



## Urbanisation process and the prevalence of tuberculosis in Malaysia

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### Abstract

Malaysia's rapid urbanisation process had brought about unwelcomed consequences such as environmental pollution and health issues. This study focuses on the prevalence of tuberculosis infection in Malaysia due to the urbanisation process. It utilises qualitative methods in gaining data and information needed including accessing university library databases. It was found that urbanisation had created high density housing areas like squatters and high rise flats that were susceptible to disease contagions because of their poor ventilation. Urbanisation had also brought about new places of high people concentration such as shopping complexes, public transport terminals, public buildings, educational places, and public recreational areas which all stood to increase the chances of disease infection. Finally, urbanisation had brought in foreign workers from relatively TB prone countries such as Indonesia, the Philippines, India, Bangladesh and Myanmar. The study concludes with a number of recommendations in addressing the TB prevalence issues including more rigorous monitoring of high-risk areas as well as enforcement of related rules and regulations.

**Keywords:** development, impact, infectious disease, Malaysia, Tuberculosis, urbanisation

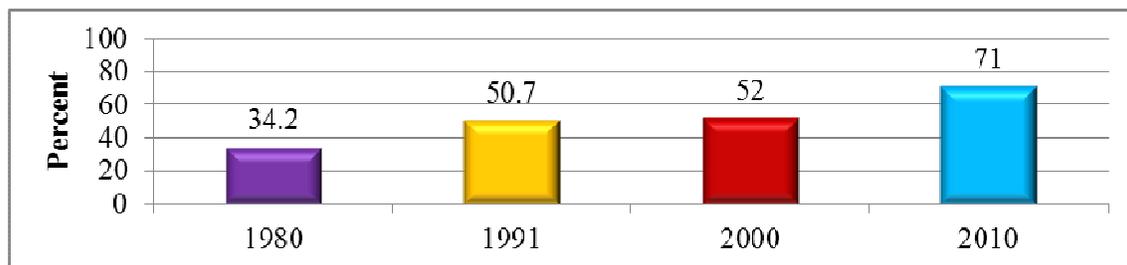
### Introduction

It has been acknowledged that urbanisation has the capability of leaving a positive impact to the community, whether in terms of the economy, social or politics including job opportunities (Ma & Lian, 2011), improvement of the infrastructure such as transportation (Antrop, 2004), access to educational institutions (Hirschman & Yeoh, 1979) and the upgrading of healthcare services. However, undeniably, the urbanisation process also contributes to some negative implications (Aiken & Leigh, 1975). One can easily blame urbanisation for problems in housing, cleanliness, crime, social issues, environmental pollution (Jamaliah, 2004; Mutatkar, 1995) and the enhanced number of the poor in urban areas (Yasin & Narimah, 2012).

The process of urbanisation can be understood as the change in activities from agricultural based to industrial based (Yasin & Narimah, 2012; Henderson, 2003). Typically, what is expected to happen is the exponential growth of the population in the area undergoing the process (Yang & An, 2011). This process is yielded from the progress of the economy and the social change that takes place in the area concerned (Antrop, 2004). This advancement has spurred change, from an under-developed to developed, traditional to modern system and simultaneously open doors to the process of mobilisation on a grand scale, from rural areas to urban areas (Wu, 2010) and this has become an appeal to foreign immigrants to come to these cities and make a living (Shen *et al.*, 2012). Basically, the formation of an urban area refers to the increased number of population of an area (Jamaliah, 2004) typically associated with the process of migration from rural to urban (refer Potts, 2012; Aiken & Leigh, 1975).

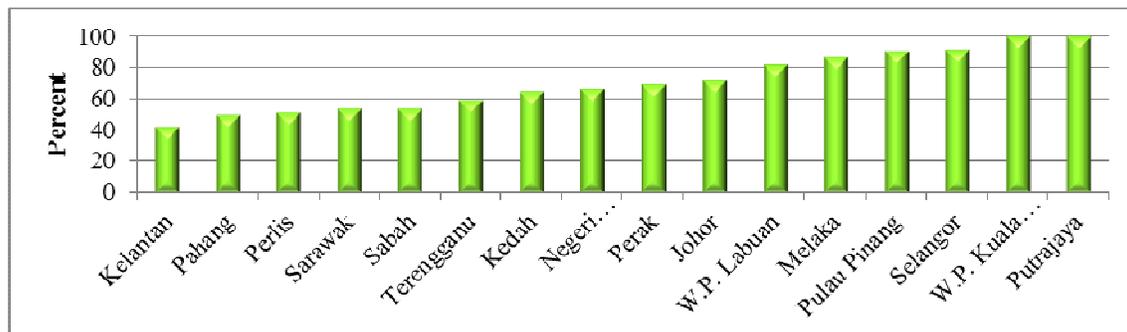
For Malaysia, the process of urbanisation began during the British colonial era prior to the 1957 Independence (Cooper, 1951). The country's prosperity continued in the 1970s when the government

