

**THE PHYSICAL DEVELOPMENT OF PORT CITY: PORT KLANG**

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**UNIVERSITI UTARA MALAYSIA**

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**THE PHYSICAL DEVELOPMENT OF PORT CITY: PORT KLANG**

**BY:**

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**In Fulfilment of the Requirement for the Master of Science (International Business).**

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## **ABSTRACT**

The process of urbanisation and industrialization within a port city indirectly give impact on the development expansion of the port city which is this usually leads to uncontrolled development. The development expansion occurs in order to meet the current demand of a port city from time to time, and because of that, the port city faces sensitive and controversial issues that need careful planning solutions. Thus, this study is undertaken in order to identify the physical development of port city. The focus of this study is to examine the physical development within the port city in Port Klang. The criteria of physical development in this study will focus on land use and urban form, port infrastructure and traffic and land use connections in Port Klang. The data has been collected from the 1981s until the most recent available data. From the analysis that has been done, it is approved that those element are related to the physical development of port klang as a planning to be a sustainable Port City.

*Keywords: port city, physical development*

## ABSTRAK (BAHASA MELAYU)

Proses perbandaran dan pengindustrian dalam sebuah Bandar pelabuhan secara tidak langsung member kesan kepada pembangunan bandaraya pelabuhan yang mana kebiasaannya membawa kepada pembangunan yang tidak terkawal. Pengembangan pembangunan berlaku untuk memenuhi permintaan semasa sebuah Bandar pelabuhan dari semasa ke semasa, dan oleh sebab itu, bandaraya pelabuhan menghadapi isu-isu kontroversi dan sensitive yang memerlukan perancangan yang teliti. Maka, kajian ini dijalankan untuk mengenalpasti pembangunan fizikal dalam bandaraya pelabuhan di Pelabuhan Klang. Kriteria-kriteria pembangunan fizikal dalam kajian ini akan menumpukan kepada penggunaan tanah dan rupa, infrastruktur pelabuhan dan hubungan antara trafik dan penggunaan tanah di Pelabuhan Klang. Data yang diambil adalah dari tahun 1981 sehingga sekarang. Dari analisis yang telah dibuat, terdapat perkaitan antara kriteria-kriteria tersebut dengan pembangunan fizikal pelabuhan klang sebagai perancangan untuk menjadi Bandar pelabuhan yang mapan.

*Kata kunci: Bandar pelabuhan, pembangunan fizikal*

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## **LIST OF ABBREBRIATION**

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<b>FCZ</b>	-	<b>Free Commercial Zone</b>
<b>FR2</b>	-	<b>Kuala Lumpur-Klang Federal Highway</b>
<b>EDI</b>	-	<b>Electronic Data Interchange</b>
<b>ELIT</b>	-	<b>North-South Expressway</b>
<b>KCT</b>	-	<b>Kelang Container Terminal</b>
<b>KESAS</b>	-	<b>Shah Alam Expressway</b>
<b>KLIA</b>	-	<b>Kuala Lumpur International Airport</b>
<b>KMT</b>	-	<b>Kelang Multi Terminal</b>
<b>KPM</b>	-	<b>Kelang Port Management</b>
<b>KPA</b>	-	<b>Port Klang Authority</b>
<b>LTSAAS</b>	-	<b>Sultan Abdul Aziz Airport</b>
<b>MNC</b>	-	<b>Multinational Corporations</b>
<b>NDSB</b>	-	<b>Northport Distripark Sdn Bhd</b>
<b>NKVE</b>	-	<b>New Klang Valley Expressway</b>
<b>NMB</b>	-	<b>Northport (Malaysia) Berhad</b>
<b>PLUS</b>	-	<b>North-South Expressway</b>
<b>QDA</b>	-	<b>Qualitative Data Analysis</b>
<b>RMK-9</b>	-	<b>Ninth Malaysian Plan</b>
<b>SFFLA</b>	-	<b>Selangor Freight Forwarders &amp; Logistics Association</b>
<b>SKVE</b>	-	<b>South Klang Valley Expressway</b>
<b>SWOT</b>	-	<b>Strength, Weakness, Opportunities, Threat</b>
<b>TEUs</b>	-	<b>Twenty-foot equivalent units</b>
<b>UNCTAD</b>	-	<b>United Nations Conference on Trade and Development</b>

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## **CHAPTER ONE**

### **BACKGROUND OF THE STUDY**

---

#### **1.0 INTRODUCTION**

This chapter presents the background of the study, problem statements, research questions, research objectives, scope of the study, significant of the study, limitation of study, organization of study and conclusion of the chapter.

#### **1.1 BACKGROUND OF THE STUDY**

Ports are crucial components of the maritime industry, as there is an economic interdependence between shipping and the ports they use (McConville, 1999). A port can also be seen as a gateway through which exports and imports move on their way to the next stage of production or the final consumer, the phrase 'gateway' here, it means that it used to represent a complex of physical facilities and services which provide an interchange between sea and domestic transport (McConville, 1999). Port areas are always highly populated with high rate of urbanization and industrialization. There are various complex interactions, relationships and interrelationships generate threats to the port environment, especially when the infrastructural support facilities are not sufficient available or better managed.

