

Human Development Index of the Rural Community in the Three Major Cities along Pahang River and Muar River, Malaysia

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Abstract: Human development is an effort to bring people to freedom and opportunity and bigger chances for developing their well-being. There are a number of human development indexes that have been developed by researchers all around the world and one of the recent one is known as The American Human Development Index. This study intends to use this index in the context of the Malaysian rural community and hopefully there will be very interesting findings if we can see where actually the rural community in Malaysia stands if compared with the community in the well developed countries such as the USA. Hence, the main objective of this study is to investigate the human development index among the rural community living along the Pahang River and Muar River in Malaysia. This is a quantitative study where a developed questionnaire was used. Through a simple random sampling, a total of 900 respondents were selected from three cities along Pahang River and Muar River namely Pekan, Bahau and Muar. Based on the findings, it can be seen that the respondents studied still have a low level of human development index. However, further analysis had identified that respondents in Muar and Bahau do have a moderate level of human development index. ANOVA employed has confirmed to us that there is no significant difference that can be found in terms of human development indexes between the three cities studied.

Key words: Human development, Pahang River and Muar River, Rural development and Rural community.

INTRODUCTION

What is Human Development?:

Human development can be understood as the process of bringing people's to freedoms and opportunities and uplifting their well-being. Human development refer to the real freedom and ordinary people has the power and choices to decide who to be, what to do, and how to live. The human development concept was developed by economist Mahbub ul Haq who argued that existing measures of human progress failed to account for the true purpose of development which is to improve people's lives. Among the famous themes that are frequently considered as central to human development are social progress, economics, efficiency, equity, participation and freedom, sustainability and human security (UNDP, 2010)

Scholars all around the world have their own specific definitions on human development and among the famous ones are

The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives- Mahbub ul Haq (1934-1998) Founder of the Human Development Report- quotation from: <http://hdr.undp.org/en/humandev/>

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"Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it." Prof. Amartya Sen Harvard University" quotation from <http://hdr.undp.org/en/humandev/>

The Human Development Index:

We do need The Human Development Index (HDI) to produce a simple money metrics. It is a simple and easy-to-understand index constructed from three basic human needs namely health; income and education. The first HDI was first developed 11 years back in 1990 and HDI has been continuously developed by scholars all over the world. Some parts of the world now have utilized the HDI to produce official government statistics; its annual publication inaugurates serious political discussion and renewed efforts, nationally and regionally, to improve lives. One of the famous HDI was developed by American Human Development Project Social Science Research Council. It presents a modified American Human Development Index and it measures the same three basic dimensions as the standard HDI, but it uses different indicators to better reflect the U.S. context and to maximize the use of available data (American Human Development Project Social Science Research Council, 2011). According to a report in 2010 by United Nations Development Programme (UNDP), Malaysia was ranked 57th in terms of HDI. Besides the result provided by UNDP, it is very interesting to use the American Index in the Malaysian situation especially for those who live in the rural areas. We can know where actually rural community in Malaysia stands if they are to be compared to the other communities living in the developed countries such as the USA.

Rural Community Development in Malaysia:

Rural development cannot be denied has been one of the major focuses of the government and of course the main recipient of this development is the rural community. Malaysia has a systematic and effective plan for its rural development. The government of Malaysia has established two stages of rural development transformation and evolution. The first stage was conducted for 47 years starting from 1957 (the year of Malaysia's independence) till 1994. Two policies had been designed in this period and known as Pre New Economy Policy and New Economy Policy. The focuses of these two policies were on providing basic infrastructure, agriculture development based on main commodities, equity development, poverty alleviation, land and regional development and dissemination of subsidy. The second stage of the transformation (1994-2020), which is still in progress, is based on the New Philosophy and Policy on Rural Development which has the mission of being a developed state in 2020. Under the second stage of transformation, two new policies have been developed and known as National Development Policy and National Vision Policy. Unlike the first transformation stage, the second transformation stage is aimed at a balanced development, human resource development, regionalization of land development authorities, a better quality of life, achieving sustainable development, poverty alleviation and lower income group, developing attractive, developed and profitable rural areas and focus of rural development on specific groups (Ministry of Rural and Regional Development, 2011). Rural community has already benefited from these two transformation stages. This can be proven based on the recent statistics provided by the Ministry of Rural and Regional Development (MRRD). The impact of rural development transformation and evolution on the rural community can be clearly seen on the increase of their level of income. In 2009, it was recorded that the monthly household income in the rural areas had significantly increased to RM2,545 compared to RM1,718 in 1999. It is an amount that exceeded the poverty level established by the government which is RM720. To further bring development to the rural areas in Malaysia, a total of RM28 billion has been allotted by the government for rural development in the Ninth Malaysia Plan (from 2006-2010) an increase of RM7 billion compared to the previous Eight Malaysia Plan allocation for rural development. The effort to bring development to rural areas and community in Malaysia has never stopped and the Ministry of Rural and Regional Development has introduced six main cores which should be focused for rural areas and community in Malaysia (Ministry of Rural and Regional Development (2011) (Table 1).

