruhr-region, located in the north of State of Nordrhein Westfalen, had been the heavy industrial center of not only Germany but also in European Continent for the last 150 years. The name of the region is well known worldwide, however, the geographical image of Ruhr-region is somewhat vague. In order to understand how people image the region's spatial structure, and also to grasp what kind of image people have toward the region, the author has conducted some questionnaire survey including the image map study to 61 students in Dortmund Technology University.

The survey consisted of three parts; adjective study, important city study, and the image map. The study result implies that the concept of Ruhr-region still have difficulties creating physical image to people to this date. Most of respondents had the image of regional structure by rivers rather than highway or railway network. The lack of landmarks illustrated in the image maps implies that there are few spatial components that help to reorganize the spatial image of this area except rivers.

The adjectives that respondents thought that best described Ruhr-region were "diverse (vielfaltig)", "industrial (industriell)", "cultural (kulturell)", and "green (grün)". The latter two words (cultural and green) indicates that the projects such as IBA Emscher Park (1988-1998) and the events such as European Capital of Cultural City in 2010 being held in Essen may have contributed young people's perception toward the region being transformed to more cultural and more environmentally friendly ones.

The new post-industrial image of the Ruhr-region is more or less understood conceptually, but not in a tangible sense. With some limitation to the study, the author still believes that the result of this survey does raise some issues associated with the regional image of Ruhr-region.

## 1. Objectives and Background of the Study

### 1.1 Objectives

The image of region plays quite an important role in attracting new industries or academic institutions as well as people in borderless society and in “creative city” era. In European continents, the competition among region has been quite severe since the advent of European Union. This was especially the case with Ruhr-region in Germany. The region's character went through drastic change in recent years, changing from heavy industrial powerhouse of Germany to region with unpromising future in moratorium status. In order to change the image, and also to establish new regional identity, many efforts have been made including IBA Emscher Park Project, which was worldly acclaimed for its discernment.

However, how people actually image the Ruhr-region is not well surveyed. In order to understand how people image the region's spatial structure, and also to grasp what kind of image people have toward the region, the author has conducted some questionnaire survey including the image map study.

### 1.2 Background of the Study

The Ruhr-region, located in the north of State of Nordrhein Westfalen, had been the heavy industrial center of not only Germany but also in European Continent for last 150 years. It is the largest mega-region in Germany possessing roughly 5.2 million people.

The name of the region is well known worldwide, however, the geographical image of Ruhr-region is somewhat vague. This is due to several reasons. First of all, Ruhr-region is conceptual. “Ruhrgebiet (Ruhr-region in German)” is not an official term. It usually refers to the dense cluster of cities stretching from Duisburg to Dortmund and from the line Muehlheim/Witten to the line Gladbeck/Recklinghausen. However, some people like to stretch farther to Hamm on the eastern side. The definition of Regionalverband Ruhr (RVR)<sup>1)</sup> is larger, including Hagen in the south and many municipalities in north (refer Figure 1). Peter Hall points that some geographers say that the true region is the Rhine-Ruhr-Region<sup>2)</sup>. The Rhine-Ruhr-Region includes Düsseldorf, Wuppertal, Cologne, and Bonn. Recently, economic activities of these cities have spread to Ruhr-region. In terms of economic activities, one can say that Ruhr-region is

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1) RVR is the regional association that was founded by Robert Schmidt in 1920 in order to create regional plan of Ruhr-region. It consists of 11 cities and 4 regional districts (Kreis). The area of RVR is 4435 square kilometers and has population of approximately 4,953,000 (December 2008).

2) Peter Hall, “RheinRuhr City”, p.61

Figure 1. A map of Ruhr-region (as defined by RVR)



(Source: <http://www.metropol Ruhr.de>)

already integrated to a larger agglomeration of Rhine-Ruhr-region. It is difficult to distinguish the independency of Ruhr-region from economic activities perspective.

Third, the image of Ruhr-region has always been associated with heavy industry<sup>3)</sup>. However, the decline of heavy industry within the region has diminished the strong regional identity of the area, and it still lacks the new identity that is able to replace the former regional image. In order to counteract the situation, Ruhr-region has been quite aggressive in trying to create a new image. The advertising campaign of the Ruhr-region has been continuing for decades. Most prominent success was the International Building Exhibition (IBA) Emscher Park. It was held from 1989 to 1999 and it had succeeded in creating the geographical image of Ruhr-region to certain extent<sup>4)</sup>.

Because of these conditions, Ruhr-region is not easy to imagine its spatial structure. Many people in planning circles discuss about Ruhr as a region. However, how do people living in Ruhr consider the region actually? In order to understand the people's idea of Ruhr-region, the image study was carried out.

