

Public Involvement on Environmental Issues in Jeli and Pasir Puteh District, Kelantan, Malaysia

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Abstract

Problem statement: Environmental degradation in Malaysia has become more acute in the last decade. Species extinction, contamination of rivers, pollution, destruction of terrestrial and marine habitats, and degradation of natural resources are common in Malaysia's environmental landscape. There is a sense of apathy among Malaysians towards their natural heritage, and very little care or consideration given on a daily basis to ensure that our natural world stays intact. Therefore, public involvement on environmental is very important and needed to implement. The research is carried out in Jeli and Pasir Puteh district, Kelantan, Malaysia with 390 respondents involved for each area concern. **Approach:** The method of study is using questionnaires. The purpose of study is to compare the significant correlation (p), Mean (M) and Standard Deviation (SD) of respondent's demographic factors such as gender, age, race, religion, income, education and the respondent lived with their knowledge of environmental issues. **Results:** The Comparison between two concern areas of respondent's demographic factors with their knowledge about environmental issues shown that there is relationship for respondent's incomes factor, with p values is 0.034 and 0.046 for Jeli and Pasir Puteh. For the mean (M) values, the results shown there are differences for the relationship between demographic factors and level of respondent's knowledge on environmental issues especially for incomes and level of education for respondents in mention areas with respectively M value is 0.82 and 0.90. For the standard deviation (SD) values, the result also has shown differences for almost consideration of respondent's demographic factors with the difference range within 0.233-0.466. **Conclusion:** This research find out that factors demographic of the respondents can influenced their knowledge about the environmental issues in both research areas and they also agreed that the public involvement in issues environmental issues is very important in ensuring the quality of the environment is always protected and well as help the government formulate strategies to implement sustainable development.

Key words: Environmental issues, public involvement, Pasir Puteh and Jeli Districts, significant relationships, demographic factors and knowledge.

Introduction

Environmental issues have become an important global issues, whether in multilateral negotiations at the United Nations or in the context of regional economic cooperation and political. Deterioration and destruction of the environment was increasingly widespread mainly caused by a results of human activities that lacked and do not concern the well-being and environmental sustainability. Therefore, public involvement is very important aspect due to every citizen has the right to live in a healthy environment and the obligation to protect the environment.

Generally, the concept of public involvement is dealt with according to the three pillars of the Aarhus Convention: access to information, participation in planning and decision making and access to justice. Public involvement is the active involvement and full engagement of the public in planning and decision-making processes and activities towards to environmental conservation and preservation (Haliza 2011). The main objective of public involvement are to assist them in understanding the problem, alternatives, opportunities and/or solutions in any environmental issues which effecting their quality of live. Developing strategies for incorporating public involvement throughout the project cycle is particularly necessary in projects which impact the incomes and livelihoods of local groups, especially disadvantaged populations in and around project sites (for example, indigenous communities, women, and poor households) (http://www.thegef.org/gef/public_involvement). Furthermore, public involvement in environmental issues is closely linked with democracy and the development of civil society.

For that reason, public involvement in environmental issues has been recommended as an effective way to achieve sustainable development as well as to be able to resolve these problems. It also can brings many positive effects such as avoiding conflict that may occurred, predicting the impact due to the actions that have been proposed, collecting and disseminating information, highlighting the local expertise that enables authorities to learn new ideas and for each of the recommendations that given by the public may forward in the planned action and so on. Public involvement in environmental issues is very important because they are one of the groups with vested interests who may have a significant impact of the development of projects planned and implemented. If opportunity is given for public involvement in managing natural resources, their support for the preservation and conservation of the environment will also be increased (McNeely 1992).

