

A COMPARATIVE ANALYSIS OF URBANIZATION TRENDS OF HYDERABAD AND SUKKUR

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ABSTRACT

The world is very rapidly urbanizing. This urbanization has raised the challenges of urban sprawl and congestion in metropolitan cities of the world. This rapid urbanization is happening faster in developing countries in comparison with the developed countries. According to Un-Habitat, 2017, Over than half of the inhabitants of the world are living in urban areas. This paper conducted a comparative analysis of the growth trends in Hyderabad and Sukkur cities from 1981 to 2027. The data was gathered through document review and personal observation. Most of the secondary data was gathered from master plans of both case study cities, research papers and census, and other reports. The results revealed that the major root cause for rapid urbanization is the negligence towards secondary cities of Sindh Province. Therefore, it's high time to do decentralization and reduce congestion from metropolitan cities and the urban growth should be diverted to the Sukkur and other secondary cities of Sindh province. Decentralizing urban areas and prioritizing the development of secondary cities would take time.

Keywords: Urbanization, Sustainable Development, Secondary Cities, Urban Sprawl, Sindh Province, Hyderabad, Sukkur

INTRODUCTION

It has been observed worldwide in prevailing eras that urbanization denotes the movement of people from rural to urban areas, growth and expansion of cities boundaries happening due to the residing of local inhabitants in that city area (Malik, 2018). For the occurrence of changes in global human settlement patterns, urbanization is thought to be the most solid phenomenon (Kalwar et al., 2016). The raising migration flows during the 20th and 21st-century globalization give the dynamics of urbanization on this planet (Zhang, 2016). The urban development trends have risen to unimaginable proportions of scale and intensity over the past few decades. As a result of this development, towns, and cities expanded by 65 million annually (Cliff Hague et al., 2006), which has now arrived at 300 million per year, and half of it (150 million) is happening in the Asia continent (Un-Habitat, 2012; Kalwar et al., 2016).

This rapid urbanization is happening faster in developing countries in comparison with the developed countries (Angel et al., 2011), and this will continuously be growing especially in emerging economies, and expected to increase at an exponential rate (Malik, 2018). However, this faster urbanization has created posed many problems for their vicinities. This rapid urbanization has overburdened the physical and socio-economic structure of cities (Biswas & Hartley, 2013; Song, 2013; Kalwar et al., 2019). This had arisen the issues related to the

environment, society, governance, and urban sprawl (Tan et al., 2016). The low-density expansion is a common trend of development in the developing world, which leads towards longer transportation distance, lower accessibility, and promote reliance on para transit and private vehicles (Liu et al., 2003, Migual, 2015). Thus, affecting the overall environment. Urban sprawl is therefore the main problem of this decade's developing country's cities (Malik, 2018).

The expression "Urban Sprawl" refers to more expansion than is currently happening. This results in a new kind of unsustainable urban expansion concept. As expansion exceeds real levels, pressure is placed on city boundaries, resulting in additional environmental issues (Habibi & Asadi, 2011), loss of open space due to the growth of unplanned and proposed residential areas (Kaya & Curran, 2006).

Urban Sprawl: Factors and Causes

The main causes of the urban sprawl of major cities are enlisted below

- Economic growth and increased land prices
- Growth of population
- More space per person in residential areas Choices are numerous.
- Transportation: Private vehicle ownership, road accessibility
- Inner city problems: Infrastructures that have been damaged, Small apartments, a lack of open space, and a lack of privacy Social issues;
- Development Authorities: Ribbon growth, political intervention, and corruption are all encouraged (Habibi & Asadi, 2011)

“Cities must be more deliberately designed if they are to approach biodiversity appropriately,” according to Un-Habitat. Urban planning activities must also adapt to represent a new understanding and to incorporate 21st-century environmental, health, fiscal, and social concerns” (Habitat II, the City Summit, 1996). However, according to Cities Alliance (2014), “the number of residents will remain in secondary and small cities as the world completes its urban transition” (Roberts, 2014). These cities are essentially the locations where national economies and future generations can be taught (Rondinelli, 1983; Robert & Hohmann, 2014). Especially the secondary cities present remedial strategies to tackle the global challenges of inequality and impacts of climate change (Song, 2013; Roberts, 2014; Kalwar et al., 2018).