3) The Ruhr developed as an urban region since the advent of industrial revolution. Approximately 300 coalmines were in operation in Ruhr-region around 1850. In the end of 19<sup>th</sup> Century, the Ruhr coal-mining region grew into the largest industrial region of Europe.

4) Peter Hall, "RheinRuhr City", p.61

## 2. Methodology

The questionnaire survey including image map study was conducted in February 2 and February 5, 2010 in Technologisch Universität Dortmund. The examinees were students in the Department of Spatial Planning. 61 students participated in the study.

The questionnaire survey consisted of four questions. First question asked to draw the image map of Ruhrgebiet. Second question asked to give three adjectives that respondents think best describe the Ruhrgebeits. Third question asked to write three most important (biggest) cities in the Ruhrgebeits. Fourth question asked for the attributes of the respondents. The actual questionnaire is shown in the next box.

1) Please draw your image map of Ruhrgebiet

Note: Do not see any map or other information sources including other person's drawing. Do not take time to do the drawing. Finish drawing within five minutes.

2) Please give three adjectives that you think best describe the Ruhrgebeits.

3) Please give three most important (biggest) cities in the Ruhrgebeits.

4) Please tell me about yourself.

1) Age:

2) Gender:

3) Years you have lived in Ruhrgebeits: years:

4) The cities you have resided (up to three cities):

## 3. Findings

### 3.1 Adjective Study

The respondents were asked to write three adjectives that he or she thought best describe the Ruhr-region. 71 adjectives were given as an answer. Since some of these adjectives were similar in meaning, the given adjectives were classified into 25 words.

The figure 2 shows the adjective that had more than three votes. The adjective that had most votes was "diverse" with 29. It is likely that some of the characteristics of Ruhr-region, such as the polycentric nature of the area, the existence of many racial minorities, the variety of geographical features (hill, valley, flatland, and so on), helped people to think the area "diverse." Second and third votes were "straight" (15 votes) and "concentrated" (13 votes).

The image of "straight" is assumed to derive from blue-collar workers that have always been associated with Ruhr-region. The image of "concentrated" is assumed to derive from

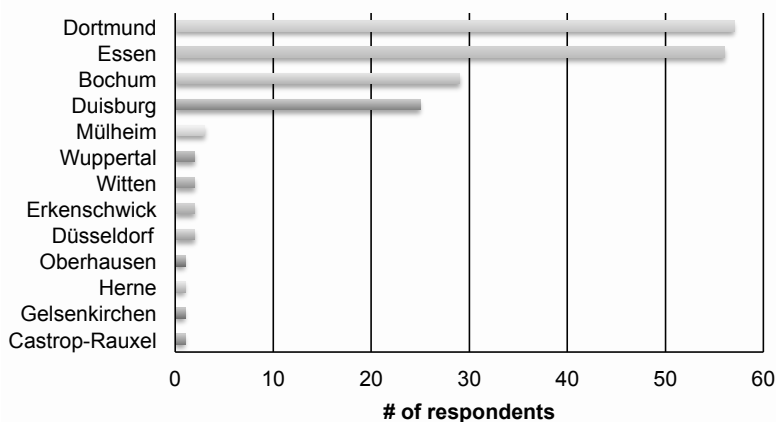


depends on the number of votes. The more the votes, the bigger the letters of the adjectives are. Each word is used only two times.

### 3.2 Important City Study

The respondents were asked to give three most important (biggest) cities in the Ruhr-region. Dortmund and Essen were considered most important with 93% and 92% of the answers. Bochum comes next with 29 votes (48%), and followed by Duisburg with 25 votes (41%). No other cities received more than three votes. This extreme discrepancy implies that people considered these four cities as main component of Ruhr-region. However, this result must be analyzed carefully, since the respondents were all students of Dortmund Technology University. The fact that Dortmund was considered more or equal as important as Essen, and Bochum was considered more important than Duisburg may have resulted because of the respondents had more affinity with the eastern area of Ruhr. Still, it gives some perspective to understand how people conceive the spatial structure in Ruhr-region. It is worthwhile to point that how little people consider Gelsenkirchen (only one vote) as an important city despite its relatively huge population (260 thousand). It is also interesting to note that Wuppertal and Düsseldorf received 2 votes respectively, despite the fact that these two cities do not belong to Ruhr-region defined by RVR (refer to Figure 1).

Figure 4. Most important cities in Ruhr-region



### 3.3 Image Map Study

61 image maps were analyzed based on what the examinees have described on a map. The maps were organized by the contents that they have described or not. The contents that were used to quantify are follows.