Material and Methods

The research was conducted from January to April 2010. Overall, Pasir Puteh and Jeli District, each has a total population of 101,300 and 48.000 people (Department of Statistics Malaysia Kelantan in 2010). There are 390 respondents each of both district, involved in these studies who are from different walks of life such as civil and private servants, school students (> 18th year) and the residents which elected from a draw of a random list of households. For respondent from list of households, head of the family was selected to represent as the respondent (Haliza 2007). The questionnaires is used to saw the level of understanding and perception of the public on the issues related to environmental, how the development activities that taking place can be effected to surrounding environment, what impact, policy and related legislation and measures and actions was taken to address the problem in environmental issues (Haliza 2007). The questionnaires was used is consists three main parts, namely Part A which is related to socio-economic information (respondents demographic data), Part B related to respondents' knowledge about environmental issues, Part C deals with the knowledge of respondents about environment local environmental issues and Part D related to constrains factors that faced by respondents to be involved in environmental issues. Comparison of Mean (M), standard deviation (SD) and significant relationships (*p*) of the respondents according to their demographics factors and knowledge on the environmental issues, environment local environmental issues and constraints factors to be involved in the environmental issues was done by based on the two research area was concerned.

Results

The result of the study is shown in Figure 1-3 for comparison of significant relationships (p) between the demographic factors of respondents with their knowledge about environmental issues, environment local environmental issues and constraints factors for respondents to involve in environmental issues in the area of research. The result of comparison of Min (M) between the demographic factors of respondents with their knowledge about environmental issues, environment local environmental issues and constraints factors for respondents involved in environmental issues is shown in Figure 4-6. The results of comparison of Standard Deviation (SD) between the demographic factors of respondents with their knowledge about environmental issues, environment local environmental issues and constraints for factors involved in environmental issues is shown in Figure 7-9. The result of comparison related to public involvement on environmental issues for both district is shown and summarized in Figure 10-13. Table (1-3) shows the results of the comparison between demographic factors of respondent's in both concern areas and their knowledge on the environmental issues, environment local environmental issues and the constraints factor for them to involve in environmental issues.

Discussions

In the terms of comparison of significant relationships (p) between the demographic factors of respondents with their knowledge about the environmental issues, the results shown differences between demographic factors and the level of respondents' knowledge of environmental issues (Fig 1-3), there are significant relationship for both district concern in the factor of incomes with the value of p is 0.034 and 0.046 for Kota Bharu and Pasir Puteh district. For the respondents' knowledge of environment local environmental issues, the result of comparison shown that there are significant relationship for the factor of incomes and level of education with the respectively p value is 0.033 and 0.003 for Kota Bharu and 0.014 and 0.012 for Pasir Puteh district. The result for the constraint factor to the respondents in the both district to be involved in environmental issues also shown to us that income and education level have a significant relationship with a value of p is 0.020 and 0.007 for Kota Bharu and 0.011 and 0.026 for Pasir Puteh district. From the result, is shown that demographic factors of the respondents in the research areas can influenced their knowledge about the environmental issues. This result also supported by the early research that conducted by the World Conservation Strategy which explained, respondents who had more education and higher incomes are more considerations on environmental issues.

Table 1: Comparison Relationship Between Demographic Factors With The Level Of Respondent's Knowledge Of Environmental Issues In Pasir Puteh And Jeli District

Variables		Min (M)		Standard Deviation (SD)		p Value	
Sex	Male	3.47	3.43	1.607	1.644	0.317	0.343
	Female	3.54	3.46	1.552	1.637		
Age	18 age-27 age	3.43	3.42	1.651	1.638	0.062	0.084
	28 age-37 age	3.50	3.41	1.529	1.563		
	38 age-47 age	3.62	3.55	1.482	1.622		
	48 age-57 age	3.47	3.46	1.573	1.752		
	Than 58 age	3.49	3.31	1.581	1.665		
Race	Malay	3.83	3.40	1.667	1.649	0.643	0.619
	Chinese	3.69	2.98	2.135	1.729		
	Indian	3.30	2.14	2.348	1.429		

