

# Urban Growth Trends in the Jakarta Metropolitan Region (JMR)

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## 1. INTRODUCTION

Jakarta, the largest city in South Asia, has expanded in all directions, thereby creating a metropolitan region called the Jakarta Metropolitan Region (JMR).<sup>1)</sup> Initially, Jakarta, as the capital of Indonesia, attracted many people and much economic activity, which led to urbanization. However, since the 1990s, the population of Jakarta's suburbs has surpassed the population of the central city,<sup>2)</sup> which indicates the process of suburbanization.

This paper aims to determine the urban growth trends of the JMR. This paper firstly overviews the JMR by describing the population and employment from 1995-2010, and then employment changes in 1986 and 1991 in the JMR. Secondly, it discusses the urban growth trends of the JMR by using Klassen urbanization cycles<sup>3)</sup> and by mapping land use changes. Finally, some points will be summarized.

## 2. OVERVIEW OF THE JMR

The JMR is the largest urban concentration in Indonesia. It covers Jakarta city and its surroundings, including Bogor, Depok, Tangerang, and Bekasi (Fig. 1). The JMR has a total area of 5,897.52 km<sup>2</sup>.



Fig. 1 Jakarta Metropolitan Region (JMR)

The population in the central city and the peripheral area of the JMR grew steadily during 1995-2010 (Fig.2). In 1995, population of Jakarta was 7,436,214, which increased to 9,607,787 in 2010. The population in the peripheral area was 11,318,620 in 1995 and 18,339,000 in 2010. The population of the JMR totaled 28,007,000 in 2010.

Figure 3 illustrates the trends in the number of day-based employees in the JMR during 1995-2010. The number of employees in the central city decreased from 376,386 (1995) to 295,285 (2005). In the central city, the number increased slightly in 2010. In addition, the number of employees in the peripheral area increased from 552,718 (1995) to 819,710 (2010). The total number of employees increased from 929,104 (1995) to 1,140,980 (2010).

Population and industry growth in the JMR have resulted in an escalating demand for space. Henderson and Kuncoro identified that, during 1980-1990, a multi centered metropolitan structure emerged in the JMR. In 1991, employment in industry increased and clustered in

Bekasi, Depok, and Tangerang (Fig.4). They also argue that, without a sufficiently controlling policy, the development growth trend will be continued densification.<sup>4)</sup>

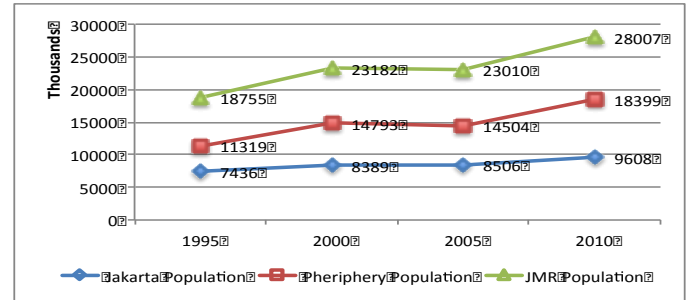


Fig. 2 Trends in Population of the JMR 1995-2010

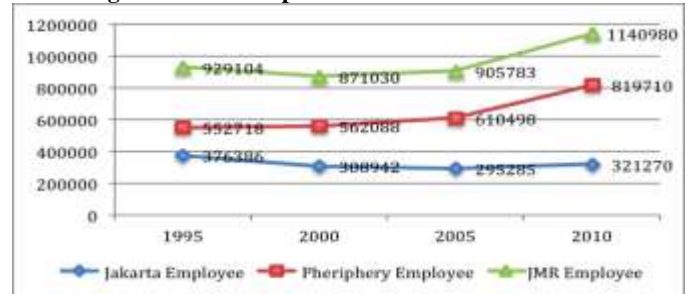


Fig. 3 Trends of Number of Employee of the JMR 1995-2010

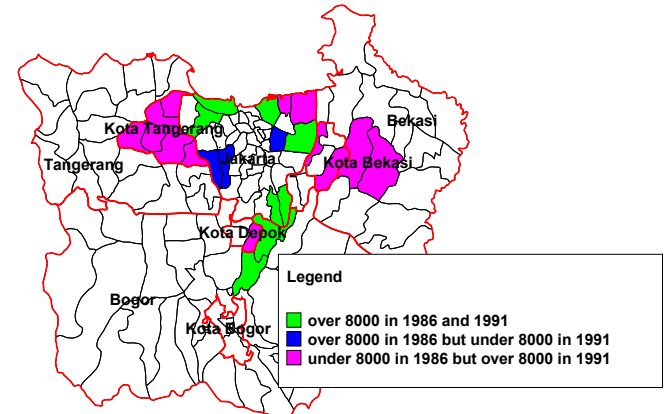


Fig. 4 Employment in the JMR 1986-1991<sup>3)</sup>

## 3. DISCUSSION

### (1) Population Growth and Employee Growth

Figure 5 describes the urban growth trends in the JMR by using Klassen urbanization cycles<sup>3)</sup> based on population and employee growth rates. According to Klassen, an absolute centralization in urbanization stage exists when the size of the population and the number of employees of a peripheral area decreases while those of the central city increase. A relative centralization occurs when the size of the population and the number of employees of a central city increase with a smaller increase of the peripheral area. Furthermore, an absolute decentralization in suburbanization phase exists when the size of the population and the number of employees in the

peripheral area increase and those in the central city decrease. A relative decentralization exists when the size of the population and the number of employees in the peripheral area increase with a smaller increase of those in the central city. Next, an absolute decentralization in disurbanization trend occurs when population and employee of central city decreases while they increases in the peripheral area resulting in overall population decline. A relative decentralization in disurbanization occurs when population and employee of central city and peripheral area decrease.

