MARINE CADASTRE SCENARIO IN MALAYSIA

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ABSTRAK
Marine Cadastre's concept and application are new in most parts of the world. Its inadequency in governing the ocean territory and parcel's right, restriction and responsibility in Malaysia has a significant unforseen lost in enhancing the quality of social, economic and natural benefits to the quality of life. The aim of this study is to investigate issues of marine cadastre related legal and practice in Malaysian scenario. Methods of literature search, interview and focus group investigation have been carried out. The analysis were covered several aspects related to land law, marine law, stake holders, technical definition, coordination and practice. The result show there are various activities related to marine space that have been carried out. Existing provision and rule have been used as a basis of the exercise. Howevers none of the governing law is directly related and suitable for the definition of marine right, restriction and responsibility. It is also shows that there were several model of implementation have been displayed and proposed. Nevertheless a proper planning and right framework for the sustainable practice is very much necessary in Malaysia particularly due to its status of maritime country. This Malaysian scenario of practice could ponder a better future standard of the world's marine cadastre implementation.

Keywords: marine cadastre, concept, marine alienation, legal

INTRODUCTION

Marine environment is the largest area in the world and Malaysia is also a maritime country with two primary land masses, Peninsular Malaysia and East Malaysia. The country has a total land mass of approximately 330,000 square kilometers and 4492 kilometers of coastlines. These land masses support a population of 25 million (Chee Hai Teo and Ahmad Fauzi,2009). Malaysia lies close to the equator between latitudes 1^0 and 7^0 North and Longitudes 100^0 and 119^0 East.

The exploration, exploitation, conservation and management of marine resources within Peninsular Malaysia, Sabah and Sarawak depend on the available maritime jurisdictions which are shared in various ways including by the state

government, federal departments and United Nations Convention on the Law of the Sea (UNCLOS).

Although there are none of any specific legal related to marine cadastral approved but there are a lot of activities related to the right of marine space usage that has been carried out by relevant bodies. General scenario of Malaysian involvement in marine parcel's right, restriction and responsibility is highlighted in this paper.

MALAYSIA MARINE ZONE

In order to fully understand about the marine cadastre, we must look the Malaysian background on maritime legal and its historical. The United Nations Convention on the Law of the Sea (UNCLOS) establishes a jurisdictional regime under which a Malaysia itself can claim, manage and utilize its maritime territories (United Nations, 1982). Under the legal provision, Malaysia forwards its claim as below (Table 1):

Table 1. : Malaysia Maritime Zone Breadth and Information (Malaysia Maritime Enforcement Agency, 2004)

Boundaries	Area
Internal waters	97,306.83 km sq 37, 571 nm
Territorial waters/sea	63,665.3 km sq 24,581.85 nm
Continental Shelf	476,761.87 km sq 184,082.22 nm
Exclusive economic Zone	453,186.18 km sq 174,979.43 nm
Coastal Area/Line	4492 km - 1737 km (Pen. Malaysia) - 2755 km (Sabah/Sarawak
State Jurisdcition -Peninsular Malaysia	17950 km sq
State Jurisdiction -East Malaysia	20250 km sq
Federal Jurisdiction –Peninsular Malaysia	38800 km sq
Federal Jurisdiction –East Malaysia	20300 sq km
Land to Marine	1:2

There are currently 23 institutions in Malaysia which are involve in the issue of right, responsibility and restriction in the marine area. The full list is given in Appendix A.

JURISDICTION AND AUTHORITY BETWEEN FEDERAL AND STATE OF MALAYSIA

As the maritime country, Malaysia has exercise its domestic marine law and adopted international law for the implementation of Malaysia's maritime policies and boundaries. Malaysia has about 94 domestic laws pertaining to maritime matters and as the solution to cover in diverse matters and maritime issue and as a member of Commonwealth and United Nations, Malaysia agreed to the rule and regulations under Law of the Sea(Amy Ai, 2011). Malaysia is engage to all four Laws of the Sea Convention of 1958 and signatory to the 1982 LOS Convention with new ratified on 14 October 1996. The pertaining laws are listed in Appendix B.