Religious						0.615	0.619
	Islam	3.51	3.40	1.587	1.649		
	Buddhist	2.62	2.98	1.603	1.729		
	Hindu	1.50	2.14	1.040	1.429		
Income						0.046	0.056
	Below RM1,000	3.54	3.47	1.583	1.679		
	RM1,001-RM2,000	3.38	3.36	1.600	1.662		
	RM2,001-RM3,000	3.54	3.52	1.462	1.579		
	RM3,001-RM4,000	3.56	3.46	1.432	1.509		
	than RM4,000	3.24	3.60	1.472	1.531		
	No information	3.70	3.49	1.678	1.738		
Education						0.098	0.040
	Not in school	1.79	2.64	0.842	1.380		
	Primary	2.95	3.47	1.344	1.580		
	Secondary until PMR/SRP	3.29	3.48	1.246	1.527		
	Secondary until SPM/MCE	3.32	3.35	1.617	1.675		
	Secondary until STPM/HSC	3.61	3.49	1.583	1.627		
	Diploma	3.51	3.46	1.467	1.586		
	Undergraduate	3.57	3.47	1.491	1.600		
	Postgraduate (Masters)	2.59	2.93	1.008	1.203		
	Postgraduate (PhD)	0.00		0.000			
	No information	3.29	3.42	1.595	1.719		
Respondent Lived						0.032	0.115
	Less 5 years	3.47	3.50	1.681	1.694		
	5 years-10 years	3.56	3.48	1.473	1.555		
	10 years-15 years	3.31	3.33	1.586	1.666		
	15 years-20 years	3.45	3.36	1.532	1.641		
	More than 20 years	3.56	3.50	1.528	1.623		

Table 2: Relationship With Demographic Factors On The Level Of Respondent's Knowledge Of Local Environmental Issues In Pasir Puteh And Jeli District

Variables	Min (M)	Standard Deviation (SD)	p Value
Sex			0.139 0.250
	Male	2.93 2.99 1.607 1.444	
	Female	2.92 3.04 1.552 1.438	
Age			0.012 0.086
	18 age-27 age	2.95 3.05 1.651 1.457	
	28 age-37 age	2.98 3.11 1.529 1.452	
	38 age-47 age	2.95 2.99 1.482 1.417	
	48 age-57 age	2.82 2.98 1.573 1.603	
	Than 58 age	2.73 2.98 1.581 1.163	
Race			0.615 0.462
	Malay	2.91 3.01 1.667 1.376	
	Chinese	3.18 3.59 2.135 0.864	
	Indian	2.95 2.68 2.348 1.446	
Religious			0.615 0.462
	Islam	3.10 3.01 1.587 1.446	
	Buddhist	3.34 3.59 1.603 1.376	
	Hindu	3.09 2.68 1.040 0.864	
Income			0.003 0.019

Education	Below RM1,000	2.86	3.00	1.583	1.430	0.075	0.019
	RM1,001-RM2,000	2.97	3.08	1.600	1.447		
	RM2,001-RM3,000	2.92	3.08	1.462	1.424		
	RM3,001-RM4,000	2.75	2.82	1.432	1.403		
	than RM4,000	3.28	2.78	1.472	1.163		
	No information	3.10	3.02	1.678	1.518		
Respondent Lived	Not in school	3.50	3.11	0.842	1.100	0.004	0.047
	Primary	3.13	2.95	1.344	1.353		
	Secondary until PMR/SRP	3.17	2.98	1.246	1.411		
	Secondary until SPM/MCE	3.00	3.04	1.617	1.438		
	Secondary until STPM/HSC	2.89	3.04	1.583	1.438		
	Diploma	3.16	3.10	1.467	1.383		
	Undergraduate	2.89	2.99	1.491	1.438		
	Postgraduate (Masters)	3.00	2.90	1.008	1.444		
	Postgraduate (PhD)	2.62		0.000			
	No information	3.14	2.97	1.595	1.348		
		Less 5 years	2.68	2.89	1.681		
5 years-10 years		2.96	2.99	1.473	1.461		
10 years-15 years		2.87	2.94	1.586	1.446		
15 years-20 years		3.11	3.23	1.532	1.426		
More than 20 years		2.90	3.02	1.528	1.345		

Table 3: Relationship With Respondent's Demographic Factors On Constraint Factors Involved In Issues Related To Environment In Pasir Puteh And Jeli District