Secondary cities, including main cities, are hotbeds of social and economic growth as well as a cultural transition with far-reaching consequences. “Secondary cities are developing as the driving force behind the world's accelerated urbanization in the coming decades.” (Juan et al., 2014). Many researchers (Klaufus, 2010; Bolay & Rabinovich, 2004; Torre, 2010; OECD, 2012; John, 2012 & Song, 2013) claimed that secondary city, which got little attention from urban planners and policymaker than the metropolitan cities (Parent et al., 2012; Kalwar et al., 2019). The main cause for this is the large disparity that exists between metropolitan and secondary cities (Bolay & Rabinovich, 2004; Klaufus, 2010; Torre, 2010; John, 2012; OECD, 2012 & Song, 2013). This has created imbalanced urban and regional development and raised the issue of urban sprawl, rapid urbanization, and scared social development in metropolitan cities (Roberts, 2014; Kalwar et al., 2018).

Secondary cities are characterized as “urban areas with a population greater than 100,000 but less than that of the country's largest city” (United Nations, 1990). According to Un-Habitat

(2008), in 2000, more than 60% of the world's urban population lived in secondary cities (Chen, 2012). During the 1990-2000 period, 47.2 percent of secondary cities reported 2-4 percent higher annual population growth than metropolitan towns, having low growth (Un-Habitat, 2008; Chen, 2012).

Consequently, secondary cities contribute a crucial role in their communities, regions, and countries' long-term growth. These cities help to promote regional economic development through presenting diverse sites for the fostering of industrial, commercial, and other productive activities and create job opportunities for surrounding rural and small-town settlements (Macdonald, 2012; Song, 2013).

MATERIALS AND METHODS

Study Area

Sindh province is comprised of 23 districts; two are city districts *i.e.* Karachi and Hyderabad cities. The remaining are districts. These districts are distributed into urban and rural areas. If we distribute the Sindh province functionally, then it has three parts. The Northern Sindh, Southern Sindh, and Central Sindh parts. For Southern Sindh, Hyderabad city is the main hub of socio-economic activities for Hyderabad district and surrounding Badin, Sanghar, Thatta, Matiari, and Jamshoro districts. Sukkur city is the Northern central hub of socio-economic activities for Sukkur, Khairpur, Shikarpur, Dadu, Gotki, Kashmore, Larkana, Jacobabad, Naushero Feroze, and Nawabshah districts. Whereas Mirpurkhas city is the central hub for Central Sindh. It is the center of socio-economic activities for Mirpurkhas, Tharparkar, Umerkot, Tando Muhammad Khan, and TandoAllahyar districts.

Methods

The aim of the study was to comparative analysis of urbanization patterns in Sindh Province's metropolitan and secondary cities. Examine the urbanization patterns of the metropolitan area and secondary city from 1981 to 2027 in comparison. As a result, the study chose two case study areas: Hyderabad (metropolitan city) and Sukkur (secondary city). The thesis took place between 1981 and 2027. Northern and Southern Sindh's physicio-socio-economic operations are centred on these two cities.

Main and secondary data collection methods were used in this analysis. The personal observation technique was used in primary data to determine the extent of habitation in case study cities. The document analysis tool was used to compare the growth trends of Hyderabad and Sukkur cities and see the urban sprawl in talukas of district Hyderabad (Latifabad, Hyderabad city, and Qasimabad) using secondary data (census surveys, master plans, academic papers, and other reports). The population projection method was used to study the growth trends of the cities of Hyderabad and Sukkur.

RESULTS AND DISCUSSION

Urbanization Trends of Sindh Province

The cities of Sindh Province are classified into three levels:

- Metropolitan Cities (First-tier cities)
- Secondary Cities (Second-tier cities)
- Small Cities and Towns (Third-tier cities)

There is no legislation or population standard to guide the classification of the cities as metropolitan, secondary and small cities. The Local Government Ordinance (LGO), 2001 of local government declare an urban area as a metropolitan district or city district if its population exceeds one million. Whereas, the Sindh Peoples Local Government Act (ILO), 2012 had declared that if an urban area has a population of 3 million or plus, then it is a metropolitan area. Karachi was and is the largest metropolitan city in Pakistan. Whereas Hyderabad city got the status of the city district in 2011, after exceeding one million population according to LGO 2001 and its municipality was declared as Metropolitan Corporation. However, Hyderabad city's status as a metropolitan city is confusing if considered in terms of ILO, 2012. None of the other cities in Sindh has exceeded those prescribed population limits.