Malaysia's involvement in international negotiations concerning law of the sea - beginning from participation in the First United Nations Conference on the Law of the Sea (UNCLOS I) from February 24 – April 29,1958; Second United Nations Conference on the Law of the Sea (UNCLOS II) from March 17 – April 26, 1960; Third United Nations Conference on the Law of the Sea (UNCLOS III) from 1973 to 1982, produce several fundamental laws establishing Malaysia's maritime estate of EEZ extending seawards to 200 nautical miles(Juita Ramli, 1999).

Then under Emergency (Essential Powers) Ordinance, 1969 is to declare and delimit parts of Malaysia's territorial sea up to 12 nautical miles. However, the marine governance in Malaysia through the jurisdiction over marine spaces and management responsibilities also split between the State and Federal Governments. As a result, the eventual areas of jurisdiction that would fall under the State and Federal where the State Jurisdiction covers for Coastal Waters/Area from declaration of baseline until 3nm offshore whilst the Federal Jurisdiction covers the Territorial Waters from 3 nm to 12nm off shore until EEZ.

This ordinance is the important legal as a reference to determination of the power between the State and Federal of Malaysia. That the ordinance was promulgated in 1969 by the Yang Dipertuan Agong under Article 150 (2) of the Federal Constitution on 15 May 1969 and under special emergency powers in context with the political development at the time. The reason for declaring a state of emergency was connected with the political instability after the so-called May 13 incident, 3 months prior to the promulgation of Ordinance No. 7. The Malaysian Parliament had been dissolved on 20 March 1969 in anticipation of a general election to be held on 10 May 1969. On 13 May, racial riots broke out and 2 days later the state of emergency was declared under Article 150 of the Malaysia Constitution.

According to the preamble of Ordinance 7, the Yang Dipertuan Agong was satisfied at the time that immediate action was required to promulgate the delimitation of the territorial waters of Malaysia. That urgency was imperative not only for the petroleum sector but also due to the imminent conclusion of a treaty with Indonesia with regard to delimitation of the continental shelf between both countries. In that reason of the existence of a grave emergency threatening the security of Malaysia and that a Proclamation of Emergency has been issued. This ordinance also whereas the Yang Dipertuan Agong is satisfied that immediate action is required for securing public safety, the defense of Malaysia, the maintenance of

public order and of supplies and services essential to the life of community(Haller-Trost,1996).

MARINE CADASTRE CONCEPT IN MALAYSIA

Malaysian land based legal is mainly refer to the National Land Code, 1965 under the title Land Cadastre System. Unfortunately, the execution of this land system is less relevant with maritime environment particularly to the issues of marine cadastre implementation.

Marine cadastre implementation concept in Malaysia is currently in the development process. Hence a working group is established with collaboration of local universities particularly with UiTM, UTM and with the Malaysian Directorate of Survey Office. Fundlementally is agreed that marine space is for universal use and separated into various columns which has a specific reference point, line or polygon. There are spaces which can be allocated for individual, public and allocated for reserve. Sea space is in a dynamic platform and the phenomenon is very difference from the ground. Hence the concept of giving right, responsibility and restriction to the marine space is differing with the land although there are common in many aspects.

Hence a definition which based on these concept is necessary. Although there are various definitions on Marine Cadastre as stated for example by Binns et al., 2003 and Ng'ang'a et al., 2003 but Marine Cadastre in Malaysia is currently define as follow:

> *A marine cadastre is a 3D marine parcel administration system with respect to the legal and systematic technical arrangement of marine spatial rights, restrictions and responsibilities for marine space activities (Ashraf et al., 2013).*

