Transforming Kerteh Port into a Petrochemical Hub Port: An Evaluation of the Prospect

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Malaysia is one of the main countries in the world which produces oil, natural gas and manufacturing petrochemical products. Thus, the port which specializes in petrochemical production plays a major role in petrochemicals industry development. Kerteh Port in Terengganu, Gebeng in Kuantan, Tanjung Langsat in Johor and Bintulu Port in Sarawak are four major ports involved in petrochemical industry. Kerteh Port has a great potential to become the National Petrochemical Hub Port which attributes mainly to safety procedure. SWOT Analysis which applied in this study shows that the Strength and Opportunity of KPSB to develop is higher than Weakness and Threats that occur. The Spin off Benefits that arise from NPHP improves the state's economic status as well encouraging Research & Development (R&D) in petrochemical industry. The outcome of this study supports Petronas and Kerteh Port to focus and increase the additional necessity on Safety Procedure as the most important indicator for the development. This is vital, as KPSB becomes a main competitor to other domestic and international petrochemical ports. The profits and benefits from National Petrochemical Hub Port trigger the consistency of PETRONAS to 'build' a sophisticated hub port, which will benefit Malaysian economic status and enlarge the image KPSB worldwide.

INTRODUCTION

Petronas Kertih Port Sdn Bhd (KPSB) in East Coast Malaysia was establishing on 19 July 1993. It is fully owner by Petronas Maritime Services Sdn. Bhd in Kuala Lumpur. The Location of KPSB is about 13 Miles from Kuala Dungun, Terengganu and about 110 Km from Kuala Terengganu also about 125 Km from Kuantan. The main operation of KPSB is petrochemical manufacturing and the operation was beginning after upstream exploration and production of oil and gas which found in Terenggannu territorial water since 1973. However, KPSB also provide port services and marine support services as their operation beside the main operation.

Justification of the Study

The objective this studies to turn KPSB as a main Petrochemical manufacturer in Malaysia and to identify the most important variable to turn KPSB as a main Petrochemical Port and the implementation of SWOT Analysis as a "trigger" to develop KPSB as a National Petrochemical Hub Port (NPHP).

DEFINITION OF A HUB

Hub is a focal or centre point of a great importance or activities (Abdullah Bashiron, 1999) and it is central point or trade where a particular activities or services are concentrating (Macmillan, 1999). Besides that, for a hub is able to provide "everything" to the customers such as fulfilling demand, friendly employees, good level of customer services and maintaining a good business development (Personal Communication: Capt. Samsuddin, 2004)

To be a hub port, many criteria that have to achieve, a part of that is located in strategic geographical location, stabilize, steady economy and management by government (Marc J. Herhman, 1988), high quality of facilities and infrastructure, enough and well trained manpower, have valuable sources for marketing purpose and Systematic safety procedure management (Abdullah Bashiron, 1996) beside that, another criteria is highly advantage In term of service requirement, complete inland transportation infrastructure, cheaper and simple terminal procedure and have to achieve maximum level of facilities utilization (Capt. Abu Samah, 2004).

PETROCHEMICAL INDUSTRY

In Malaysia, petrochemical industry is well developed when oil was found in Malaysia territorial seabed earlier in 1973, and nowadays, Malaysia has the world's 27th largest crude oil reserves, 12th natural gas reserves and 3rd largest producer of Liquefied Natural Gas (LNG) (Petrochemical & Polymer Industries Division, MIDA).

FIGURE 1
TYPES OF PETROCHEMICAL

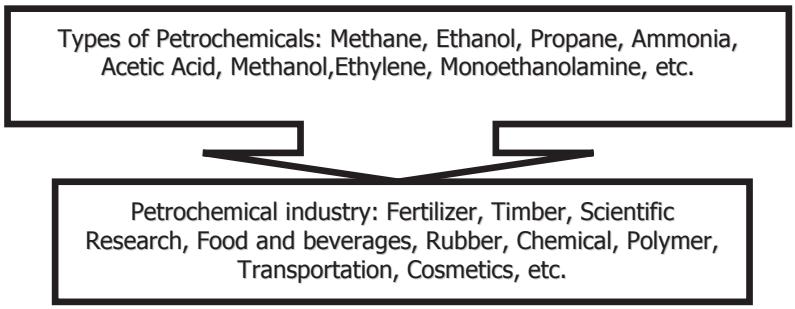


Figure 1, has shows the types of petrochemical that available in petrochemical industry in Malaysia and the Table 1 has shows the Main Petrochemical Refinery Centre in Malaysia (Petrochemical & Polymer Industries Division, MIDA).