With these statistics, presently there are two metropolitan cities (first-tier) in Sindh province: Karachi and Hyderabad. Sukkur, Larkana, Nawabshah, Kashmore, Jacobabad, and others are among the province's secondary cities (second-tier). The sub-regional secondary towns, which are also the district headquarter cities, account for 18 of these 20 cities. The other 128 towns are called third-tier towns since they are local towns and cities (Sindh Secondary Cities Urban Sector Assessment Report, 2007).

Sindh province accounts for 23% of the country's population and 17.7% of its land area, according to the 2017 population census. Sindh is Pakistan's most urbanized province. In comparison to Pakistan's urban population of 32.5 percent, the province has a 48.9% urban population. The explanation for this is that the province not only faces the burden of refugees from other Pakistani provinces, but also houses migrants from Bangladesh, Burma, and Afghanistan. These migrants are looking for social and economic opportunities in this country. Surprisingly, the majority of these immigrants live in Karachi, which has 62.93 percent of Sindh's urban population and 21.7 percent of Pakistan's urban population (Population Census, 1981, 1998; Development statistics of Sindh, 2012).

According to the population census organization, the population of the province was recorded as 30.4 million in the 1998 census. According to an estimate done by the study, the urban population of the province was 22.54 million in 2010 with an annual growth rate of 2.8 percent. The urban population of the province was 26,825,301 in 2015 and it will be 31,922,109 in 2020 with an annual growth rate of 3.52, which was highest than the national urban growth rate of 3.47.

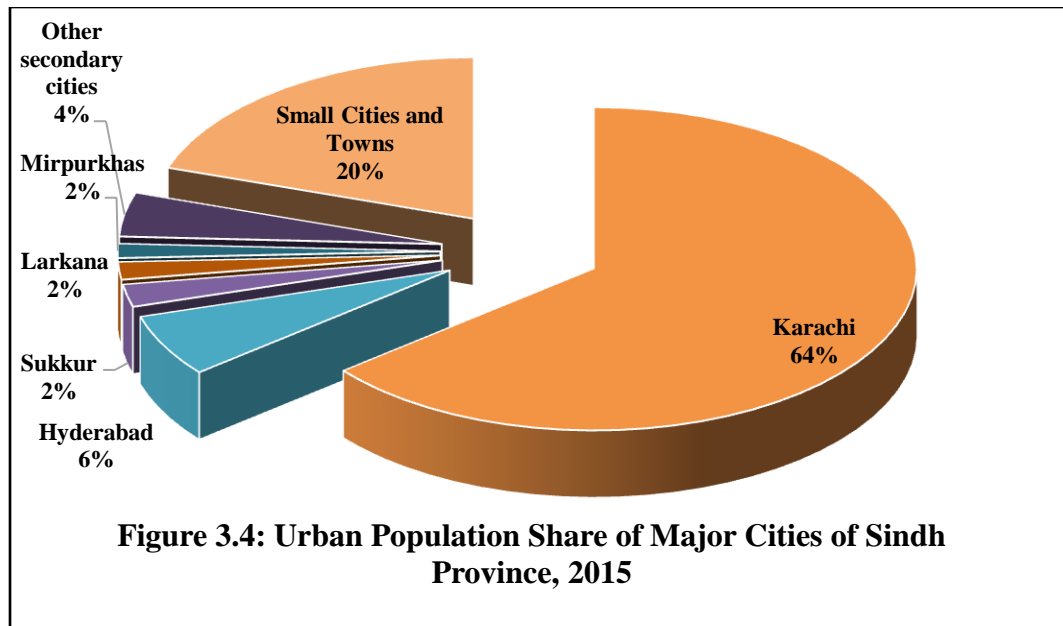


FIGURE 1

URBAN POPULATION SHARE OF MAJOR CITIES OF SINDH PROVINCE, 2020

Source: Population Census, 2017 and Population Estimation Done by Researcher, 2020

It is clear from Figure 1 that Karachi city is sharing 64% urban population of the province since 1981. The city's population had increased 7,542,385 million during 17 years with an increase of 180.76% of the 1998 population. It is estimated that the city will have a population of 20,088,875 million in 2020 with an estimated increase of 443,670 annually. Whereas Hyderabad city, which is not only the second-largest city of the province but is also a divisional and provincial central city, shares a 6.67% urban population. The population of Hyderabad city had increased from 889,011 in 1988 to 1,166,894 in 1998 with an increase of 131.26 percent. According to an estimate done by the researcher, the population of the city has increased 471,911 during 1998-2015 with a percentage of 140.44 from 1998 population.