Variables	Min (M)	Standard Deviation (SD)	p Value
Sex			0.202 0.388
Male	2.48	3.19 1.340	1.735
Female	2.58	3.37 1.393	1.709
Age			0.028 0.069
18 age-27 age	2.52	3.34 1.326	1.724
28 age-37 age	2.61	3.37 1.352	1.693
38 age-47 age	2.49	3.27 1.395	1.753
48 age-57 age	2.52	3.24 1.394	1.754
Than 58 age	1.98	3.33 0.741	1.676
Race			0.599 0.618
Malay	2.53	3.28 1.370	1.727
Chinese	2.73	3.49 1.292	1.269
Indian	1.60	1.60 0.566	0.990
Religious			0.599 0.618
Islam	2.53	3.28 1.370	1.727
Buddhist	2.73	3.49 1.292	1.269
Hindu	1.60	1.60 0.566	0.990
Income			0.007 0.037
Below RM1,000	2.29	3.08 1.132	1.753
RM1,001-RM2,000	2.53	3.29 1.349	1.699
RM2,001-RM3,000	2.60	3.34 1.408	1.717
RM3,001-RM4,000	2.51	3.32 1.382	1.749
than RM4,000	2.41	3.25 1.025	1.710

Education	No information	2.57	3.20	1.279	1.725	0.026	0.040
	Not in school	0.55	1.70	0.354	1.556		
	Primary	1.48	3.14	0.689	1.757		
	Secondary until PMR/SRP	2.16	3.09	0.822	1.624		
	Secondary until SPM/MCE	2.35	3.17	1.283	1.617		
	Secondary until STPM/HSC	2.55	3.34	1.287	1.731		
	Diploma	2.59	3.45	1.398	1.781		
	Undergraduate	2.50	3.29	1.356	1.731		
	Postgraduate (Masters)	2.71	3.64	1.356	1.577		
	Postgraduate (PhD)	0.00		0.000			
Respondent Lived	No information	2.43	3.07	1.586	1.688	0.001	0.091
	Less 5 years	2.38	3.14	1.242	1.734		
	5 years-10 years	2.31	3.32	1.322	1.698		
	10 years-15 years	2.62	3.32	1.360	1.719		
	15 years-20 years	2.71	3.31	1.246	1.658		
	More than 20 years	2.56	3.25	1.392	1.761		

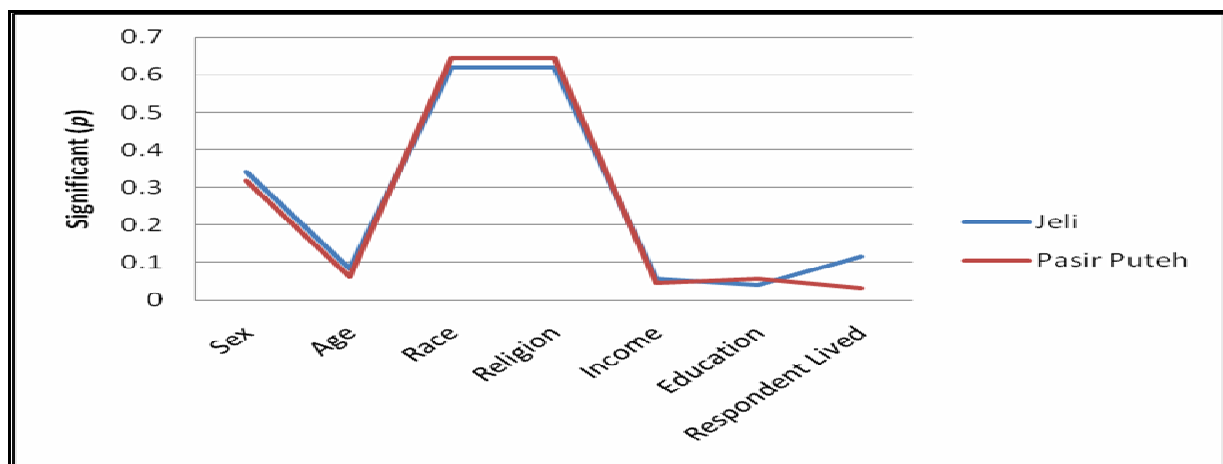


Figure 1: Relationship between Demographic Factors with the Level Of Respondent's Knowledge of Environmental Issues