Table 1: Six MMRD Strategic Cores for Rural Development in Malaysia

Strategic Cores	Amount (RM)	Percentage
Core 1: Increase the coverage and quality of basic infrastructure, utilities and social amenities	8,397,807,935	48.1
Core 2: Eradicate extreme poverty and halving the rate of rural poverty	1,512,348,793	8.7
Core 3: To strengthen human capital development among the rural community	3,562,224,699	20.4
Core 4: Boost the economic activities and industries at the rural areas	1,150,319,500	6.6
Core 5: Intensifying efforts to develop remote, backward and neglected rural areas	2,740,690,021	15.7
Core 6: Bridging the digital divide between rural and urban communities	92,000,000	0.5

Source: Ministry of Rural and Regional Development, 2011

The impact also can be seen on the educational development. The literacy level among rural people in Malaysia has significantly increased in 2009 (93.3%) compared to the literacy level in 1980 (76.0%). Furthermore, in 2009 there were 9,844 schools (primary and secondary) funded by government which consist 5,416,924 students and 386,031 teachers. In terms of basic infrastructure and facilities, in the period of 2006 to 2009, a total of 1,419.26 km of new and repaired roads have been made available in the rural areas. Interestingly, rural communities in Malaysia nowadays have a better access to health services provided by the government. This can be seen when in 2008 a total of 1927 rural clinics had been established by the government. The number of registered doctors also has increased in 2008 to 25,102. In terms of electricity and water supplies, under the Program of Rural Electric Supply, in 2010 a total of 14,140 houses (which before this were facing electric supply problem) have been provided with this energy supply while for water supply a total of 15,383 new houses in the rural areas have been provided with clean running water (Ministry of Rural and Regional Development, 2011).

Malaysia National Key Results Area (NKRA):

The NKRA can be defined as the core areas of the country. It represents a combination of short-term priorities to address the urgent demand of the community and also the long term issues that can affect those who need it. Of course, the rural community is one of the targets of this NKRA. Through the NKRA the rural community has a bigger opportunity to be exposed to development. The NKRA is focused onto six main aspects which are 1) reducing crime; 2) combating corruption; 3) expanding access to quality and affordable education; 4) improving the living standards of low income household; 5) strengthening the infrastructures in rural and remote areas, and 6) improving urban public transport. Generally the NKRA's will benefit all Malaysians and the rural community will benefit most from NKRA's number 3,4 and 5.

The Pahang River and Muar River:

Pahang River is one of the major rivers in Malaysia and it covers 459 km long which makes it the longest river in Peninsular Malaysia. It rises in two headstreams, the Jelai and Tembeling, about 10 miles (16 km) north of Jerantut and flows south past Temerloh, paralleling the Main Range to Mengkarak where, at the break of slope between the mountains and the plains, it abruptly turns eastward. The river then completes its 271-mile (436-kilometre) course, through alluvial plains more than 20 miles (32 km) wide, to empty into the South China Sea at Pekan, Pahang. It drains an area of 29,300 km² in which three quarters of this drain area is located in Pahang while a quarter of the drain area is located in Negeri Sembilan. Major towns found in the Pahang River basin include Pekan, Maran, Temerloh, Jerantut, Kuala Lipis, Raub and Bentung. Pahang River is still an important part of community daily life. People living along Pahang River still use it as the 1) source of protein (fishing fish and fresh lobster), 2) mode of transportation; 3) sources of income (ex: aquaculture industry and sand mining industry) and 4) social and cultural activities (ex: recreational activities, leisure activities and annual events such as "Pesta Berakit") (Sulaiman et al., 2010).