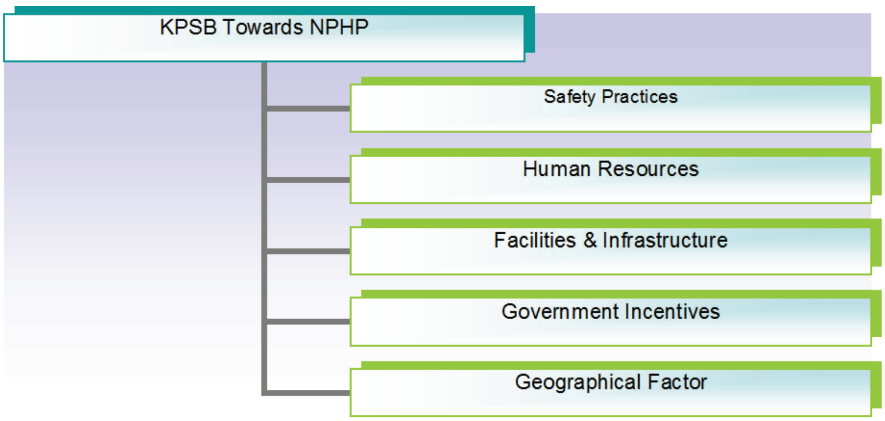
TABLE 1
MALAYSIA MAIN PETROCHEMICAL REFINERY CENTRE

Centre	Barrels of Oil Per Day (BOPD)
Terengganu (PETRONAS)	103,500
Malacca (PETRONAS)	153,000
Port Dickson & Miri (SHELL)	200,000
Port Dickson (Exxon Mobil)	88,000

Petronas Kerteh Port Sdn Bhd (KPSB) can became National Petrochemical Hub Port (NPHP) with many reasons, it is KPSB has its own capability and potential as number one Malaysia Port based on petrochemicals (Capt. Abu Samah, KPSB Manager), future of KPSB to be a great NPHP is bright and depend on how the Malaysia exploit this treasure (Capt. Samsudin, KPSB Operation Executive), beside that, it is a great gateway in East Coast especially in the petrochemical industry and one of the most important port for the development to other major industry in Malaysia (Aminul Rashid Mohd Ali, Head Of HR, Petronas Maritime Services).

Important Variable for KPSB Development

FIGURE 2
VARIABLE FOR KPSB DEVELOPMENT



SWOT analysis is an important step in planning and its value is often underestimated despite the simplicity in creation. Through the SWOT analysis, we can analyses to identify the strength of KPSB, Weaknesses that occur in KPSB, Opportunities to develop the KPSB and threats that will hinder the mission of KPSB (Survey & Pilot Studies, Oct.2003 & June 2004). Figure 2, shows the variable that must be given the priority towards NPHP (Pilot Studies, Oct.2003 & June 2004).

RESULT OF SWOT ANALYSIS

The 75 professional respondents agreed that all the variables in SWOT analysis were reliable and correctly chosen. The reliable and normally distributed variable has fulfilled the objective of this study which is implementing SWOT analysis. Table 2, shows the percentage of the respondent o SWOT analysis in KPSB.

TABLE 2
SUMMARY OF SWOT ANALYSIS

SWOT Analysis	Total	Percentage (%)
Strength of KPSB	521.2	51.63%
Weakness of KPSB	182.6	18.09%
Opportunity of KPSB	252.2	24.99%
Threats of KPSB	53.4	5.29%

Result in Table 2 is very important for KPSB to identify their own Strength, Weakness, Opportunities and Threats. Therefore, there is a prospective for KPSB to become a NPHP because the percentage of respondents who agree that the Strength and Opportunity in KPSB development is higher than the weaknesses and the threats. Here, KPSB is able to overcome all the weakness and threats by implementing their own strength and opportunities to develop in the petrochemical industry (Questionnaire Survey, 2005).