introduced the New Economic Policy (Mohd Razali, 1990) in 1971 during which the country experienced massive development programs in infrastructure, public facilities, housing and other basic services such as water and electricity with more systematic and modern management. The programs were carried out throughout the country with an emphasis on big cities including Kuala Lumpur, Johor Bharu and Penang. Figure 1 demonstrates the percentage of urbanisation in Malaysia in 30 years particularly in 1980, 1991, 2000 and 2010. Clearly the trend in urbanisation is increasing within the 30 years period. Figure 2 illustrates the level of urbanisation according to state in 2010. It is also obvious that the rate of urbanisation is higher in developed states and federal territories such as Putrajaya, Labuan, Selangor, Pulau Pinang and Melaka. According to the Organisation for Economic Cooperation and Development (OECD), for a state to achieve the status of a developed state, it must fulfil the requirements in five aspects namely economic, social affairs, infrastructure, environment and administration.



Source: Malaysia Statistics Department, 2010

Figure 1. Malaysia - The level of urbanisation, 1980 – 2010



Source: Malaysia Statistics Department, 2010

Figure 2. The level of urbanisation by state, Malaysia, 2010

Despite positive impacts, urbanisation has also brought along a number of issues and problems that need prompt government attention and action. One such issue is the prevalence of infectious diseases in the country. This paper focuses on urbanisation and the prevalence of *tuberculosis* (TB) or locally known as *tibi* or *batuk kering*. Historically, TB has begun to go rampant among the Malaysian society since the 1950s (Shafinaz, 2004). It was known as the number one killer among the people compared to other diseases like diabetes or heart disease (Faizatul, 2011). Due to its urgency, the government has carried out several initiatives to address it including various awareness programs. They proved to be successful as the rate of TB cases has gone down tremendously until the early 1990s (Aziah, 2004). Unfortunately, the success was short-lived after it began to haunt the lives of the people again in the 1990s until the present time (Iyawoo, 2004).

## Method

This study was using qualitative approach in gaining data and information needed. The literature search and review were done by accessing the university library databases. Several keywords were used such as urbanisation AND Tuberculosis, urbanisation AND Malaysia and urbanisation AND health. Besides that, this paper was also referred documents and reports from Malaysian government agency that is Immigration Department. All the data was reviewed critically to find out the urbanisation impacts towards public health quality especially in the scope of Tuberculosis.

## The association between urbanisation process and tuberculosis in Malaysia

The urbanisation process in Malaysia has positively impacted TB control in Malaysia. This is in reference to the reduced number of reports filed on TB in the period between 1970 and 1990. This era is in tandem with the development and progress of the country fuelled by the urbanisation process. In this context, the urbanisation process has contributed to improved housing, air ventilation system in housing and at the workplace, better healthcare services and the ability to separate the TB patients from the public (Aziah, 2004). Nonetheless, an ongoing progress in urban areas has automatically provided some side-effects to health issues (Mutatkar, 1995) particularly TB.

First of all, the urbanisation process has created an increase of housing areas (Rimal, 2012) like squatters and tiered-housing like flats. The poorly administered squatter areas have been identified as the main factors to the prevalence of infectious diseases (Aiken & Leigh, 1975) which include TB. Squatters and flats are commonly regarded as dirty areas, which are also inhabited by disease-carrying animals like rats, problematic drainage system and poorly managed sewage system. In other words, squatter and flat residents are more vulnerable to multiple diseases including infectious ones. Apart from that, these areas are also highly populated which automatically encourages more spreading of the infection of the disease (refer Vlahov *et al.*, 2007).