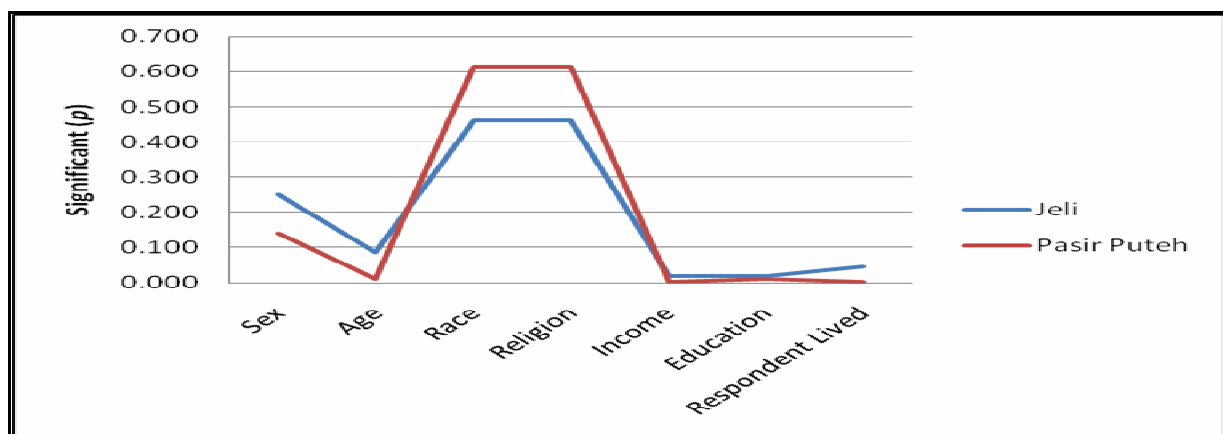


Figure 2: Relationship with Demographic Factors on the Level Of Respondent's Knowledge Of Environment Local Environmental Issues

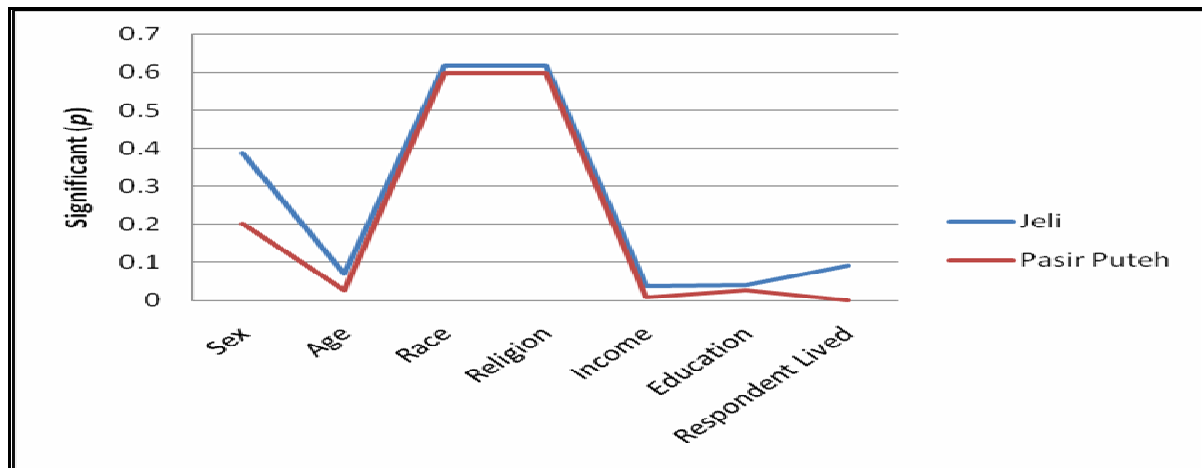


Figure 3: Relationship with Respondent’s Demographic Factors on Constraint Factors Involved In Issues Related To Environment

