SOCIO-ECONOMIC PROFILE COMPARISON OF FISHERMEN COMMUNITY IN KUALA MARANG AND SEBERANG TAKIR, TERENGGANU, MALAYSIA

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Abstract: In Terengganu itself, as many as 10,497 of total fishermen have been recorded in the year 2015 with 1,326 and 971 of coastal fishermen in Kuala Marang and Seberang Takir district, respectively. Among the problems faced by the local fishermen includes poverty and minimal fishing activity due to the environmental and climate issues, in which these both issues lead to a decline in the fishery production and income. This study is conducted to describe the social and economic indicators of the fishermen and their family in both areas. A total of 162 fishermen were interviewed in both areas and were randomly selected by using Slovin's formula. By using descriptive analysis, the relevance between economic activities and social processes of fishermen and their household is studied. In this study, the results revealed that 100% of male fishermen were recorded in both study areas with 37.1% fishermen being above 50 years old and 27.4% fishermen between 31 to 40 years old in Kuala Marang and Seberang Takir district, respectively. Fishermen in both areas have an average of 4 to 6 numbers of children while 44.9% of fishermen in Kuala Marang have 4 to 6 household members and 32.9% of fishermen in Seberang Takir have from 7 to 9 household members. With an average of USD 626 and USD 755 of household income in Kuala Marang and Seberang Takir, this study revealed that fishermen household income in both areas did not pass the National median household income which was USD 1,307 in 2016. Therefore, occupational opportunities for fishermen household should be offered so that fishermen's wife and children can contribute in increasing their household income besides the introduction of modern fishing utility to reduce fishermen's energy during fishing activities to enhance catches and production of the fishes.

Keywords: Socio-economic, descriptive analysis, fisherman, fishermen household.

Introduction

Geographyically, Malaysia consists of Peninsular Malaysia and Borneo, bounded by South China Sea and at most of its sides with 4,810 km length of coastlines (FAO, 2003). In Malaysia, the fishing waters extend from the shoreline to Exclusive Economic Zone (EEZ) demarcation line area to 200 nautical miles which cover about 450,000 km² (FAO, 2009). Due to that, the establishment of several villages or areas has occurred by the local people for the fishing activities with fishermen communities built in each area. Until the year 2015, the number of fishermen's districts by the state are 42 in Peninsular Malaysia and a total of 32 in both Sabah and Sarawak states (DoF, 2015).

Obstacles that often haunt and harass the Malaysian local fishermen includes environmental-climate as well as poverty issue. In the issue of uncertainty in climate changes, Islam *et al.* (2014) reported that the fishery activities in Terengganu are minimal in the monsoon season due to strong winds. Monsoon season causes turbulent with big waves and strong winds which occurs yearly between the month of December and February and may cause fishermen to lose their main source of income provided that they do not have any another income (Asli, 2012). On the other hand, for the issue of poverty, Rhoumah (2016) stated that the fishermen in Malaysia still have a high incident of poverty which includes extreme and normal poverty. According to Yahaya and Wells (1982) and Islam *et al.* (2014), the incidence of poverty is very high especially among the artisanal fishermen's household in Terengganu. The issue

of poor fishermen is still relevant until now since most of the fishermen have an individual income of below than MYR 1,500 and were included into the bottom 40% of income group (B40) (Khatijah *et al.*, 2017).

Analysis on socio-economic of the fishermen can facilitate to improvement of the fishermen's affairs. Finding of this study also enables the higher authority to identify the issues and problems regards to fishermen's socio-economy condition as well as its solutions. Stated by Farid *et al.* (2013), fisherman socio-economic studies were conducted so that initiatives can be taken in order to improve fisheries management through the improvement of fishermen involved. Supported by Zuraini *et al.* (2017), the designation of community developmental project especially for the lower-income group of community can be done by studying socio-economic profile. For example, government and NGO can play major role to improve socioeconomic conditions to reduce the poverty level by buying main instruments for fishing, arranging training programs for applying fish culture, improving sanitation facilities and starting income-generating activities to increase off-seasons income (Alam, 2005). In another hand, in study of fisherman socio-economic by Alam (2005), by measuring the fishermen income, the estimation and factor that causing poverty can be done beore proper action can be taken. Analysis of fishermen socio-economic structure and their living standard were aims to examine the socio-economic status of populations such as education, income, poverty and unemployment. After all, all these elements have connections to the quality of local communities' life in aspects of housing, health, telecommunications, social facilities and others (Zuraini *et al.,* 2017).