Secondly, the squatters also have a weak air ventilation system. It is commonplace that squatters are built in an informal manner and thus, without a systematic plan (Andersen *et al.*, 2011; Parkinson & Tayler, 2003). The houses are arranged in such a way that they are too close to one another and they are often built without following the standard prescribed by the government. In addition, the air ventilation system is also poor in quality. Therefore the areas are unfit to be inhabited by people especially children and the elderly.

Thirdly, the urban areas also boast off the development of several infrastructure facilities like the shopping complexes, public transport services and public-concentrated places like office buildings, schools, bus terminals and recreational areas (Andersen *et al.*, 2011). Generally speaking, these public places are visited by people from all walks of life. Individuals who are already infected by the disease cannot be easily singled out as they appear just as healthy as everyone else. Although the awareness campaign of using nose mask in public places has long been encouraged by the government, the practice in the society is still not common. Thus, not using nose mask in public places contributes to higher chances of individuals to be infected by the disease.

Fourthly, urban areas in Malaysia have not only attracted the local community but also foreigners to come and work. Normally, foreigners come into the country with proper and legal work permit although there are also those who make their way into the country without it. According to the statistics from the Immigration Office, out of 2320034 million foreigners already in Malaysia in 2011, 1046908 are certified workers, whereas 1303126 million are illegal immigrants (Immigration Department, 2012). The statistics indicates that the total number of illegal immigrants in the country in 2011 was slightly higher than the total number of legal foreign workers. Malaysia is considered as the country that attracts an influx of workers from Indonesia, the Philippines, India, Bangladesh and Myanmar. These countries are called highly burdened countries or countries that have among the highest TB cases across the globe (World Health Organization, 2010). Subsequently, settlements developed that have a huge number of immigrants

coming from highly burdened countries are known to be at risk and, thus, contribute to the spreading of this disease in the country (Reitmanova & Gustafson, 2012; Greenwood & Warriner, 2011; Kjellstrom & Mercado, 2008). These people do not have proper vaccination and immunisation programs in their own countries. Therefore, they are more susceptible to the infection. They normally reside in suburban areas as the cost of living including accommodation is low and affordable. They also often accommodate housing settlements like squatters, flats and temporary houses which are built in the vicinity of the construction project areas. All these factors are inter-related and can cause TB spread and infection among themselves as well as among the public that includes local community.

## Conclusion and suggestions

The urbanisation process in Malaysia has definitely brought about many positive changes. However, it also impacts adversely on the wellbeing of the community, in particular, the quality of public health. The paper offers the following recommendations to address TB prevalence in the society: health monitoring in highly-risked areas; implementation and enforcement of rules and regulations regarding TB issues; increased awareness campaigns about the importance of health care and health education; access to clean water; good sewage system; efficient waste management ; and neighbourhood and work place safety. In sum, the eradication of TB in Malaysia calls for the collective effort of government, public and patients .

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## References

- Aiken SR, Leigh CH (1975) Malaysia's emerging conurbation. *Annals of the Association of American Geographers* 65(4), 546-563.
- Andersen HT, Moller-Jensen L, Englestoft S (2011) The end of urbanization? Towards a new urban concept or rethinking urbanization. *European Planning Studies* 19(4), 595-611.
- Aziah AM (2004) Tuberculosis in Malaysia: Combating the old nemesis. *Medical Journal of Malaysia* 59 (1), 1-3.
- Antrop M (2004). Landscape change and the urbanization process in Europe. *Landscape and Urban Planning* 67(1), 9-26.
- Cooper E (1951) Urbanization in Malaysia. *Population Studies* 5(2), 117-131.
- Faizatul Farhana Farush Khan (2011, 24 December) Bahaya tibi. *Berita Harian* [Cited 30 August 2012] Available from: <http://www.bharian.com.my/bharian/articles/Bahayatibi/Article/index>.
- Greenwood MJ, Warriner WR (2011) Immigrants and the spread of tuberculosis in the United States: A hidden cost of immigration. *Population Research and Policy Review* 30(6), 839-859.
- Henderson V (2003) The urbanization process and economic growth: The so-what question. *Journal of Economic Growth* 8(1), 47-71.
- Hirschman C, Yeoh Suan-Pow (1979) Ethnic patterns of urbanization in Peninsular Malaysia, 1947-1970. *Southeast Asian Journal of Social Science* 7(1), 1-19.
- Immigration Department (2012) Jumlah statistik pekerja asing sah dan PATI yang telah didaftarkan menerusi program 6P (sehingga 31 Ogos 2011) [Cited 23 April 2013]. Available from