Sukkur, the third largest city and the regional center for Northern Sindh (Upper Sindh), has a population of just 2.18 percent. The population of the city which was 238,189 in 1988 was recorded to 335,551 in 1998 with an increase of 140.86 percent of the 1988 population. According to an estimate, the population of Sukkur city was 255,040 during 1998-2015 with an increase of 176% of the 1998 population (see Appendix E).

Larkana & Mirpurkhas, Sindh's fourth and fifth largest cities in terms of population, account for 1.68 percent and 1.33 percent of the province's urban population, respectively. The population of Larkana city had increased 183.2% in 1998 (270,283) from its 1988 (147,538) population. Whereas, the population of Larkana had grown with an increased percentage of 169.72 during 1998-2015 with 458,730 in 2015. In the case of Mirpurkhas, the city had shown a population growth of 159.29% in 1998 (255,835) from 1988(169,103) year. According to the estimated population, the city's population was 373,089 in 2015 with an increase of 145.83% of the 1998 population (see Appendix E).

The share of the other 15 secondary cities is even below the pace of urbanization in the province. According to the statistics provided in the population census 1998, those secondary cities only share 4.3% of the total urban population of the province. The remaining 128 small cities and towns have a total share of 19.5% of the urban population of the province. The Table in Appendix E presents the population distribution of other populous cities of Sindh province during 1981-2020.

Urbanization Trends of Hyderabad and Sukkur Cities

Hyderabad is the second-largest city in Sindh Province. Hyderabad had 751,529 residents in 1981, according to the Population Census Organization (2017), which increased to 1,204,740 in the 1998 census and 1,734,309 in the 2017 census. Sukkur is the third-largest city and the first largest secondary city of Sindh province. In 1981, the city of Sukkur had a population of 190,551, which increased to 335,551 and 507,704 in 1998 and 2017 (official census years) respectively. The results of the 1998 census showed a 145,000 incremental population growth of Sukkur city during 17 years (1981-1998). Nevertheless, in contrast to Karachi and Hyderabad, this rate of growth is very sluggish.

Between 1981 and 1998, Hyderabad saw a 60.30 percent increase in urban sprawl. During the same time frame, it was 76.09 percent in Sukkur. This means that urbanization was around 16% lower in Hyderabad than in Sukkur. However, in Hyderabad, the pace of urbanization is much higher than in Sukkur. However, after 1998, the Sukkur urbanization rate was higher than Hyderabad in the official census of 2017 and the study estimate of 2027.

Although the pace of urbanization in Sukkur city was recorded higher during recent years (see Table 2) in comparison to Hyderabad city. The economic development projects given to Sukkur and other secondary towns, on the other hand, are insignificant. Investors tend not to place their manufacturing units in secondary areas, and the provincial government prioritizes construction schemes only in major cities. The housing and infrastructure condition of Sukkur and other secondary cities are very poor (Sara, 2007). Due to this major reason, the inhabitants of secondary cities, small towns, and rural areas migrate to Karachi and Hyderabad cities for job sustenance. The urbanization trends in Hyderabad and Sukkur are seen in Table 2.

Period	Increase In Population	% Increase Over Census period
Hyderabad City		
1981 [*] -1998 [*]	751,529 to 1,204,740	60.3
1998-2007	1,204,740 to 1,476,770	22.58
2007-2017 [*]	1,476,770 to 1,734,309	17.44
2017-2027	1,734,309 to 2,150,543	24
The estimated 2007 population of 1.83 million is likely to grow to 2.75 million by 2027		
Sukkur City		
1981 [*] -1998 [*]	190,551 to 335,551	76.09
1998-2007	335,551 to 452,658	34.9

2007-2017*	452,658 to 507,704	12.16
2017-2027	507,704 to 624,476	23
The estimated 2007 population of 0.452 million is likely to grow 0.879 million by 2027		

Source: District Population Census Reports of Hyderabad and Sukkur, 1998 and Population Estimation Done By Researcher, 2020.