Specifically, 53176 tons matrix worth MYR 337.35 million of fishes landing in the coastal area in Terengganu had been recorded in 2014 (DoF, 2014). Unfortunately, Terengganu is left behind by other states such as Perak (258,464 tons matrix with MYR 1,493.42 million), Kedah (135,815 tons matrix with MYR 1,158.80 million) and Johor (79,628 tons matrix with MYR 554.09 million). From the data provided, the gap in total fish landed and total revenue from fisheries activity in Terengganu and some other states in Malaysia possess a huge difference. In the fishing area of Terengganu, the average fishermen's individual income is MYR 2,260 (Islam *et al.*, 2014) where the studies were conducted in the area of Besut, Setiu, Kuala Terengganu, Marang, Dungun and Kemaman. However, most of the fishermen in these areas are fishermen who utilized small and medium-size vessels which only operates in areas near to the coastline which makes them a small-scales fisher.

In studied areas, most of the fishermen in Kuala Marang earned between USD 250 to USD 500 per month and USD 500 to USD 750 per month for fishermen in Seberang Takir. Other, in Lagos area of Nigeria, majority of fishermen obtained USD 91 per month (Okeowo *et al.,* 2015), USD 48 to USD 63 per month for majority of fishermen in Jhenidah Bangladesh (Farid *et al.,* 2013), USD 65 to USD 81 per month for majority of fishermen in Visakhapatnam Andra Pradesh India (Ismail, 2014) and also USD 103 to USD 213 for most of fishermen in Suriagor Del Sur of Philippines (Mercado *et al.,* 2016). From the data provided, the gap of fishermen income in studied areas and some other areas across the globe varies significantly. In Malaysia, various forms of programs have been designed and implemented by the higher authorities to assist in raising the living standard of fishermen and also to facilitate the fishermen's working process. Among the aids provided include petrol and diesel subsidies that are given to reduce the fishermen's burden due to the rising fuel price, fishermen's subsistence allowance (Bantuan Sara Hidup Nelayan) and aid for natural disaster and fishermen's welfare (Skim Bantuan Bencana Alam dan Kebajikan Nelayan) to help fishermen increase their household income and also to improve the condition of fishermen and their families lifestyle if any event of disaster occur. Apart from that, other aid includes special fisherman housing project program (Project Khas Perumahan Nelayan) to ensure that the fishermen's houses are always safe to live in and

to upgrade the fishermen's residency (LKIM, 2016). The main objective of this study is to describe the socio-economic characteristics of the fishermen's community in the area of Kuala Marang and Seberang Takir, Terengganu.

Methodology

Time and Location of Study Site

The study was conducted in Kuala Marang and Seberang Takir to highlight the differences of the fishermen's socio-economic development between large and small fishermen's district. According to Dof (2015), fishermen in Marang made up 15.97% of all fishermen in Terengganu while 9.42% were from Kuala Nerus. In addition, Marang is the second district with the most number of fishermen while Kuala Nerus is the sixth out of seven districts in Terengganu. Kuala Marang is a town of Marang district located along the South China Sea coast and is the main road of highway between the area of Terengganu and Pahang state while Seberang Takir is located at Sungai Terengganu estuary along the South China Sea coast. Specifically, 1,326 of coastal fishermen had been recorded in Marang district while 971 of coastal fishermen had been recorded in Kuala Nerus district. For the number of fisher's vessel, 3,287 of total vessels were recorded in the whole of Terengganu state which accounts for around 17% of the total fishing vessels in Peninsular Malaysia. In Marang, out of the total 572 number of vessels,

418, 105, 18, 7 and 24 fishing vessels were for IS (Inshore), Zone A, Zone B, Zone C and Zone C2, respectively, while for Kuala Nerus, the sum of total fisher's vessels are 411, 286, 96, 25 and 21 vessels for IS, Zone A, Zone B, Zone C and Zone C2, respectively.