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## BIBLIOGRAPHY

- Aiken, S. &. (1975). Malaysia's Emerging Conurbation. *Annals of the Association of American Geographers* , 65 (4), 546-563.
- Alderton, P. (2005). *Port Management and Operations* (2nd Edition ed.). London: LLP London & Hong Kong.
- Barter, P. (2004). Transport, urban structure and 'lock-in' in the Kuala Lumpur Metropolitan Area. *IDPR* , 26 (1), 1-24.
- Black, J. (1981). *Urban Transport Planning: Theory and Practice*. United States: The Johns Hopkins University Press.
- Blunden, W. &. (1984). *The Land-Use/ Transport System* (2nd Edition ed.). Australia: Pergamon Press.
- Brand, C. (2007). Bluespace: a typological matrix for port cities. *Urban Design International* , 12, 69-85.
- Bryman, A. &. (2007). *Business Research Method* (2nd Edition ed.). New York: Oxford University Press.
- Cavana, R. D. (2001). *Applied Business Research: Qualitative and Quantitative Methods*. New York: John Wiley & Sons Australia, Ltd.
- Data Collection Methods*. (2006, January 2). Retrieved May 20, 2011, from [http://www.sagepub.com/upm-data/10985\\_Chapter\\_4.pdf](http://www.sagepub.com/upm-data/10985_Chapter_4.pdf)
- Dick, H. &. (1998). Beyond the Third World City: The New Urban Geography of South-east Asia. *Urban Studies* , 35 (12), 2303-2321.
- Ducruet, C. (2010, February 19). A metageography of port-city relationships. *Ports, cities, and Global Supply Chain* , pp. 1-32.
- Ducruet, C. (2010, February 19). A metageography of port-city relationships. pp. 157-172.
- Ducruet, C. (2006). Port-city relationships in Europe and Asia. *Journal of International Logistics and Trade*, 4 (2), 13-35.

- Ducruet, C. (2011, January 1-3). *The Port City in Multidisciplinary Analysis*. Retrieved March 20, 2011, from [http://hal.archives-ouvertes.fr/docs/00/55/12/08/PDF/Ducruet\\_RETE\\_multidisciplinary.pdf](http://hal.archives-ouvertes.fr/docs/00/55/12/08/PDF/Ducruet_RETE_multidisciplinary.pdf)
- Edwards, J. (Ed.). (1992). *Transportation Planning Handbook*. Washington: Prentice Hall.
- Estrada-Llaquet, J. L. (2005). Port Activities and Port - City Relations. 9<sup>th</sup> *International City and Port Conference*.
- Evertse, M. (2008). Strategic Planning of Port Infrastructure. *International Conference on the Port Sector: "Opening of the Ports to Friendly Nations: 200 years of Trade and Co-operation"*. Brasilia.
- (2011). *Gateway: A Publication of Port KLang Authority*. Klang.
- Hair, J. M. (2007). *Research Methods for Business*. England: John Wiley & Sons Ltd.
- Hein, C. (2011). *Port Cities: Dynamic Landscapes and Global Networks*. Retrieved May 10, 2011, from Routledge Web site: <http://www.routledge.com/books/details/9780415780438/>
- Hoyle, B. (1997-1998). *Cities and Ports: Concepts and Issues*. Retrieved March 15, 2011, from [http://acceda.ulpgc.es/bitstream/10553/2363/1/0234500\\_00003\\_00016.pdf](http://acceda.ulpgc.es/bitstream/10553/2363/1/0234500_00003_00016.pdf)
- Hoyle, B. (1997-1998). *Cities and Ports: Concepts and Issues*. Retrieved March 15, 2011, from [http://acceda.ulpgc.es/bitstream/10553/2363/1/0234500\\_00003\\_00016.pdf](http://acceda.ulpgc.es/bitstream/10553/2363/1/0234500_00003_00016.pdf)
- Juhel, M. (2001). Globalisation, Privatisation and Restructuring of Ports. *International Journal of Maritime Economics* , 3, 139-174.
- Lee, S. &. (2009). Spatial Glocalization in Asian hub port cities: A comparison of Hong Kong and Sinagepore. *Urban Geography* , 2 (30), 162-184.
- Lee, S. S. (2010, February 21). *A Tale of Asia's World Ports: The Spatial Evolution in Global Hub Port Cities*. Retrieved March 12, 2011, from [http://halshs.archives-ouvertes.fr/docs/00/45/86/02/PDF/Geoforum\\_Lee-Song-Ducruet.pdf](http://halshs.archives-ouvertes.fr/docs/00/45/86/02/PDF/Geoforum_Lee-Song-Ducruet.pdf)
- Lehmann, S. (2008). Two Models for Sustainable Urban Growth of the Post-Industrial City: Port City and City Campus. *25th Conference on Passive and Low Energy Architecture*. Dublin.