Just like Pahang River, Muar River still has significant roles to play for the community that lives along it. It flows through two states in Malaysia Johor and Negeri Sembilan. It started at a place called Jempol in Negeri Sembilan and it flows to Malacca Straits through Kuala Muar. Muar River is well known with its history. It was the route used by the famous Malay warrior called Hang Tuah in his effort to bring a beautiful princess called Tun Teja to Malacca. Besides Hang Tuah, Muar River is a place where historical places such as Bukit Kepong Police station, Kota Buruk and World War 2 bombed bridge called "Jambatan Patah" are located. Furthermore, besides its history, Muar River has another attraction; the Muar River fresh lobster. Muar River is a heaven for those who love fishing activities. The price for the fresh lobster can reach USD12 per kilo, making it one of the reasons why local and outside people fish for it (Sulaiman et al., 2010).

Pahang River and Muar River are nearly joined at a place called Jempol, in Negeri Sembilan. This is because the Seriting River flows into the Bera River, a tributary of the Pahang River. Jempol River flows into Muar River. Centuries before, it was an essential route for trading activities. Trading boats from Muar River used this route to reach Kuala Pahang in Pekan, or Kuala Lipis to continue into Terengganu, Kelantan or Perak. Before continuing their journey either to Pahang River or Muar River, at Jalan Penarikan, the boats need to be pulled overland. The distance is about 300 meters and because of the pulling of boats overland, the local site is named "Penarikan", which is the Malay word for pulling. Figure 1 shows us the flows of Pahang River and Muar River



Fig. 1: Flows of Pahang River and Muar River

Methodology:

This is a quantitative study. A developed questionnaire was first pre tested in two selected villages at Muar before the actual data collection. Based on the simple random sampling, a total of 900 respondents were selected. The number was gained from three cities in which the Pahang River and Muar River flow namely Pekan (end of Pahang River), Bahau (city where Pahang River and Muar River are nearly connected) and Muar (end of Muar River). Each of the cities was represented by 300 respondents. Trained enumerators were used and face to face interview was employed. To gain the HDI, it was based on the question asked in the well-o-meter website which can be accessed at <http://www.measureofamerica.org/well-o-meter/>. The index focuses on three parts namely 1) Health (24 questions); 2) Income (1 question) and 3) Education (1 question). SPSS was employed to gain the general data such as frequency, percentage, mean and standard deviation.

RESULTS AND DISCUSSION

For the first part of the study, it focused on the respondents’ background. It can be identified that majority of the respondents are housewives (26.0%), followed by those who are self-employed (20.2) and those who are involved in agriculture related job (13.6%). Interestingly, this study was also an attempt to study the poverty level of the respondents studied. As been mentioned earlier, those who can be considered as in the poor group are those who have a monthly income of RM720 or below. It is quite interesting for us to know that only 28.7% of the respondents were below the poverty level (<RM720). The mean score of the period staying in the village (M = 41.0 years) portrays that majority of the respondents were the “senior” villagers. Slightly more than one third of the respondents (36.2%) live 5 km or less from the nearest city compared to 35.0% of the respondents who live 11 km or more from the nearest city. Majority of the respondents (26.3%) stay in the range of 251 to 500 meters from Pahang River or Muar River and majority of the respondents (44.6%) were detected to have 3-5 family members (Table 2).

Table 2: Respondents background data

Level	Frequency	Percentage	Mean	SD
Job category				
Housewife	234	26.0		
Self-employed	182	20.2		
Agriculture related	122	13.6		
Retiree	116	12.9		
Private sector	89	9.9		
Government sector	81	9.0		
Others	76	8.4		
Poverty Level (PL)				
Below PL (<RM720)	258	28.7		
Above PL (>RM721)	642	71.3		

Table 2: Continue

Period of staying at the village (years)			41.0	21.5
<25	250	27.8		
26-50	322	35.8		
>50	328	36.4		
Distance to the nearest city (km)			11.0	10.4
<5	326	36.2		
6-10	259	28.8		
>11	315	35.0		
Distance to Pahang River or Muar River (Meter)		0.86	0.65	
<250	230	25.6		
251-500	237	26.3		
501-1000	233	25.9		
1001-2000	200	22.2		
Number of household			4.68	2.49
1-2 members	201	22.3		
3-5 members	401	44.6		
6-7 members	187	20.8		
>8 members	111	12.3		