The survey on the study areas were conducted in March 2017 until May 2017 and the study areas covered were Kompleks Lembaga Kemajuan Ikan Malaysia Marang (LKIM) Jetty (Station 1), Recreational Park Kekabu Island (Station 2) and Tanjung area (Station 3) in Kuala Marang (5° 11' 60. 00" N, 103° 13' 07. 20" E) (Marang district) as illustrated in Figure 1. On the other hand, Figure 2 shows the study areas in Seberang Takir (5° 20' 59. 99" N, 103° 07' 60. 00" E) (Northen Kuala Terengganu district) which covers Penambang Boat Jetty (Station 1), Kampung Baru (Station 2) and Kampung Batin (Station 3).

Sampling Method and Data Collection

Socio-economic quantitative data and the primary data were collected using a structured questionnaire, interviews and group discussion with the fishermen's community. The sample size of fishermen as respondents was decided using Slovin's formula (Limi *et al.,* 2017) at 90% confidence level. A number of 89 and 73 of the total respondents were interviewed in Kuala Marang and Seberang Takir, respectively. Random and purposive sampling method
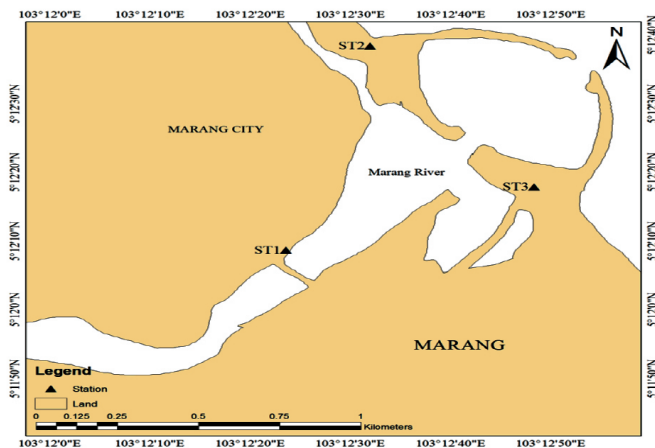

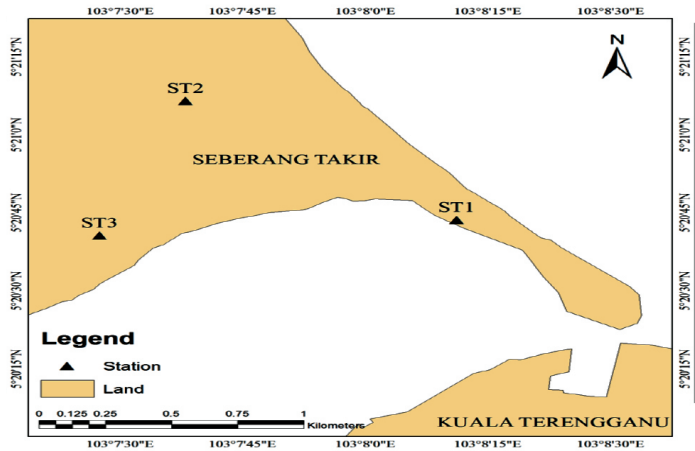Figure 1: Study location in Kuala Marang area

Figure 2: Study location in Seberang Takir area

(Shettima *et al.,* 2014) was also practiced during the process of collecting primary data. The questionnaire on socio-economic status and characteristics were composed of questions on fishermen's general information and core information (Perumal *et al.,* 2016). An analysis of the fishermen's socio-economic structure and their living standard were analyzed to examine the socio-economic status of populations such as education, income, poverty and unemployment. All these elements seem to have connections with the quality of the local communities' life in the aspects of housing, health, telecommunications, social facilities and others (Zuraini *et al.,* 2017).

Quantitative Descriptive Analysis

Quantitative descriptive analysis was used to study the socio-economic characteristics of the fishermen's household where all the data were converted and processed into relative numbers and presented in the overall table to observe the overall situation of the fishermen's condition (Okeowo *et al.,* 2015, Das *et al.,* 2015, Sudarmo *et al.,* 2015). To analyze the fishermen's economic condition, the formulas that were used are total net income, total family income statement and household expenses.

