

The Changing Face of Indonesia

The Industrial Revolution and Modern Urban Development

By Dr J. Scott Younger OBE

The industrial revolution that started in the late 18th Century and the subsequent advances in science, technology and medicine have contributed directly to modern urban development. Clean water supplies, for example, helped to control previously endemic diseases such as cholera and typhoid, and in turn contributed to faster population growth and greater life expectancy. At the end of the 19th Century, the world's population was 1.9 billion; a century later it was more than three times higher. By 2050, it is expected to reach 9 billion (See figure 1a).

Indonesia: More Young People Living in Cities

In 1970, the population of Indonesia was 100 million, up from an estimated 45 million at Independence in 1945. Today, the population is about 220 million, and is expected to approach 300 million by 2030 (See figure 1b). However, it is not just the total population that is of significance to economic growth – age distribution is another important factor. A large proportion of Indonesia's population is at the younger end of the age spectrum. This represents both a major challenge and an opportunity, providing the basis for large-scale development and economic growth.

By the time of the 1997 Asian economic crisis, Indonesia's urban areas had expanded to accommodate approximately one third of the country's population. Thus, 70 million people lived in an urban environment. But for the crisis, urbanization would have continued steadily. While the crisis resulted in a statistical blip in this steady growth, with the country's economy clearly recovering, the pace of urbanization is again picking up. By the 2020s, over 50% of the population may live and work in an urban environment. With both absolute growth in population and

increased urbanization, this will mean a doubling in the total number of today's urban dwellers. In short, a further 75 million people, most of them in Java, will live in cities, including 30 million in West Java alone.

Currently, Java is the base for more than 80% of the nation's industry, with the heaviest concentration of industry in West Java and Banten. This is manifest in the expanding aggregated urban zones that stretch to include a number of cities, including Jakarta, Bandung, Cirebon and the industrial towns of Banten province in the west of the island. In 20 years' time, with an additional 30 million people in West Java living and working in an urban environment, the total will reach 65 million, a population equal to that of many major European countries. For town and city planners, this presents a considerable challenge.

Jakarta: An Expanding Megacity

Jakarta is one of the world's megacities, defined as cities with populations exceeding 8 million people. By the 2020's, Greater Jakarta will be in the world's top five largest urban communities. Figure 2 illustrates the rapid development of Jakarta since 1970. While Kemang is now a suburb well within the city limits, not so long ago it was an area of fields. In 20 years' time, there will be even fewer green areas remaining between Jakarta and Bogor, some 50km to the south.

Jakarta is spreading rapidly east and west. In the process, it is enveloping centres of commerce and industry such as Bekasi, Cikarang, Tangerang. Other urban centers, further east and west of Jakarta, are also growing. In the near future, there will be a burgeoning new port area in the natural harbour area of Bojonegara in Banten, and greater Ciligon will become an extensive industrial and commercial area.