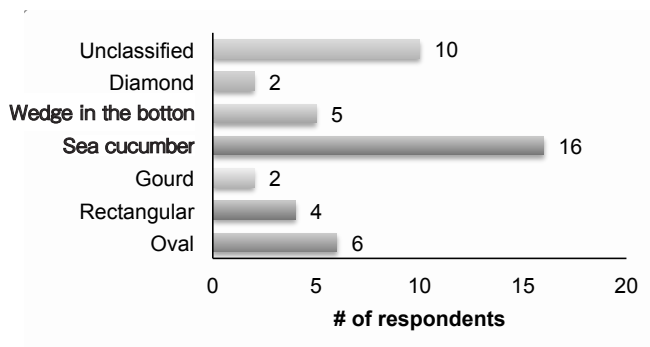
- 1) Regional Boundaries
- 2) City Boundaries
- 3) Orientation
- 4) Linear Structures (River, Railway, and Road)
- 5) Zone
- 6) Cities
- 7) Landmarks

The findings of above contents are described in the following.

#### 1) Regional Boundaries

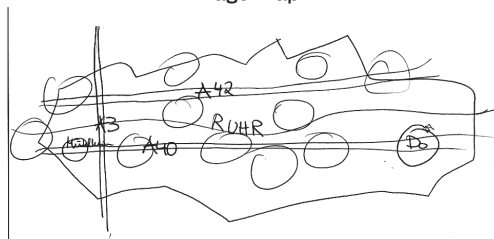
77.0% (47 out of 61) respondents illustrated the regional boundaries. The regional boundaries were classified according to the shape of the drawing. The classification of the drawing was "Oval", "Rectangular," "Gourd," "Sea cucumber", "Wedge in the bottom", "Diamond" and "Unclassified" (Figure 5).

Figure 5. The classification of boundary drawing



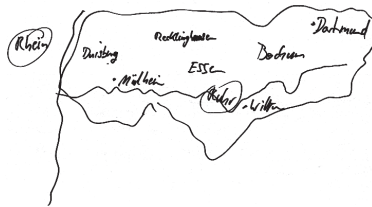
According to this classification, 34% (16 out of 47) of the respondents drew a regional boundary that looked like a sea cucumber as shown in Image Map 1. 13% drew a regional boundary oval and 11% drew it with some wedge kind of shape in bottom (Refer Image Map 2).

Image Map 1



The wedge shape is actually the characteristic of spatial area of Ruhr-region. Figure 1 indicates the area of Ruhr-region by the definition of RVR. Ruhr-region has some kind of peninsula structure in the south border. The respondents who drew this peninsula likely had the knowledge of the area of RVR since this wedge shaped area, which lies south of Ruhr River, has little characteristic of Ruhr-region.

Image Map 2

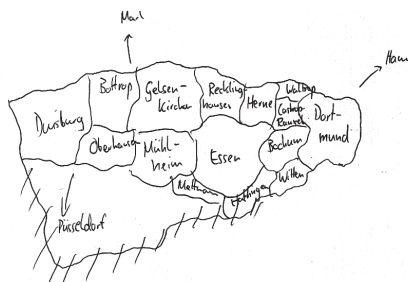


Oval, rectangular, and diamond are the simplification of the regional spatial structure, but it is difficult to conclude that they are incorrect. This is because whether or not to include wedge shaped area in the west of Hagen in Ruhr-region is debatable. In essence, the oval or rectangular shape may present the image of Ruhr better than the definition made by RVR.

## 2) City Boundaries

18.0% (11 out of 61) respondents described the city boundaries. Most of the respondents who described the city boundaries had the correct disposition of the cities. However, some samples had it wrong as shown in Image Map 3 (Gelsenkirchen is not located between Essen and Bottrop but between Essen and Bochum).

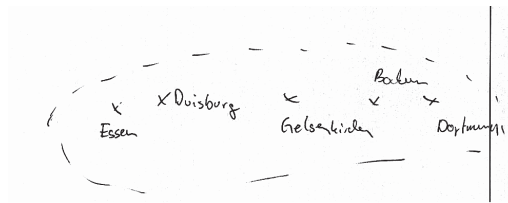
Image Map 3



In addition, the dispositions of the four big cities were all correct except one (Image Map 4). All other image maps that indicated these four big cities had correct disposition from west to east; Duisburg, Essen, Bochum, and Dortmund in this order.

This fact implies that people have the strong image of the location of these big four cities despite their lack of understanding of spatial structures of the region.