A. Total net income

$$\text{Total Net Income (MYR)} = TR - TC$$

Where TR = Total Revenue (MYR), TC = Total Cost (MYR)

(Olaoye *et al.,* 2012; Okeowo *et al.,* 2015)

B. Household income

Income from catch   Income from non-catch

$$\text{Household income (MYR)} = [\text{Total Net Income}] + [GI_1 + GI_2 + GI_3 + B_1 + B_2 + B_3 + \dots]$$

Where GI_1, GI_2 and GI_3 = 1st, 2nd and 3rd household member gross income (MYR),
BI_1, BI_2 and BI_3 = 1st, 2nd and 3rd household member bonuses (MYR)

(Hendrix, 2017)

C. For household total expenses

Non-food expenses

$$\text{Household expenses (MYR)} = FE_1 + HE_1 + CE + HE_2 + FE_2 + IE + ME + TE + O$$

Where FE_1 = Food expenses, HE_1 = Housing expenses, CE = Communication expenses,
HE_2 = Household expenses, FE = Financial expenses, IE = Insurance expenses,
ME = Medical expenses, TE = Transportation expenses

(Canada Mortgage and Housing Corporation, CMHC, 2017)

Results and Discussions

Fishermen Demographic Profile

For the descriptive analysis of the fishermen's demographics profile, both studied areas were dominated by 100% male fishermen. This implies that male are more fit for fishing activities in both areas since it requires sufficient energy due to the fishing area's geographical features besides the technical skills in handling vessels and fishing gears. According to the World Fish Center (2018), the fisheries sector has long been considered a male domain, signifying a sense of adventure and risk valued by men. This finding is also in line with Shettima *et al.* (2014) and Sudarmo *et al.* (2015) who conducted their study in Lake Alau Borno of Nigeria and Tegal City of Indonesia, respectively which discovered that fishery sector is dominated by fishermen compared to fisherwomen. According to Biswal (2015), women's presence in fisheries is perceived differently in different cultures. Women's roles are restricted since some culture consider women going for fishing as superstitious, compared to men. In both studied area, 15.3% and 18.9% of the wives in Kuala Marang and Seberang Takir, respectively were recorded working and contributing to household income. Majority of the fishermen's wives in Kuala Marang and Seberang Takir (66.7% and 71.4%, respectively) worked with others and become an employee while only 33.3% and 28.6% of the wives work on their own by running small scale businesses. On another hand, 84.7% and 81.1% of wives of the fishermen in Kuala Marang and Seberang Takir were housewives.

Age is an important criterion for socio-economy structure since it affects the fishermen's productivity and production in terms of fisheries and household livelihood besides innovation acceptance. The younger fishermen do have more energy to work and are more welcoming to accept any innovation included in fishing unit or fishing management compared to the old fishermen who are comfortable with their old-fashion way of working. Table 1 shows that in the study area of Kuala Marang, a majority of 37.1% fishermen are above 50 years old, with

77 years old being the oldest and the youngest is 19 years old. On the other hand, 27.4% majority of the fishermen in Seberang Takir are in the group age of 31 to 40 years old with the 71 years old being the oldest and 19 years old being the youngest. By comparing the data obtained, Seberang Takir recorded the majority of productive and economic age respondent who are able to take strenuous task associated to fishing and increase their income along with fish catch (Olaoye *et al.,* 2012). In relation to this, fishermen's fishing experience define one's fishing skills since the more experience possessed by the fishermen, more abilities have been learned and experienced (Shettima *et al.,* 2014). Besides skills, fishing experience also did reflect the fishermen's age where older fishermen had more fishing experience. In this study, fishermen's experience shows a negative statistically significant on fishermen's household income in both studied areas. With the coefficients of 0.007 and 0.006, a unit increase in fishermen's experience, fishermen's household income will decrease by 0.7% and 0.6% in Kuala Marang and Seberang Takir, respectively. By the same token of Jeyrajah & Santhirasegaram (2015), as the number of fishing experience increases, income per fishermen will decrease by USD 1.7 due to increment in age that leads to the deduction in fishing operation.