According to Ashraf (2004) there are four major differences of perspective between marine cadastre and ordinary Malaysian cadastre namely:

i. Marine Cadastre is regarding marine spatial information and it is basically more towards marine and coastal parcel. Whereas ordinary cadastre is a land registry system to which the land is registered under ownership document and the ownership is tradable. This system is also known as Torrens system and it is being applied and used in Peninsular Malaysia.
ii. Ordinary Cadastre and Marine Cadastre have most significant difference in marking point of boundary and border which is odd to the sea environment while is normal to the situation on land. Marine Cadastre uses virtual point based of coordinate on chart or its picturesque natural environment.
iii. Marine Cadastre is having different kind of assumption or standard in the application of administration and development of rights, limitations and responsibilities on the sea land area as compare to the land area due to ocean dynamic.

iv. Marine Cadastre ownership right is fundamentally for everyone to share but the Ordinary cadastre is to give the ultimate right.

S. Saad and A.H Omar, (2012) in their study on marine cadastre spatial data have used GIS to develop marine cadastre infrastructure which consist of topographic maps, nautical charts and aerial photograph. The study has provided a methodology and descriptive document on the development of marine data infrastructure which include physical element, condition, and the suggested acceptance standard for future development for sustainable environment.

MARINE TITLE/ALIENATION IN PRACTICE

Although there is no specific marine title encompasses in the marine area but current practice of marine alienation has follows almost the same procedure as applied on the land with minor different such as:

- The technical departments in the present of technical comments involved are coming from the marine institutions such as Marine Department, Drainage and Irrigation Department, Fisheries Department, Maritime Enforcement Agency, Department of Environment, Langkawi Municipal Council (Coastal and Marine Planning Division), Department of Town and Country Planning(Marine Division).
- The applicant must comply with the conditions imposed by the Land Office according to the stated marine space management vision.
- The application is open to applicant with has a proper development plan to the selected marine space, willing to invest in marine activities and the plan will bring benefit to the state.

Until now, the application of marine space right is within the state authority and practice within the limit of state boundary's right endorsed by Malaysian legal document. Projects of fish cages, cockle areas, ocean recreation areas, ownership of the island and surrounding waters are some common activities applied and granted through Temporary Occupation Licence (TOL) which requires a license and needs to be renewed annually. However there are cases of right which were given Qualified Title which benefit the applicant for a long period as agreed.

Other project which involve marine navigation right, environment, security, economic and transportation right are currently handle by federal institution and not seriously taken by the State Authority. This is due to the lack of legal support document to exercise their optimum right in addition to the high cost of management. Currently there are 14 identified ministries that are responsible for the management of maritime related activities in Malaysia. The responsibility of each ministry sometimes overlaps with the functions and objectives of other ministries(MIMA,2011). Figure 1 highlighted a sample project carried out in the seashore area and were given the appropriate right by local authority.