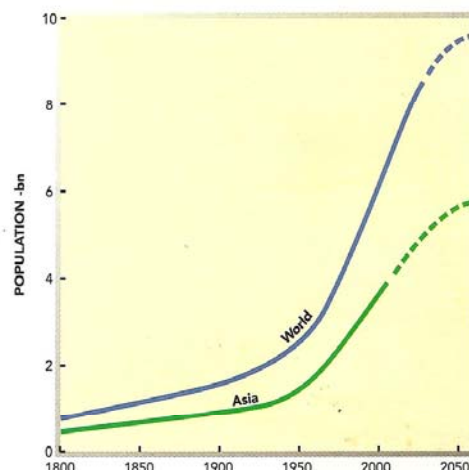


Figure 1a

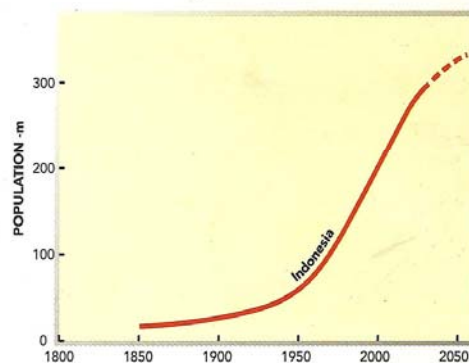


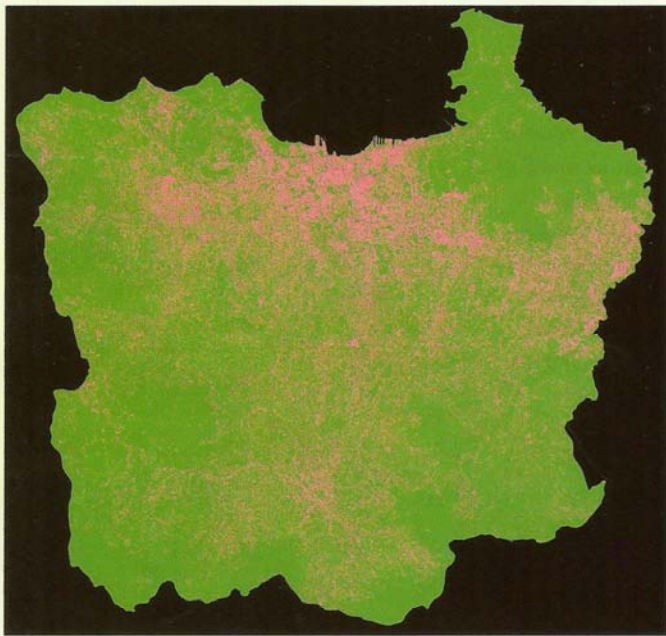
Figure 1b

The Demands of Growth: Questions And Challenges

This growth poses some important questions and challenges. How will the essential infrastructure for a modern functioning society be put in place? What steps will be taken to ensure a good standard of infrastructure with proper operational management? Will the infrastructure provide the flexibility for



Population Densities in 1972: Extrapolated map (left); LANDSAT image (right). Pink areas indicate areas of high population density.



Population densities in 2002: Extrapolated map (left); LANDSAT image (right). Pink areas indicate areas of high population density.

Figure 2

Population Density in the Greater Jakarta Area: 1972 and 2002

These maps showing the relative densities of the urban area of Greater Jakarta was derived using Landsat satellite imagery (USGS/USA) from 1972 and 2002. Purple/pink areas in the images represent urban areas. Satellite imagery and interpretation provided by PT Earthline. For more information, contact perry@earthline.info

technological advances, especially in telecommunications? Will the country make efficient use of its abundant natural resources to serve the steady increase in demand for power? Will the bureaucratic systems improve to encourage the vast private sector investment required? Will today's younger generation have access to an education that will equip them to compete in

a global marketplace and enjoy a lifestyle that is healthy and environmentally sound?

In considering these questions, it is not sufficient to merely respond to immediate needs. Rather, it is vital to plan sensibly for the future on a macro scale while continuing to pay attention to details. With rapid growth, there will be many more mouths to feed, and this will require the creation of many new

jobs. A large number of these jobs will be in sectors that have previously played a less significant role. In particular, as society develops, there will be huge growth in the services sector, which will be required to support the manufacturing base. While Asia has the potential to expand to become the commercial center of the world in a relatively short period of time, it is important that the

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mistakes made during industrialization and urbanization in the West be avoided to as great an extent as possible. Before examining the issue of urbanization in greater detail, it is necessary to look at the status of life-supporting infrastructure in Indonesia generally and West Java in particular.

Developing an Infrastructure to Meet Increased Demands

Infrastructure is divided commonly into five main categories; power; roads; water; transportation and telecommunications. All are vital for properly functioning modern communities. Studies over the past few years show that the level of investment in infrastructure required in Indonesia

to sustain a growth rate in the economy over the next five years of about 7%, the level necessary to make a vital impact on fundamental issues such as employment and poverty, is in the order of US\$70 billion. A further US\$100 billion will be required in the following five-year period. These amounts are very large for the Indonesian economy, and will require substantial private sector investment. It is a sobering thought, however, that Japan, the second largest economy in the world, invests similar amounts on an *annual* basis, just to maintain the existing infrastructure.

After seven years of virtual stagnation in investment in new infrastructure and a decline in funding for existing infrastructure, urgent

action is required. Clearly, the problem has been recognized by the new President and members of his cabinet, and by the broader business community. The issue formed a major part of the agenda at the Infrastructure Summit held in Jakarta in January 2005, which attracted an impressive number of potential foreign investors. Specifically, 91 projects in various segments of the infrastructure sector were listed for foreign investor interest.

However, in order to attract the required level of investment, the current ungainly bureaucratic structure must be overhauled and new processes adopted. Unless bureaucratic bottlenecks are cleared up and procedures streamlined to allow investors to follow through

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to realization, this level will not be attained. Another issue is lead in time, as it will take several years for any specific project to reach the state where it can begin to be productive. Hence, it is important that projects commence before the need becomes critical and acute.

In the West Javanese region alone, the required level of investment in infrastructure is in the order of US\$50 billion. In order to avoid inhibiting growth, identified projects need to start very quickly. 🐦

This article by Dr. J. Scott Younger OBE is part of a series on urbanization and development. Part 2 will expand on the issue of infrastructure and will continue with a discussion of the problems associated with urbanization.

Dr J. Scott Younger OBE

Dr. J. Scott Younger OBE was born in Bihar, India, and educated in Scotland, graduating from the Faculty of Engineering at the University of Glasgow with a BSc (Hons), after which he continued with postgraduate studies at U.C. Berkeley and Hong Kong. His career in civil engineering spans forty years, and he has extensive involvement in professional and academic organizations. While he has undertaken assignments throughout Asia, he has lived in Indonesia for the past twenty years. In 2003, he was awarded an OBE for services to civil engineering and British business interests in Indonesia.



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