A high percentage of married fishermen were recorded which were 66.3% and 50.7% for Kuala Marang and Seberang Takir, respectively. It implies that occupational mobility might be reduced in both studied areas since each has economic responsibilities in supporting their dependent. Same situations were recorded in Tegal City Indonesia (Sudarmo *et al*., 2015) and Bagan Lalang Sepang (Perumal *et al*., 2016) in which 100% of 76.5% of married fishermen were recorded. Besides, 24.7% and 49.3% of unmarried respondents in both areas might be one of the breadwinners in their family to receive economic responsibility.

Fishermen in both areas were left behind in terms of educational status which lacks higher education with specific training. In Kuala Marang, a majority of 36% fishermen possess

education until their lower secondary level (Form 1 until Form 3) while in Seberang Takir, a majority of 35.6% went until upper secondary level (Form 4 until Form 5). On the other hand, 15.6% and 35.2% of fishermen dropped-out of school in both study areas of Kuala Marang and Seberang Takir, respectively. This situation implies that fishermen in both areas, especially Seberang Takir, might come from families that were not concern and solicitude about education, at their time. This is because, in the past, children focused more on having job skills in order to help families to find sustenance. Worst situations were recorded in South West Region Bangladesh (Das *et al.,* 2015) where 75% of fishermen were illiterate while more than 60% of illiterate fishermen were recorded in Ogun State Nigeria (Olaoye et al., 2012). As explained by Ahmed *et al.* (2013), some fishermen community did not believe in benefits of having good education status and opt for their children to follow their footsteps as a fisherman. This is proven by the high percentage of fishermen children in Seberang Takir which were school dropped-out students with 29.1% while 19.2% had been recorded in Kuala Marang. According to Mamun (2011), major causes of fishermen's children to drop-out school were illiteracy, involvement in income findings, economic and social problems as well as family member's unconsciousness. Besides that, in terms of lack of consciousness about education, 35.6% and 31.5% of fishermen were illiterate. Also, high percentage of addiction problem especially

smoking were recorded with 92.1% and 82.2% as well as the importance about having secondary or any extra occupation were taken lightly as 92.1% and 83.6% of fishermen in Kuala Marang and Seberang Takir, respectively, have no any extra occupation.

Majority of fishermen in both study areas have 4 to 6 number of childrens. In Seberang Takir, 6.8% of fishermen's household composed of more than 12 members, while non had been recorded in Kuala Marang. According to Dzuhaimi *et al.* (2012) in the study of Malay Muslim fishermen community in Selangor, a majority of them have big household size and lives together. This study shows that the fishermen's household number has a positive statistically significant relationship with the fishermen's household income. With the coefficients of 0.057 and 0.050, a unit increase in fishermen's household member increases the fishermen's household income by 5.7% and 5% in Kuala Marang and Seberang Takir, respectively. As stated by Mercado *et al.* (2016), some rural fishermen tend to apply the use of family labor and limited investment, which is as many as 13% and 31.5% of respondents in Kuala Marang and Seberang Takir, respectively, that uses family labor type for fishing activities. This enhances the cost reduction and increases the profit during fishing activity since there exists full trust in several affairs such as managing fishing unit, fishing catch and profit sharing that can be done harmoniously which facilitates the working circumstances.

Table 1: Fishermen demographic profile

Characteristics		Kuala Marang		Seberang Takir	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Age (years)	31 to 40	21	23.6	20	27.4
	Above 50	33	37.1	18	24.7
Marital status	Single	22	24.7	36	49.3
	Married	59	66.3	37	50.7
Educational secondary level	Lower	19	21.3	26	35.6
	Upper	32	36	22	30.2

Fishermen's Fishing Unit Profile

For fishermen's fishing unit profile characteristics, Table 2 shows that 42.7% of fishermen in Kuala Marang travels for 11 to 20 Nautical Miles (NM) while 37% of fishermen in Seberang Takir travels for 1 to 10 NM for their fishing activities. However, this contrasts with the fisher folks in Ogun Waterside, Nigeria, where more than half of them work for only 1 NM since most of the fishermen in Ogun Waterside only uses canoed fishing vessel (Olaoye *et al.,* 2015) while the majority of the fishermen in Kuala Marang and Seberang Takir used engine-type vessel.