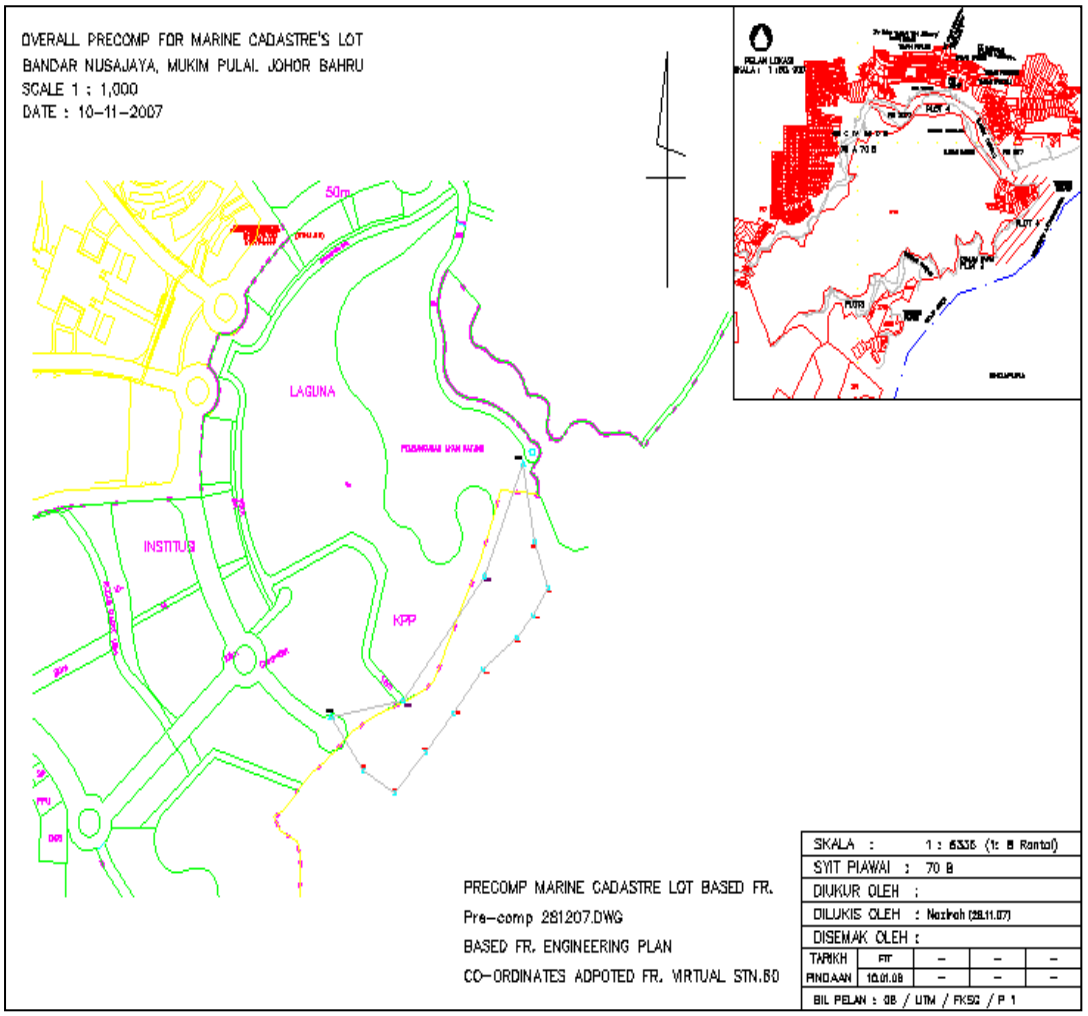


Figure 1 : Marine Right Related Activities (Ashraf, 2004)

CONCLUSION

Marine cadastre is about the right, restriction and responsibilities of stakeholder to any marine parcel. Although the concept of giving right to any parcel is about the same, but there are differences between marine parcel and land parcel's right due to each unique phenomena which contribute to the differences of approach in applying the cadastre concept. Recently the concept and procedure used in Malaysian Land Administrative system of NLC for land system is direct or indirectly used in giving such a right to the marine parcel. Although it is found that the approach is not that appropriate but the only complete procedure of the cadastre system implementation in Malaysia is given in the NLC. In relation to Ashraf (2004), it was found that the existence of various marine legal in the country is irrelevant to the need and their existence were probably designed for empowerment of duty.

Malaysia is currently active in defining the concept and conceptualize the idea to exercise the procedure of giving right to the marine parcel. The study that has been taken since 2010 and has produce some implementation models, however it was found that the detail of each component in the model need further elaboration and approve.The maritime sector is now recognized as a critical sector which contributes significantly to the Malaysian economy. Being a littoral state, the economic activity of the country is dependent to alarge extent on the ability to its marine resources management. Hence, the need for an amendment of the law and the use of great technology is an important action and must be taken to ensure that implementation of marine cadastre can be reality. Few researchers such as S. Shabudin,(2012), observed that the existing law in practice is weak to govern marine parcel's right, responsibility and restriction enforcement. It was clear that the new marine parcel management law is ultimately necessary with due respect to the concept of power separation in practice between federal and the states.