Note: The* shows the official census data of 1981, 1998, and 2017, whereas the remaining statistics are estimated by the researcher through population projection model

Urban Sprawl in Hyderabad City

Table 3 indicates that the migrant community in Hyderabad's taluka has concentrated from small towns and rural areas. Table 3 shows the population of Hyderabad city divided into its various districts from 1981 to 2027. The table clearly shows that the population of Latifabad and Hyderabad city talukas has been declining, with a 5.06 percent decline for Hyderabad city taluka between 1981 and 2027. During the same time, the Latif Abad taluka experienced a slight decrease of 1.64 percent. During the period 1981-2027, however, the populations share in Qasimabad taluka increased by 6.47 percent.

The reason for this inclined urbanization growth might be the migrated Sindhi families living in other parts of Sindh province prefer to settle down in Qasimabad taluka than other talukas of Hyderabad city. This migration has resulted in the expansion of taluka boundaries and conversion and deterioration of agricultural land of Qasimabad taluka for residential purposes. In contrast to the other two talukas, land prices in this taluka are nearly double. Housing, water, power, sanitation, and other utility facilities are also in short supply in the Qasimabad taluka. The mass migration to this taluka has also resulted in the formation of slums and katchiabadis. According to Sindh Katchiabadi Authority (2016), out of 1409 katchiabadis of Sindh province, 414 are in Hyderabad city. The absence of a drainage and sewerage system has also raised environmental degradation issues in the residential areas of Qasimabad taluka (Sindh Katchiabadi Authority, 2016).

Hyderabad City Talukas	1981	1998	2007	2017	2027
Hyderabad City	44.28	43.6	41.85	40.22	39.22
Qasimabad	8.25	9.56	11.88	13.63	14.72
Latifabad	47.07	46.84	46.27	46.15	46.06
Total	100	100	100	100	100

Source: Estimation Done by the Researchers, 2020

The analysis of data revealed that with an increase in population, the land also converts into built-up areas and dispersed urban clusters. This all contributes to improved motor trends (transportation development). Qasimabad taluka has major causes of urban sprawl are population growth, depletion of cultivated land, conversion of agricultural land for residential purposes, rise

in the number of personal vehicles, and living standard climate. As a result, it is reasonable to conclude that general socioeconomic factors promote urban sprawl.

CONCLUSION

It is concluded from the above discussion that there is unbalanced urbanization in Sindh province. Although Sukkur had shown a promising increase of 176% population during 19 years (1998-2019), however, the city may require 50 or more years to reach today's population of Karachi city. It is extracted from the discussion that: the population of Sukkur and other secondary cities of the province have a very low share; they are unable to grow themselves like Karachi and Hyderabad cities. The other point which comes to mind is that are the governmental bodies not taking initiatives at the local and provincial level for the local economic development of these secondary and small cities. All are conscious that residents from rural and small towns relocate to urban cities in search of job opportunities. Therefore, they mostly migrate to Karachi and Hyderabad cities for the job hunt.

It is also concluded that if the inequalities between metropolitan and secondary cities continue to widen, Hyderabad City will face pollution and construction costs. The commercial strategic gain of the city would then be eroded. In the Sindh province and Pakistan, the Sukkur and other highway towns are the main links in the framework chain.

The Sindh Government should establish local economic growth strategies, policies, and programs, if the Sindh Government wants to make its secondary cities more successful, it must have the physical and strategic infrastructure in Sukkur and other secondary cities. Not nurturing sustainable urban growth in the province of Sindh would also divert rural and urban migration to Sukkur and other secondary cities from Karachi and Hyderabad metropolitan areas. This will be a remedial act both in Hyderabad and Karachi to further mitigate urban sprawl.

REFERENCES

- Angel, S., Parent, J., Civco, D.L., Blei, A., & Potere, D. (2011). The dimensions of global urban expansion: Estimates and projections for all countries, 2000-2050. *Progress in Planning*, 75(2), 53-107.
- Angel, S. (2012). *Atlas of urban expansion*. Cambridge: Lincoln Institute of Land Policy.
- Bolay, J.C. & Rabinovich, A. (2004). Intermediate cities in Latin America risk and opportunities of coherent urban development. *Cities*, 21(5), 407-421.
- Chua Yan, P. (2012). *Mastering research methods*. Kuala Lumpur: McGraw-Hill Education (Malaysia) Sdn. Bhd.
- John, L. (2012). *Secondary cities in South Africa: The start of a conversation*. Cape Town: South African Cities Network.
- Habibi, S., & Asadi, N. (2011). Causes, results and methods of controlling urban sprawl. *Procedia Engineering*, 21, 133-141.
- Kalwar, S., Melasutra, B.M.D., Norhaslina, B.H., Memon, I.A., & Sahito, N. (2016). Urbanization and secondary cities of Sindh: Towards more effective and sustainable cities. 4th *International Conference on Energy, Environment and Sustainable Development (EESD 2016)*, held at Institute of Environmental Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.
- Kalwar, S., Melasutra, B.M.D., & Norhaslina, H. (2018). Development framework for agro-based industries in secondary cities of Sindh province, Pakistan: SWOT analysis of ten-year perspective and medium-term development framework plans. *Sustainability*, 10(4), 1197.