Types of fishing vessels play a crucial role in the fishing travelled distance in which advanced vessel with engine permits fishermen to travel further compared to the traditional canoed vessel. According to Sesabo and Tol (2005), fishing ground with more fish stocks can be accessed by going for a long-distance fishing ground which causes fishermen to travel further. As much as 57.3% of fishermen in Kuala Marang works from 17 to 24 hours per trip, 42.5% of fishermen in Seberang Takir works from 9 to 16 hours per trip. Fishermen tend to work extra hours and commit to a high fishing effort either in the number of fishing hours or fishing trips due to fishing efforts do affect in increasing the fishermen's catch and income. For this, fishing effort shows positive significant relationship with fishermen household income in Kuala Marang. With the coefficient of 0.026, a unit increase in fishermen's fishing trips per month increases fishermen's household income by 2.6%. As explained by Islam *et al.* (2016), fishing efforts which consists of fishing hours in a month is significant at 1% which implies that it highly affects the fishermen's catch along with their income. Table 2 showed that more than half of the fishermen were vessel owners, which consists of 57.3% and 50.7% of ownership recorded in Kuala Marang and Seberang Takir, respectively. This implies that vessel ownership has positive significant relationship with fishermen household income in Seberang Takir. With the coefficient of 0.204, a unit increase in fishermen's working position increases the fishermen's household income by 2.6%. This is due to the agreement of the 2/3 owner splits share from the fish catch between vessels owner and renter-borrower (Nieves *et al.,* 2009). According to Omwega *et al.* (2000), the average of monthly income for vessels owner were around 3 times more than the crew since the owner owned various boats and vessels.

For fishermen type of gear used for fishing activity, 86.50% of the fishermen in Kuala Marang uses single gear which consists of 1.10% of trap, 12.40% of line and 73.0% of net, while 13.50% of them uses multi-type of gear. On the other hand, in Seberang Takir, 71.20% of the fishermen use single gear which consists of 2.70% of trap, 42.80% of line, and 24.70%

Table 2: Fishermen's fishing unit profile

Characteristics		Kuala Marang		Seberang Takir	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Fishing trip distance	1 to 10 NM	33	37.1	27	37
	11 to 20 NM	38	42.7	14	19.2
Working hours per trip (hours)	9 to 16	34	38.2	31	42.5
	17 to 24	51	57.3	28	38.3
Fishing trips per month (trip)	16 to 20	47	52.8	24	32.9
	Above 21	31	34.8	26	35.6
Vessel ownership	Owner	51	57.3	37	50.7
Types of gear	Single gear	77	86.5	52	71.2
	Multi gear	12	13.5	21	28.8

of net, while 28.80% of them uses multi-type of gear. The gear types used by fishermen shows a positive significant relationship with the fishermen's household income. With the coefficient of 0.313 and 0.218, a unit increase in the number of gears used increased the fishermen's household income by 31.3% and 21.8% in Kuala Marang and Seberang Takir, respectively. In comparison with Kenya South Coast, the artisanal fishermen there prefer using multiple fishing gear to target various fish species (Tuda *et al*., 2016) and multi gears also applied in San Miegul Island for multi-fishery purposes (Nieves *et al.,* 2009). Supported by Y and Antonia (2017), a unit increase in the number of gears increased the fishermen's income by 44.7%.

Fishermen's Housing Condition Profile

Regarding to the fishermen's housing condition profile, 84.3% and 91.7% of fishermen in Kuala Marang and Seberang Takir live in their own houses, respectively and likely, 88% and 84% of fishermen in Sepang, Selangor (Perumal *et al.,* 2016) and Kuala Besut Terengganu (Wan *et al.,* 2009) live in their own houses rather than renting a house, respectively. Fishermen prefer to live in their own house especially when the house is inherited in order to guarantee the existence of a residence as well as having an exclusion of monthly housing rent payment. According to Zaimah *et al.* (2015), house ownership reflects a better level of living. Besides, fishermen are also able to avoid monthly house rent commitment and want to cherish the family's relics and assets (Wan *et al.,* 2009).