- <http://www.imi.gov.my/index.php/ms/informasi/arkib/2-uncategorised/429-jumlah-statistik-pekerja-asing-sah-dan-pati-yang-telah-didaftarkan-menerusi-program-6p-sehingga-31-ogos-2011>.
- Iyawoo K (2004) Tuberculosis in Malaysia: Problems and prospect of treatment and control. *Tuberculosis* 8 (1), 4-7.
- Jamaliah Jaafar (2004) Emerging trends of urbanisation in Malaysia. *Journal of the Department of Statistics, Malaysia* 1(1), 43-54.
- Kjellstrom T, Mercado S (2008) Towards action on social determinants for health equity in urban settings. *Environment and Urbanization* 20(2), 551-574.
- Ma Haiyang, Lian L (2012) Rural-urban and urbanization in Gansu Province, China: Evidence from time-series analysis. *Asian Social Science* 7(12), 141-145.
- Malaysia Statistics Department (2010) Taburan penduduk dan ciri-ciri asas demografi 2010 [Cited 23 April 2013]. Available from: [http://www.statistics.gov.my/portal/download\\_Population/files/census2010/Taburan\\_Penduduk\\_dan\\_Ciri-ciri\\_Asas\\_Demografi.pdf](http://www.statistics.gov.my/portal/download_Population/files/census2010/Taburan_Penduduk_dan_Ciri-ciri_Asas_Demografi.pdf).
- Mohd Razali Agus (1990) Urbanization and low-income housing in Malaysia: Impact on the urban Malays. *Journal of Population and Social Studies* 2(2), 205-221.
- Mutatkar RK (1995) Public health problems of urbanization. *Social Science & Medicine* 41(7), 977-981.
- Parkinson J, Tayler K (2003) Decentralized wastewater management in peri-urban areas in low-income countries. *Environment and Urbanization* 15(1), 75-90.
- Potts D (2012) Whatever happened to Africa's rapid urbanisation? *World Economics* 13(2), 17-29.
- Reitmanova S, Gustafson D (2012) Rethinking immigrant tuberculosis control in Canada: From medical surveillance to tackling social determinants of health. *Journal of Immigrant and Minority Health* 14(1), 6-13.
- Rimal B (2013) Urbanization and the decline of agricultural land in Pokhara Sub-metropolitan City, Nepal. *Journal of Agricultural Science* 5(1), 54-65.
- Shafinaz Sheikh Mazlan (2004, 28 March). Tibi – Penyakit berjangkit no. 1. *Utusan Online* [Cited 30 August 2012]. Available from: [http://www.utusan.com.my/utusan/info.asp?y=2004&dt=0328&pub=Utusan\\_Malaysia&sec=Kesihatan&pg=kn\\_01.htm](http://www.utusan.com.my/utusan/info.asp?y=2004&dt=0328&pub=Utusan_Malaysia&sec=Kesihatan&pg=kn_01.htm).
- Shen Liyin, Peng Yi, Zhang Xiaoling, Wu Yuzhe (2012) An alternative model for evaluating sustainable urbanization. *Cities* 29(1), 32-39.
- Vlahov D, Freudenberg N, Proietti F, Ompad D, Quinn A, Nandi V, Galea S (2007) Urban as a determinant of health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 84(1), 116-126.
- World Health Organization (2010) Tuberculosis country profiles [Cited 23 April 2013]. Available from: <http://www.stoptb.org/countries/tbdata.asp>.
- Wu Shulian (2010) Research on the contents and development mode about the intensive urbanization. *Asian Social Science* 6(6), 99-104.
- Yang Huan, An Heping (2011) The management of current traffic congestion status during the urbanization development in Guiyang. *Studies in Sociology of Science* 2(2), 23-28.
- Yasin Abdalla Eltayeb Elhadary, Narimah Samat (2012) Political economy and urban poverty in the developing countries: Lesson learned from Sudan and Malaysia. *Journal of Geography and Geology* 4(1), 212-223.