- Kalwar, S., Sahito, N., Memon, Irfan, A., Hwang, J., Mangi, M.Y., & Lashari, Z.A. (2019). National planning strategies for agro-based industrial development in secondary cities of Sindh province, Pakistan. *Sustainability*, 11(24).
- Klaufus, C. (2010). Watching the city grow: remittances and sprawl in intermediate Central American cities. *Environment and Urbanization*, 22(1), 125-37.
- Liu, S., Li, X., & Zhang, M. (2003). *Scenario analysis on urbanization and rural-urban migration in China*.
- Malik, N., Asmi, F., Madad, A., & Mashiur, R. (2018). Major factors leading rapid urbanization in China and Pakistan: A comparative study. *Journal of Social Science Studies*, 5(1).
- Miguel, B. (2015). *Pakistan-Net migration rate-Historical data graphs per year*.
- OECD. (2012). *Redefining urban: A new way to measure metropolitan areas*. Paris: OECD.
- Robert, B.H. (2014). *Managing system of secondary cities: policy responses in international development*. Brussels: Cities Alliance, Brussels.
- Robert, B.H., & Hohmann, R.P. (2014). *The system of secondary cities: The neglected divers of urban economies*. Uganda: CIVIS, No 7, Cities Alliance.
- Rondinelli, D.A. (1983). Dynamics of growth of secondary cities in developing countries. *Geographical Review, American Geographical Society*, 73, 42-57.
- Sara F.A. (2007). *Urban municipal services: Sindh secondary cities urban sector assessment: Sindh basic urban services project*. Karachi: Government of Sindh, Pakistan and Asian Development Bank.
- Torre, R., & Moreno, H. (2010). *Advances in sub national measurement of the human development index: The case of Mexico*. Human development research paper, 2010/23. Nairobi: United Nations Development Program.
- Hague, C., Wakely, P., Crespín, J., & Jasko, C. (2006). *Making planning work: A guide to approaches and skills*. Earth scan, London.
- UN-Habitat. (1996). *The management of secondary cities in Southeast Asia*. Nairobi. United Nations Centre for Human Settlements.
- UN-Habitat. (1996). *An urbanizing world: Global report on human settlements*. Oxford: Oxford University Press.
- United Nation. (1990). *Guideline for rural center planning: Rural industrialization organization framework for RCP*. Bangkok: Allied Printers.
- UN-HABITAT. (2008). *Meeting the urban challenge*. UN-Habitat Donors Meeting, Seville.
- UN-Habitat. (2012). *State of the world cities 2012/13: Prosperity of cities*. Nairobi: United Nations Centre for Human Settlements.
- Song, L.K. (2013). *Southeast Asian secondary cities: Frontiers of opportunity and challenges*. MIT, Community Innovators Lab (CoLab).
- Mattingly, K., & Morrissey, J. (2014). Housing and transport expenditure: Socio-spatial indicators of affordability in Auckland. *Cities*, 38, 69-83.
- Sohail, M., Maunder, D., & Cavill, S. (2006). Effective regulation for sustainable public transport in developing countries. *Transport Policy*, 13, 177-190.
- Paulley, N., Balcombe, R., Mackett, R., Titheridge, H., Preston, J., Wardman, M., Shires, J., & White, P. (2006). The demand for public transport: The effects of fares, quality of service, income and car ownership. *Transport Policy*, 13, 295-306.
- Tan, Y., Xu, H., & Zhang, X. (2016). Sustainable urbanization in China: A comprehensive literature review. *Cities*, 55, 82-93.
- MacDonald, S. (2012). *Secondary cities are an untapped resource*. Penang monthly.
- Zeng, C., Liu, Y., Stein, A., & Jiao, L. (2015). Characterization and spatial modeling of urban sprawl in the Wuhan Metropolitan Area, China. *International Journal of Applied Earth Observation and Geoinformation*, 34, 10-24.