Table 3 showed that 44.3% and 44.4% of fishermen in both study area of Kuala Marang and Seberang Takir, respectively, live in a wooden type of house while 36.4% and 32% of fishermen live in houses built up from a mixture of both wood and bricks. This is because in Malaysia, fishermen's community is known to reside in the village area in which they prefer to have their residence to be in a village nature built from wood. According to a study by Perumal *et al*. (2016), the same situation is shown by the fishermen's community in Sepang, Selangor.

In terms of toilet facilities, 100% of the houses own bathroom or toilet facilities in both study area where similar findings were also recorded by Perumal *et al.* (2016) in Bagan Lalang, Selangor, Malaysia. However, in contrast, 80% of fishermen houses in Andra Pradesh India do not possess any toilet and bathroom facilities (Ismail, 2014) and possess no sanitary facilities or toilet where the fishermen uses lands, fields, canals, bushy area, hidden places and latrine to answer the call of nature (Reza *et al.,* 2015). In Malaysia, toilets are built in every house as it is a basic component in a house construction nowadays (Perumal *et al.,* 2016).

All respondents (100%) of the fishermen's with their household in both studies areas enjoy the electrical facilities present in their residence and similarly with rural fisher in North Suriago Del Sur, Philippines (Mercado *et al*., 2016). Otherwise, for fishermen around Chirirbandar Upazila Bangladesh, only 28% of the fishermen household-owned electrical facilities (Hossain *et al.,* 2015). The absence of electricity causes difficulty to complete daily household routines and working chores, for example, household cooking and cleaning matters will be troublesome to be conducted while for fishermen, the storage of fishing catch may not be done in a proper way. Thus, the electricity supply provided by the authorities enhances the social well-being among the community and population (Hussain *et al.,* 2011).

In Kuala Marang and Seberang Takir, 90% and 62.5% of fishermen's household, respectively, depends on the government's pipe water for drinking water sources, self-sanitation activity, household chores and other purposes while 100% of the fishermen's household in Atrai and Kankra rivers at Chirirbandar Upazila, Dinajpur, Bangladesh still depends on tube well for drinking water facilities in their residence (Hossain *et al.,* 2015). As stated by Perumal *et al.* (2016), apart from the toilets, clean water supply also acts as an important component in house construction for household self-sanitation and house chores.

Table 3: Fishermen housing condition profile

Characteristics		Kuala Marang		Seberang Takir	
		Frequency	Percentage (%)	Frequency	Percentage (%)
House ownership	Own	36	40.5	25	34.2
Electricity facilities	Present	88	100	72	100
Water facilities	Government pipe	80	90.0	45	62.5

Fishermen's Individual and Household Income and Expenses

The fishermen's individual income from the fishing activity is shown in Table 4, most fishermen in Kuala Marang (68.6%) earned between USD 250 to USD 500 while in Seberang Takir, majority (45.2%) of the fishermen earned between USD 500 to USD 750. As for the reasons, the factors that affect the fishermen's individual income includes fishermen's fishing effort along with the engine and vessel capability in which more advanced fishing vessels and aid had been utilized. In Seberang Takir, high percentage of younger fishermen had been recorded which causes most of them to possess the capability of having extra working hours and working effort since these young fishermen are in physically and economically active age group. For fishermen's household income as illustrated in Table 4, a majority of 47.2% fishermen's household in Kuala Marang earned an income between USD 250 to USD 500 while 37% in Seberang Takir earned between USD 500 to USD 750 household income, per month. According to the Department of Statistics Malaysia in 2014, the median for Malaysian household income was MYR 4,585 (USD 1,146) while MYR 5,228 (USD 1,307) was recorded in 2016 in which both study areas did not pass the national median household income with an average of USD 626 and USD 755 of household income in Kuala Marang and Seberang Takir. On the same page, fishermen in Sedili Kota Tinggi recorded lower average of fishermen household income with USD 255 which did not pass the national median household income (Zaimah *et al.,* 2015) as shown in Figure 3. Average fishermen's household income in Seberang

Takir were higher compared to Kuala Marang since high average of household members with 7 person per household were recorded compared to only 5 person per household in Kuala Marang. In Seberang Takir, 69.9% of households have members that contributed to fishermen's household income while 33.3% of the households have more than 1 contributor. On the other hand, in Kuala Marang, 62.9% of households have members that contributed to household income with only 26.8% of the household having more than 1 contributor. This is a lower record compared to the study area of Seberang Takir which implies that income contribution from household members play a significant role in helping to inflate the fishermen's family economy.