For the second part of the study, it focuses on the health of the respondents based on answers to 24 questions. Majority of the respondents were male (55.3%). More than two fifths of the respondents (46.1%) aged between 50 to 70 years old. All of the respondents live in the rural areas with populations of less than 2 million people. A large majority of the respondents (61.4%) were detected did not complete high school/ no diploma for their level of education. A total of 28.2% of the respondents had their grandparents live to age 85 years old compared to 72.8% whose grandparents did not past 85 years old. Nearly one third of the respondents (30.3) had stated that all of their grandparents lived to age 80. Respondents were also asked whether either one of their parents died of a stroke or heart attack before reaching the age of 50 and the data gained has indicated that a large majority of the respondents (86.2%) answered “no” to this question. The next health related question portrayed to us that a large majority of the respondents (76.9%) have none of their parents, brothers or sisters under the age of 50 has (or had) cancer, heart condition or has diabetes. Only 10.1% of the respondents were over 65 years and still working while 95.2% of the respondents indicated that they live with spouses or friends. In terms of type of jobs, a total of 6.9% of the respondents work behind a desk. More than three quarters of the respondents (79.4%) claimed that their work does not require a heavy physical effort compared to 20.6% of the respondents who claimed that their work does require heavy physical efforts. It is a concern that this study managed to discover that more than half of the respondents (56.4%) only practice less than two times a week strenuous exercise for at least half an hour. This study also revealed that majority of the respondents did not sleep more than 10 hours a night (81.0%), are not intense, aggressive and easily angered (97.3%), are easy going and relaxed (98.6%) and have no speeding ticket last year (88.1%). Only one respondent (0.1%) was detected to drink equivalent of two drinks of liquor a day. It is a good indicator that nearly three quarters of the respondents (73.1%) were not overweight and more than three quarters of the respondents (83.9%) do conduct annual medical checkups (Table 3).

Table 3: HDI Part 1(Health)

Level	Frequency	Percentage	Mean	SD
Gender				
Male	498	55.3		
Female	402	44.7		
Age (years)			53.5	14.6
under 30	64	7.1		
between 30-40	104	11.6		
between 40-50	200	22.2		
between 50-70	415	46.1		
over 70	117	13		
Live in Urban Areas with the population more than 2 million				
Yes	0	0		
No	900	100		
Has one of your grandparents live to age 85 or more				
Yes	245	28.2		
No	655	72.8		
Have all of your grandparents lived to age 80 or more				
Yes	273	30.3		
No	627	69.7		

Table 3: Continue

Has either one of your parents died of a stroke of heart attack before 50		
Yes	124	13.8
No	776	86.2
Has any parents, brother or sister under the age of 50 has (or had) cancer of a heart condition or has diabetes		
Yes	208	23.1
No	692	76.9
Are you over 65 and still working		
Yes	91	10.1
No	809	89.9
Do you live with a spouse or friend		
Yes	857	95.2
No	43	4.8
How many years have you lived alone since age 25 (years)		
0	803	89.2
1-5	59	6.6
6-10	16	1.8
>10	22	2.4
Do you work behind a desk		
Yes	62	6.9
No	838	93.1
Does your work require heavy physical work		
Yes	185	20.6
No	715	79.4
How long do you exercise strenuously (tennis, running, etc) a week for at least ½ hour		
5 times	196	21.8
2-3 times	196	21.8
Less than two times	508	56.4
Do you sleep more than 10 hours each night		
Yes	81	9.0
No	819	81.0
Are you intense; aggressive or easily angered		
Yes	24	2.7
No	876	97.3
Are you easy-going and relaxed		
Yes	887	98.6
No	13	1.4
Are you happy		
Yes	891	99.0
No	9	1.0
Are you unhappy		
Yes	16	1.8
No	884	98.2
Have you had a speeding ticket last year		
Yes	107	11.9
No	793	88.1
Do you drink equivalent of two drinks or liquor a day		
Yes	1	.1
No	899	99.9
Are you overweight		
I'm not overweight	658	73.1
By 10 to 30 pounds	125	13.9
By 30 to 50 pounds	99	11.0
By 50 pounds or more	18	2.0
Do you have annual medical check up		
Yes	755	83.9
No	145	16.1

Part 2 of the index focused on the income per year of the respondents interviewed. The respondents were asked to indicate the total of income per month they earned and then the total multiplied by 12 to gain their income per year. The mean income per month recorded was RM1, 874.74 which is a good amount of income for the rural community. Majority of the respondents (27.9%) have an annual income between RM6,001 to RM12,000. It is good to know that a total of 16.0% of the respondents were able to gain an income of more than RM30,001 per year. However, it brings concern to us to know that a total of 19.6% of the respondents were only able to gain RM6,000 and below for their income per year which is below the poverty level in Malaysia (Table 4).