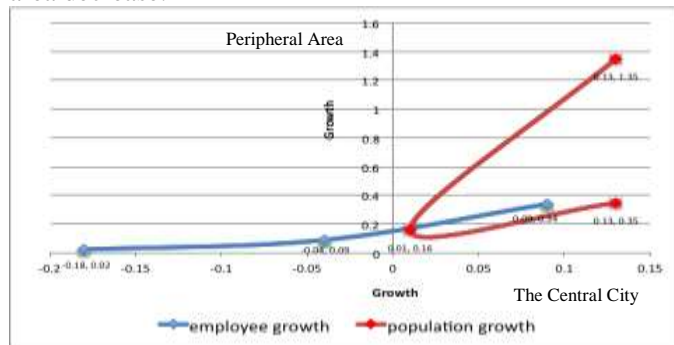


Fig. 5. Urban Growth Trends of the JMR based on Population and Employee Growth (1995-2010)

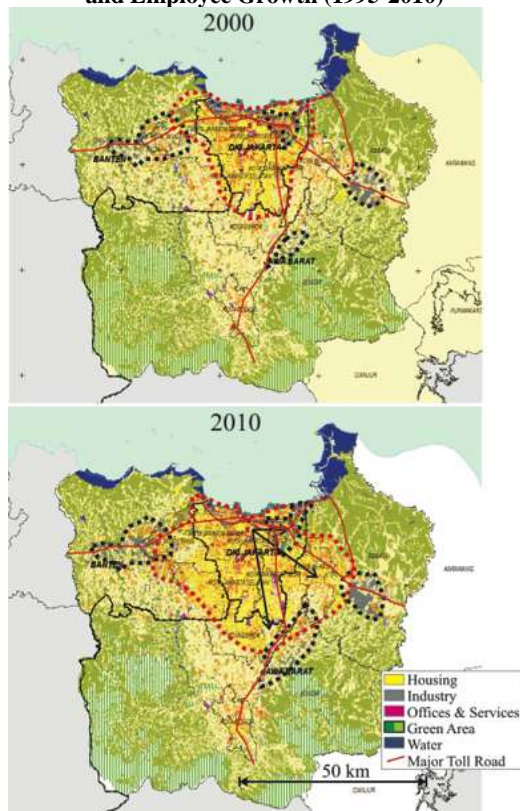


Fig. 6. Urban Land Use Changes in the JMR (2000, 2010)

Figure 5 shows urban growth trends of the JMR based on population and employee Growth in 1995-2010. During 1995-2000, the population growth ratio of the peripheral area increased by 0.35 with a smaller increase in the central city (0.13). Furthermore, in 2005-2010, the population growth of the peripheral area was 1.35, while that of the central city was 0.13. In short, during 1995-2010, the main trend of the JMR growth was suburbanization with relative decentralization.

Figure 5 also shows the employee growth in the JMR during 1995-2010. In 1995-2000, the number of

employees in the central city decreased (-0.18), while the number of employees increased in the peripheral area (0.02), which shows an absolute decentralization disurbanization stage with rapid development in the peripheral area. In addition, during 2005-2010, the employee growth in the peripheral area (0.34) surpassed that in the central city (0.09). In 2005-2010, the peripheral area was developed, and the central city still attracted population and employees with the relative decentralization suburbanization.

## (2) Land Use Change 2000-2010

Figure 6 shows the land use change of the JMR in 2000 and in 2010. It shows the extended urban land use (housing, industry and offices) from 2000 to 2010. Housing evolved in all directions, except north due to the sea boundary. In 2000 and in 2010, spatial distribution of industrial suburbanization extended along the toll roads into Bogor to the south and Bekasi to the west. Meanwhile, the industrial area was also developed on the north side in the central city. These land use changes demonstrate the large scale industrial suburbanization in the JMR.

Table 1. Land Use Changes in the JMR 2000, 2010

Land Use (Ha)	2000		2010		Rate of Change	
	Central City	Periphery	Central City	Periphery	Central City	Periphery
Housing	43475.00	145423.41	42500	153614.3	-0.02	0.06
Industry	3228.21	13889.79	2825	20767.1	0.31	0.40
Offices	7898.54	948.46	7441	12234.5	-0.06	11.90
Green Area	1270.11	436478.89	809	417037.0	-0.36	-0.04
Other	10280.00	17396.98	1189	25010.2	-0.88	0.44

Table 1 shows land use changes in the JMR from 2000 to 2010. The decrease of housing in the central city and the increase of housing in the peripheral area are observed with the rates of change of -0.02 and 0.06, respectively. The increasing population and decreasing housing area in the central city indicate the development of highly dense housing. Meanwhile, the positive rate (0.31) of the industrial area occurred in the central city, which was followed by the increase of industry in the peripheral area (0.4). This figure shows the suburbanization of industry.

## 4. CONCLUSION

Using Klassen cycles, the main trend of urban growth in the JMR is identified as relative decentralization suburbanization during 2005-2010 in population and in employment. Furthermore, from land use changes, the JMR has extended its urban activity (housing, industry and offices) in all directions of the JMR. Meanwhile, the decrease of the housing area and the increase in the size of the population in the central city indicates the development of highly dense housing. In 2005-2010, the increase of industrial areas in the central city and its periphery shows industrial suburbanization in the JMR.

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