In 2016, Malaysian household recorded USD 1,008 for household expenditure with specifically of USD 900 of household expenditure had been recorded in Terengganu (DOSM, 2016). However, in both study areas, only USD 394 and USD 387 of total household expenses had been recorded in Kuala Marang and Seberang Takir with USD 79 and USD 55 of per capita household expenses, respectively. Table 4 shows that a majority of 56.2% and 54.8% fishermen's household spent around USD 250 to USD 500 for their household expenses while 20.2% and 19.2% of fishermen's household had spent more than USD 500 per month in Kuala Marang and Seberang Takir, respectively. Fishermen's household community in both areas spent the most for maintaining the food supply, which consists of 29.9% and 33.3% from their household income in Kuala Marang and Seberang Takir, respectively. As for food consumption, higher expenses goes to Seberang

Takir as it is an area with a high average of household members compared to Kuala Marang. Also, as stated by Jeyarajah & Santhirasegaram (2015), the bigger the household size, the higher the family consumption. Following from there, the second highest household expenditure were for other purposes which consists of transportation, addiction (cigarettes), education, housing and the least for communication expenditure.

Conclusion

The fishermen's community in Kuala Marang and Seberang Takir are dominated by male fishermen even though the dominated fishermen ages contrasts in both areas where Kuala Marang district is dominated by fishermen of the age 50 years and above while Seberang Takir is dominated by fishermen of age 31 to 40. For fishermen's individual income from the fishing activity, 68.6% of the fishermen in Kuala Marang earned between USD 250 to USD 500 while in Seberang Takir, a majority of 45.2% of the fishermen earned between USD 500 to USD 750 as their income from the fishing activity. For fishermen's household income, a majority of 47.2% fishermen's household in Kuala Marang earned an income between USD 250 to USD 500 while 37% in Seberang Takir earned between USD 500 to USD 750 household income per month. This study also revealed that fishermen's family income in both studied areas did not pass the Malaysian median household income. While conducting this study, limitations encountered included difficulties to get fishermen's full cooperation and attention during data collection and information sharing.

Table 4: Fishermen's individual and household income with expenses profile

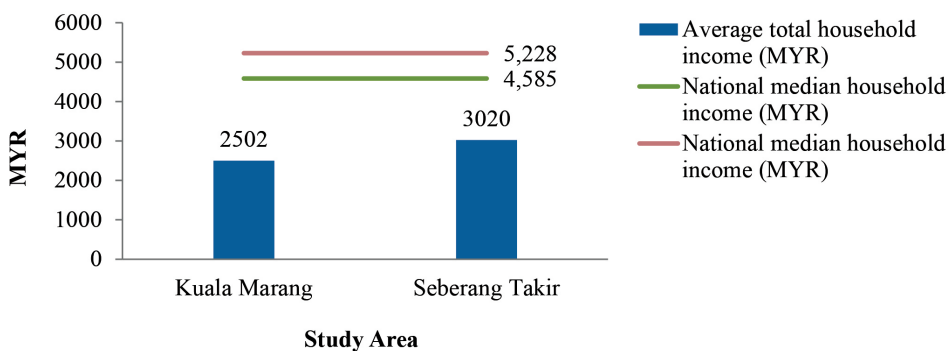| Characteristics		Kuala Marang		Seberang Takir	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Fishermen income (Individual)	USD 250 to 500	61	68.6	26	35.6
	USD 500 to 750	13	14.6	33	45.2
Fishermen income (Household)	USD 250 to 500	42	47.2	14	19.2
	USD 500 to 750	24	27	27	37
Fishermen expenses (Household)	USD 250 to 500	50	56.2	40	54.8

Figure 3: Average of fishermen household income (MYR)

This happened especially when fishermen are busy managing their fishing catch, gear and other instruments. In further research, this study suggests that one should have good preparation by having enough interview pilot test. This is because good communication skills are important in order to gain respondent's trust. Besides, communication skills in persuading are compulsory for the interviewer to have an accurate answer, especially when involving values such as respondents and their family income and expense.

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