Weaknesses & Recommendations in KPSB

TABLE 3
WEAKNESSES AND RECOMMENDATIONS

Variable	Weaknesses	Percentage%
Human resources	No regular training for staff.	12%
	Lack of master mariner & pilots.	21.3%
	High requirement for new staff.	20%
	No job specification.	14.7%
	Doing last minute job.	5.3%
	Depend more on contract workers.	5.3%
	Depend on budget for manpower dev.	6.7%
Safety Procedure	Less late equipment.	10.7%
	Less commitment for continue safety improvement.	9.3%
	Lack awareness to care of safety equipment.	
	Slow & insufficient to overcome mishaps.	9.3%
		12%
Facilities & Infrastructure	No repacking services.	8%
	Lack of ancillary services.	5.3%
	Less jetty maintenance.	30.7%
	Less IT application.	4%
	Delay in documentation clearance.	2.7%
	Not achieving maximum utilization.	5.3%
Variable	**Recommendation of Weakness**	**Percentage %**
Human resources	Re-looked the man power sourcing policy.	16%
	Provide more budgets on training.	6.7%
	Introduce the Computer Based Training.	12%
	Increase staff according knowledge & skill	18.7%
Safety procedure	Provide more sophisticated equipment.	9.3%
	Awareness of law for continues improvement.	9.3%
	Upgrading security assessment.	
	Maintain the stipulation present equipment.	22.7%
		13.3%
Facilities & Infrastructure	Introducing repacking services.	2.7%
	Application of EDI, E-Terminal, E-Clearances.	10.7%
	More ancillary services.	6.7%
	Centralize the usage of facilities.	12%

Above shows the percentage of the response given by respondents, about the recommendation to overcome all the weaknesses in Human resources, Safety procedure and Facilities and infrastructure on

KPSB. The Highest recommendation to overcome the weaknesses in Safety procedure was upgrading the present weaknesses and the percentage level was 54.6%. Here, have four recommendation to build the KPSB to be a NPHP as provide more sophisticated equipment, awareness of law for continues improvement, upgrading security assessment and maintain the stipulation present equipment (Questionnaire Survey, 2005).

Threats & Recommendations

TABLE 4
THREATS AND RECOMMENDATIONS

Variable	Threats	Percentage %
Government Incentive	Delay in documentation clearance.	2.7%
	Limited licenses period for foreign vessel.	5.3%
	Local training centre need to compete with foreign's training centre.	6.7%
	KPSB highly depend on domestic economy.	12%
Geographical Factor	No rail track from Terengganu to other state.	10.7%
	Geographical surface in middle peninsular are inaccessible.	6.7%
	No pipeline linkage to Kelantan.	9.3%
Variable	**Recommendation for Threats**	**Percentage %**
Government Incentive	Regular meeting with authority for healthy business environment.	16%
	On line clearance.	36%
	Special authority for tress passes.	36%
	Close ties between government and port user.	5.3%
	Multiply the consumption of chemicals by R & D.	37.3%
	Introducing IT application in operation.	41.3%
	Promote local training centre.	12%
		9.3%
Geographical factor	Provide rail link to other state for distribution purpose.	8%
	Promote inland transportation.	12%
	Increase usage of other than road transport.	10.7%

Table 4 shows the percentage of the response given by the respondents and the recommendation for threats to overcome the threats in Government incentive and Geographical factor in KPSB. Percentage for the highest recommendation in Government incentive was multiply the consumption of chemical by research and development R&D and the percentage level was 41.3%. This vital method should be applied in KPSB to build the confidence and good impression among the clients to ensure their investment will give them good revenue with the R & D.

Benefits to Be Gained

Here, KPSB has a certain benefits to be gained as a spin off benefits will be generated and improved the state economic status particularly the job opportunities it also can development of the interrelated industry, small and medium size industry such as food industry, polymer industries, chemical industries agricultural and other industries. Then with this development will be able to increase the number of joint ventures companies from both local and abroad, furthermore, the shipping, forwarding, logistics and other new industries will also be developed. Besides that, the standard and the cost of living local people will be upgraded and infrastructural facilities will be sophisticated and last but not list, Malaysia can also gain a lot from this petrochemical industry and new entrepreneurs will be groomed in this industry.