Image Map 4



### 3) Orientation

Only 3.3% (2 out of 61) respondents indicated north. However, assuming the upwards of letter would represent the north, 77% indirectly described the orientation by the letters. In that sense, every respondent of this 77% indicated the north correctly. This is not always the case with other image map study, and this fact is possibly due to the characteristics of respondents (University students studying in Spatial Planning Department).

### 4) Linear Structures (River, Railway, and Road)

#### (4-1) River

50.8% of the respondents described Linear Structure. 37.7% drew rivers, 3.3% drew train lines, and 9.8% drew highway network. This result implies that rivers are the main components for people to comprehend the spatial image of Ruhr-region. It is quite natural that the name of Ruhr derives from the Ruhr River. However, the Ruhr River is not the most drawn river. The Rhine is the most drawn river with 32.8%. Ruhr being second with 29.5%. Emscher is third with 23.0%, and Lippe being forth with 6.6%. For many respondents, Rhein River seems to be perceived as a western edge of Ruhr-region.

#### (4-2) Railway

Only 4.9 % (3 out of 61) drew Railway network. It is a bit surprising since the railway network is quite dense and train provides frequent service is in Ruhr-region. All the respondents that drew Railway network described S1 line, which is the main arterial of Ruhr-region that connects Duisburg, Mülheim, Essen, Bochum, and Dortmund. Only one respondent described S2 line despites its importance in terms of public transportation network. S2 connects Duisburg, Oberhausen, Gelsenkirchen, Herne, and Dortmund. This second arterial of Ruhr Region seems to be overlooked in terms of spatial image.

#### (4-3) Highway

9.8% (6 out of 61) drew Highway network. Comparing with the number of respondents that drew rivers, this can be considered as a small percent. 4 respondents drew A40 and three respondents drew A42. A40 connects Duisburg, Essen, Bochum, and Dortmund. This highway is considered to be the main arterial of Ruhr-region. A42 connects Oberhausen, Gelsenkirchen, and Herne.

## 5) Zone

Only four respondents drew certain zones in the map. However, what they indicated is interesting. Of four respondents, two indicated “green-zone,” and one indicated, “landscape zone.”

## 6) Cities

72% of the respondents drew cities. Dortmund was most depicted with 68.9%. Duisburg was second with 67.2%, Essen was third with 62.3%, and Bochum was fourth with 60.7%. The number of image map that depicted various cities in Ruhr-region is shown in Table 1.

Figure 6 depicts the city with many indications in the image map with a bigger circle. The figure only shows the city with more than three indications. From this figure, the image of Ruhr-region that respondents possess is more or less concentrated between the Duisburg-Essen-Bochum-Dortmund corridors. It is interesting to note that despite only few indicated that cities in S2 corridor such as Gelsenkirchen and Oberhausen important in Question 2, respondent still drew their name on the map.

This result implies that people consider Ruhr-region much more compact than the definition of RVR which is the outline of Figure 6. From the result of this study, the spatial image of Ruhr-region is more or less concentrated in the corridor between Duisburg and Dortmund, the south bounded by Ruhr River and the north by Emscher River. The cities along Lippe River,

Table 1. City with the number drawn in the maps

City	# of map drawn
Dortmund	42
Duisburg	41
Essen	38
Bochum	37
Gelsenkirchen	24
Muelheim	21
Obehausen	18
Herne	15
Recklinghausen	10
Castrop-Rauxel	9
Hagen	8
Witten	8
Unna	6
Bottrop	6
Hattingen	3
Duesseldorf	3
Dinslaken	3
Hamm	2
Wuppertal	2
Wattensheid	2
Waltrop	2
Luenen	2
Sauerland	2

Figure 6. Cities with many indications in respondents' drawing maps



such as Wesel in the west, Dorsten and Marl in the middle, and Hamm in the east seem not to be included in Ruhr-Region in the respondents' image.

#### 7) Landmarks

11.5% (7 out of 61) drew some kind of Landmarks in their image map. The most drawn landmark was Zollverein in Essen with 5. This is the only World Heritage Site in the Ruhr-region. Three respondents drew Schalke 04 Football Stadium in Gelsenkirchen.

#### 8) Summary of Image Map

Figure 7 shows the synthesized map of image elements that were illustrated by respondents. The image elements were shown in correct configuration to actual map. As noted previously, the three rivers play quite an important role for people to recognize the spatial structure of the region.

Figure 7. Synthesized map of image elements



On the contrary, public infrastructure such as highways and railways does not support people to construct the spatial image. Cities that respondents illustrated concentrated in the area between Duisburg and Dortmund, and between Ruhr River and Emscher River. This area seems to be the image core of Ruhr-region. It should be noted that there were little landmarks drawn in the image maps. This fact suggests that there seem to be not enough presence of landmarks in Ruhr-region despite people's eager effort to promote them.