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Malaysia Maritime Enforcement Agency 2004 Website

Appendix A : Marine Cadastre related Institutions in Malaysia

Institutions /Agencies	Remarks
1.Department of Survey and Mapping Malaysia	As the main institutional in Malaysia given the responsibilities in development of marine cadastre. However, that effort must collaborate with academic institutional to bring out clearly the theory and methodology to apply and also be suitable to implementation and to be consider in marine environment and factor.
2.Maritime Institute of Malaysia (MIMA)	The policy maker and investigator in maritime issue particularly on maritime matters such as boundaries, transportation, port rules and etc.
3.National Ocean of Directorate (NOD) , MOSTI	The policy maker on ocean economic and welfare.
4.Langkawi Island Land Office	The main institutional in marine alienation but the implementation just around under state power not involved to federal power.
5.MacGDI	No issue about the marine geospatial data because the agency focus in land data spatial. Later on becoming to establish in marine data spatial infrastructure.
6.Department of Marine	No issue in marine cadastre because involved in operational of shipping and marine transportation only
7.APMM	No issue about marine cadastre but focusing on marine enforcement until 200 nm including the state and federal under act established
8.TLDM	Involved in determination of base point and baseline for Malaysia and only for sovereignty issue not the marine cadastre issues.
9.Marine Police	Focusing on marine criminal enforcement purposes.
10.Department of Fisheries Malaysia	No issue in marine cadastre but done in determination in marine boundary for fisheries for classification and type of fisheries industry. Not in physical but based on radar application in determination marine boundary.
11.Marine Park Department	No issue in marine cadastre because the establishment the marine park is under Sec 41 Fisheries Act 1985 and still follow that regulation including the determination on 2 nautical mile from low water mark in prohibited area and gazette to Marine Park Department. The application used in determination marine boundary and territory was used the GPS.
12.Institute of Ocean and Earth Science University of Malaya	Related to marine cadastre in subjected unit only and just did in the study for marine science and the characteristic of ocean. Have several unit under this institute especially the marine law unit related to marine cadastre which discussing about the marine spatial elements such as boundary, the marine policy, the data in marine environment.
13.KUSTEM	No issue about marine cadastre only involved and specialized in marine biology and habitat, also the marine ecosystem and marine environment study.

14.UTM	Afford in marine cadastre under Department of Land Information System.
15.UiTM	Afford in marine cadastre, collaborated with UTM in research, seminar, discussion and development of marine cadastre theory and practical.
16.Malaysian Security Counsil	The main party in maritime issue and decision maker to any conflict and disputed area. As the principles in the establishment the Base point and baseline used for Malaysia and as stakeholder in Ordinance No. 7 Emergency Power 1969 in Federal issue in maritime matters.
17.Attorney General Chamber	Involved about the establishment of jurisdiction and related to marine is the 2006 Maritime Baseline Zone Act and the amendment 2006 to Ordinance No. 7 PUA367/69. That requirement is follow the Ministry of Home Affairs, Malaysia.
18.Immigration of Department of Malaysia	No issue in marine cadastre and marine spatial element
19.Royal Malaysian Custom Department	No issue in marine cadastre and marine spatial element
20.Department of Environment	Related to marine cadastre as the stakeholder agency in marine spatial in term of waste dumping issue in marine matters. In this case involved in marine pollution, the impact for marine environment, the testing and maintaining the marine environment ecosystem. Build the procedure and some guideline to control the development in marine and as the evaluator in panel for marine construction.
21.Department of Irrigation and Drainage	Involve in marine cadastre in coastal engineering unit where under this unit the planning and
22.Department of Forest	No issue and idea, that requirement from this agency is about the accurate of area in mangrove for getting the true data and within tolerance.
23.Petronas	Related to marine cadastre in determination of their area in term of agreed by law weather the international or local. That situation is answering the area finding the oil drilled area for beneficial for country. This element about oil and gas industry very important needed in marine cadastre to apply but the existing jurisdiction is also used in it purposes.

