

ヨーロッパにおける都市産業構造の変遷に関する研究

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1. INTRODUCTION

1.1 Background and purpose.

The purpose of this research is the investigation in the change of industrial development and the consequences in the European city. The last 200 years, the structure of the city has been transformed as never before in history. For long time, agriculture was the main economical activity in the city. Since the industrial revolution the outlook of the city changed radically. With the slow-down of traditional industrial activity since the 1960's and the decline in the coal-mining and the heavy industry, a structural change in the city is unavoidable. Many cities has to deal with large abandon industrial area. Redevelopment projects are necessary, new industrial activity seems to be solutions, but the problem is more complex.

1.2 City Classification Model.

The city can be classified according to the importance of its economical activity. Three main activities, agriculture, industry and the service sector are determining the structure of the city. Table 1 shows the classification of the city. Dependent on the percentage of employees number in each sector, as well as the proportion of production and the surface represented by each sector, there are three types of cities distinguished, the agrarian one, the industrial one and the service city.

1.3 Abandon industrial area and redevelopment.

Table 2 shows a list of regions and cities dealing with structural change. For this places, this research investigate the population growth in general, the change of employment in agriculture, industry and service sector, as well as the production in means of quantity as well as in turnover. For each region or city the development of industrial activities are analysed. The declining industrial areas and the redevelopment projects in these areas is a second part of this research. In chapter 2, one case-study of the Ruhr in Germany is investigated.

Table 1. City Classification Model

	Agriculture	Industry	Services	Classification
Employees (%)	50	30	20	Agricultural City
Production (%)	50	30	20	
Surface (%)	90	7	3	
Employees (%)	20	45	35	Industrial City
Production (%)	20	45	35	
Surface (%)	75	25	15	
Employees (%)	10	35	55	Service City
Production (%)	10	35	55	
Surface (%)	60	20	20	

Table 2. Structural Change Regions and Cities

Country	Region	Big City	Small City	Redevelopment project	
Belgium	Limburg			Coal-mining region	
Finland		Helsinki		Old industrial buildings	
		Tampere		Redevelopment City centre	
France	Nord-Pas-de-Calais			Euralille	
West-Germany		Paris			
		Aachen		Technology Centres	
		Berlin		Oberschoneweide	
		Frankfurt		Grungurtel Frankfurt	
		Leipzig		Sudraum	
		NR-Westfalen - Ruhr			IBA Emscher Park
	Saarland	Saarbrücken	Neunkirchen	Völklingen - Burbach Metalworks	
Italy		Bologna			
		Genoa		Sestri Ponente	
		Milan		Biccocca project	
		Roma			
		Turin			
The Netherlands		Amsterdam		Westerpark project	
		Eindhoven		White Lady project	
		Rotterdam			
Spain	Asturias region		Langreo	Nuevo Langreo	
	Catalonia region	Bilbao		Bilbao Ria 2000	
		Barcelona			
Valenciana region	Madrid			Gran Sur	
	Valencia				
United Kingdom		Cleveland			
		Lancaster		White Cross	
		Liverpool		Merseyside - Albert Dock	
		London		Docklands	
		Manchester		Trafford Park	
		Newcastle		Tyne and Wear	
		Salford		Salford Quays	
		West-Midlands		Black Country	
		Scotland	Sheffield		Lower Don Valley
		Wales	Cardiff		Cardiff Bay

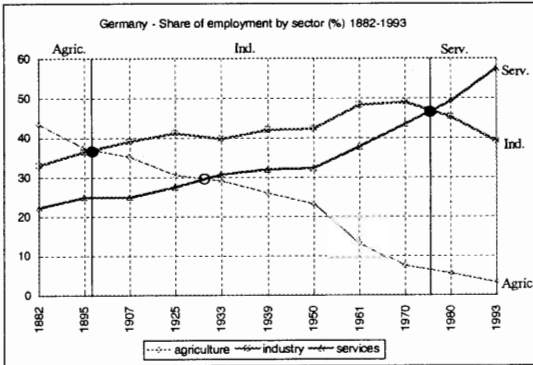
2. CASE-STUDY: IBA Emscher Park in the Ruhr, Germany.

2.1 The Ruhr district.

The Ruhr district, an industrial region with a 4432 km² surface and a population of 5 million people, is surely to be numbered among the oldest industrial regions in Europe. Within this district, the Emscher region, with a population of some 2 million and a land area of 800 km². This economic region experienced a turbulent period of industrialization and once supplied the whole of Germany with raw

materials, especially coal-mining and steel. Fig. 1 shows the change of industrial sectors in Germany. The change of industry, in the mid 70's into service sector, had deep influences for the Ruhr region. Most of the coalmines were closed down and the steel production shows similar signs. As a result of this crisis, the unemployment grows with a rate even higher than 10%. The regional government of North Rhine-Westphalia announced an economic development and environmental renewal program in the frame of the International Building Exhibition IBA the Emscher Park.

Fig. 1. Germany - Share of Employment by sector



2.2 The Emscher Park.

The Emscher region, the industrial heartland of the Ruhr, is now being renovated, in terms of both ecology and urban structure, in the frame work of the Emscher Park International Building Exhibition. The main fields of the Emscher Park are respectively:

- Emscher Landscape Park.
- Ecological Restructuring of the Emscher river.
- Working in the Park.
- New forms of living and housing.
- Reuse of old industrial buildings.

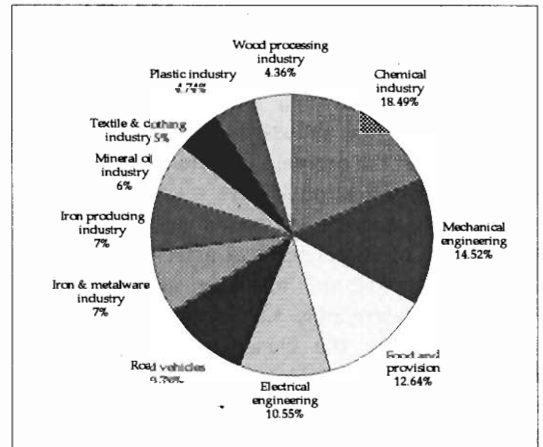
2.3 New industries in the Ruhr.

Table 3 shows the change from the traditional industries, coal and steel, into new ones. The Ruhr has been redeveloped into a new environment where research centers and industry parks are the main elements, mixed up by new housing projects, and the refurbishment of old factories. Fig. 2 shows the proportion in turnover in the manufacturing sector in North Rhine-Westfalen (1994). At the

Table 3. Industrial developments in North Rhine-Westfalen (Germany)

Traditional Industries	Coal-mining Steel
New Industries	Chemicals
	Electronics
	Environmental technology
	Food
	Iron and steel
	Machinery
Research	Microelectronics
	Motor vehicles
	Information technology
	Environmental research
	Health
	Materials and components
	Process engineering
	Production automation
	Production technology
	Technical information
Technical scientific study	

Fig. 2. Turnover in Industry in North Rhine-Westfalen (Germany) 1994



moment the largest branch of economic activity is the chemical industry, followed by mechanical engineering and the food, beverages and tobacco industry. In the Ruhr more than 50% is employed in the service sector and about 45% in the manufacturing industry. Compared to the general trend in Germany, the Ruhr is still a high industrialised area.

3. CONCLUSION

In the advanced industrial nations in Europe, industrial cities changed into research-cities. Traditional industry declined and new high-technological, environmental industries and related research are the new industries for the 21 century.

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