## 4. Analyses and Conclusion

### 4.1 Analyses

The result of study suggests the followings.

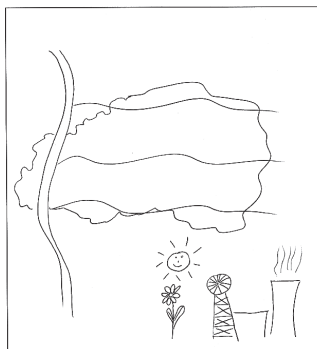
#### 4.1.1 The difficulty to understand the regional spatial structure.

Most of the respondents did not have clear idea of the spatial image of Ruhr-region. This fact is quite striking noticing that the examinees were all university students studying in spatial planning department. This fact suggests that people find it difficult to understand Ruhr-region spatially.

The main factor that respondents orient the region is by rivers, especially Rhein River and Ruhr River. The "E shape" created by Rhine, Ruhr, Emscher, and Lippe River as shown in Image Map 5 is a typical spatial structure to grasp the region.

Some respondents just drew Rhine and Ruhr like 90 degrees rotated "T shape" as a simpler model of "E shape." This east-west parallel lineal structure with a north-south arterial in the west side of the region can be seen not only with rivers but also highway and railway as well. There are only a few image maps showing highway structure instead of rivers. This fact implies that river is the main components for people to understand the spatial structure of Ruhr-region. Few people drew the railway network.

Image Map 5



#### 4.1.2 Complex nature of the area of Ruhr-region

Majority of students understand the Ruhr-region in a narrower definition, which is the area stretching from Duisburg to Dortmund. The southbound of the region in the majority's image was Ruhr River and the northbound of which was not Lippe River but Emscher River. This assumption is enhanced by the "important city study." The most important cities that respondents considered were Dortmund, Essen, Bochum, and Duisburg. These four cities that lies along railway S1 line and highway 40 are the main components of Ruhr-region that people imagine. Peoples' image of Ruhr-region is much more compact than the definition of Ruhr-region by RVR. It should also be noted that most of the respondents had correct disposition of above four cities. Respondents may not understand the spatial structure of the region so much, however, they do understand the disposition of these big four cities.

#### 4.1.3 New image of Ruhr-region is not well connected to spatial image of the area

From adjective study, some percentage of the respondents had the "new" image of the area by choosing adjectives such as "cultural" and "green" . However, in drawing the image map, only few respondents described the new image of the region. The fact that five respondents drew Zollverein may imply that some people are starting to have the new image of Ruhr-region. However, landmark is just a spot, and the fact that only two respondents indicated green space of the region and only one indicated landscape zone, the strategies to generate new regional image may not have gained so much success to this date. Not a single respondent drew Landscape Park in Duisburg despite its number of annual visitors being as many as Zollverein.

### 4.2 Conclusion

The study result implies that the concept of Ruhr-region still have difficulties creating physical image to people to this date. One can argue that the region has difficulties imagining the physical image due to its complex networks of transportation structures. In the image study conducted in Los Angeles, Lynch had found that most of people image the city structure by the freeway network<sup>5)</sup> . This is definitely not a case in Ruhr-region. The result of this study implies that most of respondents perceived the regional structure by rivers rather than highway or railway network. The lack of landmarks illustrated in the image maps implies that there are few spatial components that help to reorganize the spatial image of this area except rivers.

Many respondents had hard time understanding the spatial structure of the region, however,

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5 ) Kevin Lynch, "Image of The City" MIT Press, 1960

they do understand the disposition of the four big cities; Duisburg, Essen, Bochum, and Dortmund.

The new post-industrial image of the Ruhr-region is more or less understood conceptually, but not in tangible sense. This can be derived from the fact that very few respondents drew post-industrial features in their image map, including new landmarks.

The sampling procedure that was taken limits the generalization of findings. However, the author believes that the result of this survey does raise some issues associated with the regional image of Ruhr-region.

**References:**

- Hall, Peter. "Global City-Regions in the Twenty-first Century" in *Global City Region*. Oxford University Press, 2001
- Hattori, Keiro. *Study of the Spatial Image of the City of Kuala Lumpur*. EDRA 30/1999
- Kaltenbrunner, Robert. "The city turned into a region – concepts for action in agglomerations" in *Shrinking Cities, Vol.2*. Hatje Cantz Pub, 2006.
- Lynch, Kevin. *Image of the City*. MIT Press, 1960.
- Reicher, Christa et al. *Schichten einer Region*. Jovis, 2011.