Appendix B : Marine Related Laws and Regulation

Category	Laws and Regulations
Port	1) Penang Port Commission Act1955(Act 140) 2) Port Authorities Act, 1963(Act 488) 3) Port Workers(Regulations of Employment),2000(Act607) 4) Sabah Port Authority(Consequential Provisions)Act 1968(Act25) 5) Declaration of an Area in Bintulu District to be a Federal Port Act 1979(Act217) 6) Bintulu Port Authority Act 1981(Act243) 7) Ports(Privatisation)Act 1990(Act422)
Shipping	1) Carriage of Goods by Sea Act, 1950(Act527) 2) Merchant Shipping Ordinance, 1952 3) Merchant Shipping Ordinance, 1960(Sabah) 4) Merchant shipping Ordinance, 1960(Sarawak) 5) State Boat Rules
Light House	1) Federation Light Dues Act,1953(Act 250)
Non Living Resources	1) Petroleum Mining Act, 1966(Act95) 2) Petroleum Development Act, 1974(Act144) 3) Petroleum and Electricity(Control of Supplies)Act,1974(Act128) 4) Petroleum (Safety Measures) Act, 1984(Act302) 5) Petroleum (Income Tax)Act, 1974(Act543)
Living Resources/Fisheries	1) Fisheries Act,1985(Act317) 2) Fisherman Association Act,1971(Act44) 3) Lembaga Kemajuan Ikan Malaysia Act1971(Act49) 4) National Forestry Act, 1984(Act313)
Natural Resources	1) Continental Shelf Act,1966(Act83) 2) Baseline of Maritime Zone Act, 2006(Act660) 3) Exclusive Economic Zone Act,1984(Act311) 4) Sarawak Natural Resources and Environment(Prescribed Activities) Order, 1994 5) Sabah Conservation of Environment(Prescribed Activities)Order, 1999 6) National Land Code 1965
Jurisdiction	1. Emergency(Essential Powers)Ordinance,1969(Act216) 2.Extra Territorial Offences Act, 1976(Act163) 3.State Land Rule
Enforcement	1.Immigration Act 1959/63(Revised 1975)(Act 155) 2.Internal Security Act, 1960(Act82) 3.Police Act, 1967(Act344) 4.Malaysian Maritime Enforcement Agency Act, 2004(Act633) 5.Military Maneuvers Act, 1983(Act295) 6.Armed Forces Act,1972(Act77) 7. Penal Code(Revised 1977)(Act 140) 8. Custom Act,1967(Revised 1980)(Act 235) 9.Evidence Act, 1950(Revised 1971)(Act56) 10.Poison Act, 1952 (Revised 1989)(Act366)
Tourism	1. Malaysia Tourism Promotion Board Act, 1992(Act 481)

	2.Tourism Industry Act,1992(Act482) 3.Tourist Development Corporation of Malaysia Act,1972(Act481)
Heritage and Antiquity	1.Antiquities Act,1976(Act168) 2.Antiquities and Treasure Ordinance, 1957
Telecommunication	1.Telecommunication Act, 1950(Act588) 2.Telecommunication Services(Successor Company) Act, 19853.Communication and Multimedia Act, 1998(Act588)
Dispute Settlement	1) Convention on the Settlement of Investment Disputes Act, 1966(Act392) 2) Arbritration Act, 1952(Revised 1972)(Act93) 3) Convention on the Recognition and Enforcement of Foreign Arbitral Awards Act, 1985(Act320)
Forestry/Wildlife	1) National Forestry Act, 1984(Act313) 2) Protected Areas and Protected Places Act,1959(Act298) 3) Protection of Wild Life Act, 1972(Act76) 4) Fauna Conservation Ordinance(Sabah), 1963 5) Wildlife and Birds Protection Ordinance, 1955 6) Forest Enactment 1968(Sabah) 7) Forest Enactment 1954(Sarawak) 8) Planted Forest Rules of Sarawak, 1997 9) Land Conservation Act, 1960 10) Malaysian Forestry Research and Development Board Act, 1985 11) National Parks and Nature Reserves Ordinance, 1998