Table 4: Part 2: HDI Part 2 (Income)

Frequency	Percentage	Mean	SD
Income per month			1874.74
<RM6000	176	19.6	5375.53
RM6001-RM12,000	251	27.9	
RM12,001-RM18,000	155	17.2	
RM18,001-RM30,000	174	19.3	
>RM30,001	144	16.0	

In the last part of the index, it focuses on the level of education of the respondents. The respondents have been given an option of four answers of their level of education which can be seen at Table 5 below. A large majority of the respondents (61.4%) did not complete high school/no diploma, followed by those who possess high school certification or equivalent level of education (31.7%). Only 4.8% of the respondents possess some college credit or associate credit, but did not receive a bachelor degree while a total of 2.0% possess a bachelor degree from four years of college or university. Only 1 respondent (0.1%) was identified to possess Master/Doctorate or Professional Degree.

Table 5: HDI Part 3 (Education)

Level of education	Frequency	Percentage
Did not complete high school/ no diploma	553	61.4
High school graduate or equivalent	285	31.7
Some college credit or associate credit, but did not receive a bachelor degree	43	4.8
Bachelor degree from four year college or university	18	2.0
Master/Doctorate of Professional Degree	1	0.1

On the next part, we will focus on our main objective which is to gain the HDI of the rural community in the three major cities along Pahang River and Muar River namely Pekan, Bahau and Muar. The respondents were asked all of the 26 questions related to the index and then their answers were keyed in into the well-o-meter index (developed by American Human Development Project of the Social Science Research Council) which can be accessed through <http://www.measureofamerica.org/well-o-meter/>. The index will produce a maximum value of 10.0. Then, after an index of each respondent was gained, it was keyed in to SPSS. A cumulative value for the index was gained to produce the overall level of HDI for the respondents. Then, the cumulative value for the HDI was categorized into three groups namely low (1.00-4.01), moderate (4.01-7.00) and high (7.01-10.0). As can be seen in Table 6, we can know that the HDI for rural community living along Pahang River and Muar River is still low based on the mean score recorded (M = 3.98). Analysis done also showed that only 5.6% of the respondents do have a high level of HDI and a total of 36.6% of the respondents have a moderate level of HDI. Majority of the respondents (57.8%) were in the low category.

Table 6: Overall Level of Pahang River and Muar River Community Development Index Using the American Human Development Index (Well O Meter).

HDI Index Category	Frequency	Percentage	Mean	SD
Low (1.00 - 4.00)	520	57.8	3.99	1.48
Moderate (4.01 - 7.00)	329	36.6		
High (7.01 - 10.0)	51	5.6		

Table 7 has clarified to us the overall level of HDI. Conversely, Table 8 will clarify specifically the HDI for respondents of each of the cities studied. Based on the results obtained, it can be concluded that respondents in Bahau have emerged with the highest mean score on the HDI index (M = 4.10). Respondents in Muar have come out with the second highest mean score on HDI index (M = 4.02) while respondents in Pekan recorded the mean score of 3.85. Further analysis using ANOVA (Table 8) indicated that F value (3, 900) = 1.748, p>.005, thus indicating that there was no significant difference detected in the HDI index between the respondents in the three cities studied.

Table 7: Level of Human Development Index in the Three Cities along Pahang River and Muar River.