CONCLUSION

So, the conclusion, for strength, KPSB should maintain and increase the quality to ensure the strength in Human resources, safety procedures and in facilities and infrastructure will be the back bone for National Petrochemical Hub port (NPHP). Besides that, for the weaknesses, there is some weakness should apply as soon as possible to increase the market value of KPSB. Then, the opportunities is there are to develop KPSB as NPHP, thus KPSB should grab the opportunities to ensure Government factors and Government Incentives able to turn this fishing village as a sophisticated Petrochemical State and for the threats, there are some threats that will turn of the mission to be NPHP. The identification of threats is important to generate new and futuristic idea to overcome it and increase the capability of KPSB through Government Incentives and Geographical factor. More of that is the turning point of KPSB from a fishing village to a National Petrochemical Hub Port can be determined by professional human resources, facilities, strategic location, reliable safety procedures and government involvement Petrochemical Hub Port and lastly is, to produce this 'product' there should be a consistent cooperation between PETRONAS, KPSB State and Federal Government and also the people in Terengganu specifically. The growth of KPSB to the National Petrochemical Hub Port will also produce a sophisticated Petrochemical State in future.

REFERENCES

Bashiron, Abdullah (1996). *Journals of Malaysia Maritime Hub of Asia Pacific*, Ministry of Transport, 12-48.

Boyes, Jane RC. (February 2004). *Containerization International Linking the Supply Chain,* Published by Information Group, 36-55.

David, Fred R. (1999 & 2003). Printice Hall International Publisher, London, *Strategic Management*, 4th & 6th Edition.

Encyclopedia of Transport, 3rd Edition, (1999). Macmillan 98-145.

Fingas, M (1978). *The Basic of Oil Spills Clean Up,* 2nd Edition*,* Lewis Publisher, 68-136.

Hayman, C. (2004). *Sea Trade*, Sea Trade Publishment, pp (25-42) February.

Hershment, Marc. J (1988). *Urban Ports & Harbor Management*, Taylor & Francis Ltd, 56-148.

Hornby, A.S. (1996). *Oxford Advance Learner Dictionary*. Amazon Dot.Com Production. Michigan, USA.

Kerteh Port Sdn. Bhd. (2002). *Administration Report* 2nd Edition.

Kerteh Port Sdn. Bhd. (2001). *Kerteh Port Information Booklet 1st* Edition Malaysia, 11-36, 45.

Legal & Corporate Affairs Division, (May 2002). PETRONAS Petroleum Industry Complex, *Nucleus for Malaysia's Industrialization,* Malaysia, 17-46.

Malaysia Economic Report. (2003). Malaysia.

Malaysian Budget Report of 2004. (2004). Malaysia.

Malaysian International Development Authority. (2004) Malaysia (www.mida.gov.my: Accessed on 9 May 2004).

Mega Hub Concept (2002). *Westport Booklet*, Malaysia.

PETRONAS Maritime Services Sdn. Bhd. (1999). Legal & Corporate Affairs Division.

PETRONAS National (2003). *PETRONAS Annual Report*. Legal & Corporate Affairs Division of PETRONAS.

Takel, R.E. (1974). *Industrial Port Development,* Bristol Scientechnical Publisher Ltd. Great Britain,35-52.

Terengganu Economic Planning Units. (TEPU). (2002). Malaysia.

The Eastern Seaboard Hub Port, (2003). *Kuantan Port News*, Kuantan Port Consortium, 14-21.

PERSONAL COMMUNICATION

Abu samah, Senior Manager, KPSB. Interviewed on 6 March 2004.

Captain Amir Murad, Planning Executive, PETRONAS, KLCC. Interviewed 3 on 16 January, 2004.

Captain Azahar, Marine Pilot, Alam Maritime. Interviewed on 13 May, 2004.

Captain Samsudin Abdul Karim, Operation Manager of KPSB. Interviewed on 15 October 2003.