- Levy, D. Qualitative Methodology and Grounded Theory in Property Research. *Pacific Rim Property Research Journal* , 12 (4).
- Litman, T. (2007). *Evaluating Transportation Land Use Impacts*. Canada: Victoria Transport Policy Institute.
- Maritime Institute of Malaysia. (2000). *Mima Training Course on Shipping Economics, Maritime Finance and Port Management and Operations*. Kuala Lumpur.
- McConville, J. (1999). *Economics of Maritime Transport: Theory and Practice* (1<sup>st</sup> Edition ed.). London: London Witherby & Co. Ltd.
- McManus, P. (2007). The Changing Port-city interface: Moving Towards Sustainability? pp. 427-433.
- Moglia, F. &. (2003). Port Planning: the Need for a New Approach. *Maritime Economics & Logistics* , 5, 413-425.
- Noraini Anor, &. Z. (2010). The effectiveness of road transportation network system in a port city: towards green logistics in Malaysia. *Proceeding of Malaysian Universities Transportation Research Forum and Conferences 2010 (MUTRFC 2010)* (pp. 433-444). Putrajaya: Malaysian Universities Transportation Research Forum and Conferences.
- Opportunities and challenges for developing countries*. (2002). Retrieved April 20, 2011, from United Nations Conference on Trade and Development (UNCTAD):  
<http://www.unctad.org/templates/Page.asp?intItemID=4435&lang=1&print=1>
- Owei, O. O. (2010). The Challenges of Sustainable Land Use Planning In Nigerian Cities: The case of Port Harcourt. *46th ISOCARP Congress 2010*.
- Pacheco, P. (2007). City's Port Qualification: city and port relationships. *43<sup>rd</sup> ISOCARP Congress 2007*.
- Peters, H. (1995, March 6). Private Sector Involvement in East and Southeast Asian Ports. *TRANSPORTATION, WATER AND URBAN DEVELOPMENT DEPARTMENT* , pp. 1-8.
- Port Klang/Pelabuhan Klang*. (n.d.). Retrieved May 10, 2011, from Welcome to Klang Web site: [http://www.my-rummy.com/klang/Pelabuhan\\_Klang.html](http://www.my-rummy.com/klang/Pelabuhan_Klang.html)

- Raja Noor Hafizah Raja Amir Shah, J. A. (2010). The Physical Development of Port City. *Proceeding of Malaysian Universities Transportation Research Forum and Conferences 2010*, (pp. 269-278).
- Rashid, H. J. (2008). Efficiency in Urban Governance towards Sustainability and Competitiveness of City: A Case Study of Kuala Lumpur. *World Academy of Science, Engineering and Technology* , 40, 443-456.
- Ruji Kakimoto, & P. (2000). Financial Risk of Port Infrastructure Development. *Journal of Waterway, Port, Coastal, and Ocean Engineering* , 281-287.
- Sgouridis, S. (2003). *Ports: Importance Institutional Status and Growth Prospects*. Massachusetts Institute of Technology.
- Sharidan, M. A. (2010). *Better Port Infrastructure, efficiency*. Retrieved April 25, 2011, from Asean Port Association Malaysia (MAPA): <http://www.apamalaysia.com/better-port-infrastructure-efficiency/>
- Stough, R. (2005). Institutional Barriers To Port Infrastructure And Harbour Development. *Institutional Issues In The Sustainability Of Cross-Border Transport* , 29 (2), 30-40.
- Sung, W. D. (2008). A tale of Asia's world ports: The spatial Evolution in global hub port cities. *Geoforum* , 39, 372-385.
- Talley, W. (2009). *Port Economics*. New York: Routledge: Taylor & Francis Group.
- Taneja, P. A. (2010). Real Options for Port Infrastructure Investments. *IEEEExplore* , 1-6.
- Updates on KLANG - SkyscraperCity*. (2005, March 18). Retrieved May 10, 2011, from SkyscraperCity Forum Web site: <http://www.skyscrapercity.com/showthread.php?t=101200>
- Urban Growth and Urban Form Managing Urban Growth*. (2011, May). Retrieved May 14, 2011, from City Hall Web site: <http://www.citypa.ca/TheCity/Departments/EconomicDevelopmentandPlanning/ThePrinceAlbertDevelopmentPlanProcess/tabid/347/Default.aspx>
- Wiegmans, B. &. (2010). Changing port-city relations at Amsterdam: A new phase at the interface? *Journal of Transport Geography* .
- Wikipedia. (2011, April 9). *Port Klang*. Retrieved April 23, 2011, from [http://en.wikipedia.org/wiki/Port\\_Klang](http://en.wikipedia.org/wiki/Port_Klang)

Wikipedia. (2011, April 9). *Port Klang*. Retrieved April 23, 2011, from Wikipedia  
Web site: [http://en.wikipedia.org/wiki/Port\\_Klang](http://en.wikipedia.org/wiki/Port_Klang)