	HDI Index Category	Frequency	Percentage	Mean	SD
Pekan	Low (1.00 - 4.00)	184	61.3	3.85	1.57
	Moderate (4.01 - 7.00)	104	34.7		
	High (7.01 - 10.0)	12	4.0		
Bahau	Low (1.00 - 4.00)	170	56.7	4.10	1.61
	Moderate (4.01 - 7.00)	108	36.0		
	High (7.01 - 10.0)	22	7.3		
Muar	Low (1.00 - 4.00)	166	55.3	4.02	1.68
	Moderate (4.01 - 7.00)	117	39.0		
	High (7.01 - 10.0)	17	5.7		

Table 8: Comparison between the three cities studied in term of HDI Index

Variables	n	Mean	SD	F	p
HDI Index				1.748	.175
Pekan	300	3.85	1.57		
Bahau	300	4.10	1.61		
Muar	300	4.02	1.68		

Conclusion:

Human development is an important component of the rural community. What have been found in this study reflects that the majority of the rural community in Malaysia still has a low level of human development index. However, besides the low to moderate levels of HDI detected for overall respondents, some positive signs can be detected. Nevertheless, it can be argued that the comparison was being made using the same measure of HDI with the United States. More work has to be done in order to better understand this measure and phenomenon of HDI.

On the whole, one can surmise the following:

1. Respondents in Muar and Bahau do exceed the moderate level of HDI
2. Majority of respondents do exceed the recent poverty level established by the government
3. Majority of the respondents are not working after age 65
4. Majority of the respondents never live alone since their age of 25 years
5. The work of majority of the respondents do not require them to do a heavy physical work
6. Majority of the respondents do not have overweight problem
7. Majority of the respondents do perform their annual medical checkup

Discussion:

This study is a first grounded attempt in Malaysia to use the HDI as a basis to assess the human condition in the rural areas. Meanwhile, the Economic Planning Unit does submit national data to the United Nations Development Programme for inclusion into the global human development index monitoring coordinated by the UNDP. We do know that for Malaysia as a whole, HDI data is available for the various states and federal territories. However, this study had gone beyond that and examined the HDI at a lower level.

The results of the study did raise some concerns about the human development if one takes into consideration the expected level of development in the three moderately developed states in Peninsular Malaysia, they being Johor, Negri Sembilan and Pahang. The overall moderate level of HDI for Bahau and Muar and the low HDI for Pekan can be attributed to the low scores in the level of education achieved and to a certain extent, the moderate to low average income received, what more, as the poverty level income had recently been adjusted to RM\$720.00.

Another interesting result is that the HDI for Bahau had exceeded those of Muar and Pekan, whereas one would expect that the hinterland would be economically less vibrant than the cities at the two river mouths. Further research into this phenomenon would be useful.

Looking at the demographic and health data, it is quite clear that they depict the dynamic trend of the Malaysian rural population. The study reaffirms the growing number of the elderly in the Malaysian population, which as a whole, is quite healthy, albeit they lack adequate exercise. Interestingly, they do not have an overweight problem and they do go for annual medical check-ups. Workwise, the study population had also been low-risk takers as most of them worked in jobs that did not require great physical efforts.

It is contended that this study could raise a lot of further commentary and discussion in the human development field and it is hoped to lead others to further examine the HDI concept as applied to human development progress in Malaysia and the region.

REFERENCES

Human Development Report, 2010 - 20th Anniversary Edition: The Real Wealth of Nations: Pathways to Human Development. Retrieved from: http://hdr.undp.org/en/media/HDR_2010_EN_Tables_reprint.pdf

Pahang River. (2011). In *Encyclopædia Britannica*. Retrieved from <http://www.britannica.com/EBchecked/topic/438315/Pahang-River>

Sulaiman, M.Y., M.S. Hayrol Azril, H. Md. Salleh, O. Mohd. Shahwahid, A.S. Asnarulkhadi and A.S. Bahaman, 2010. Prospects of Waterway Development As a Catalyst to Improve Regional and Community Socio-economy Level in Peninsular Malaysia. *American Journal of Economic and Business Administration*, 2(3): 233-239.

Sulaiman, M.Y., M.S. Hayrol Azril, H. Md. Salleh, O. Mohd. Shahwahid, A.S. Bahaman and A.S. Asnarulkhadi, 2010. Socio-economic Factors that Impinge the Quality of Life of Muar River Community. *Australian Journal of Basic and Applied Science*, 4(10): 5362-5371.

The American Human Development Project of the Social Science Research Council (2011). The Human Development Index. Retrieved from: <http://www.measureofamerica.org/human-development/>

The Human Development Concept. Retrieved from: <http://hdr.undp.org/en/humandev/> Ministry of Rural and Regional Development (2011). Rural Statistic. Retrieved from: <http://www.rurallink.gov.my/statistics>