In terms of comparison for relationship mean (M) value between the demographic factors of respondents with their knowledge on the environmental issues in the both research areas shown differences (Fig 4-6), there are almost significant differences between the mean value for both district concern in the demographic factor especially for education level with the differences of mean values respectively is 0.90. This result is shown that the respondents in the Kota Bharu district is have more information about the environmental issues and more active participation on environmental issues compare to the respondents in the Pasir Puteh. For the respondents' knowledge of environment local environmental issues, the result of comparison mean value for both concern research areas also shown differences of mean especially for the respondents lived factor with the difference mean value is 0.82. For the constraint factor of the respondents in both districts to be involved in the environmental issues is shown that a significant difference for almost with difference of mean values is between 0.57-0.75. The differences of the mean values for the relationship between respondent’s demographic factors and their knowledge on the environmental issues shown demographic factors of respondents can effluence their knowledge on the environmental issues.

In terms of comparison for the values of Standard Deviation (SD) for the relationships between a demographic factors of respondents with their knowledge about environmental issues, the results shown that are significant differences for almost demographic factors and the level of respondents' knowledge on the environmental issues in both of concern research areas (fig 7-9), with the range of differences is 0.123 for the education level and 0.233 for respondents ages factor. For the respondents' knowledge of environment local environmental issues, the comparison of results also shown the significant differences in almost respondents demographic factors for both research areas concerned with the range of differences between 0.324 for the respondent’s incomes and 0.451 for the respondents ages factor. From the result, s shown that respondents in Kota Bharu is more exposure on the environment issues and they also take more initiative to control the environment problem compared to the respondents in Pasir Puteh district. For the constraint factor for the respondents in the both district to be involved in environmental issues also shown that most respondent demographic factors that considered in this study is significantly different with the differences value of SD for each factor is between 0.375 to 0.466. The differences between SD values for relationship between respondent’s demographic factors and their knowledge in environmental issues is shown that demographics factor can influenced the respondents on the environmental issues. The result also mentioned that respondents in Kota Bharu is more active to involved in environment issues to maintain the quality of environment compared to Pasir Puteh district.

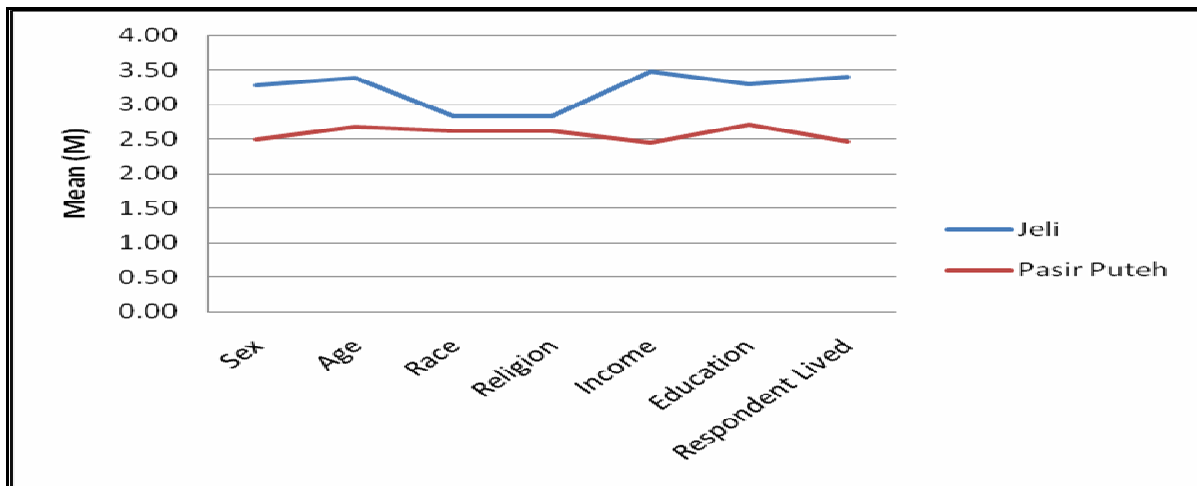


Figure 4: Relationship with Mean (M) Demographic Factors on the Level Of Respondent's Knowledge of Environmental Issues

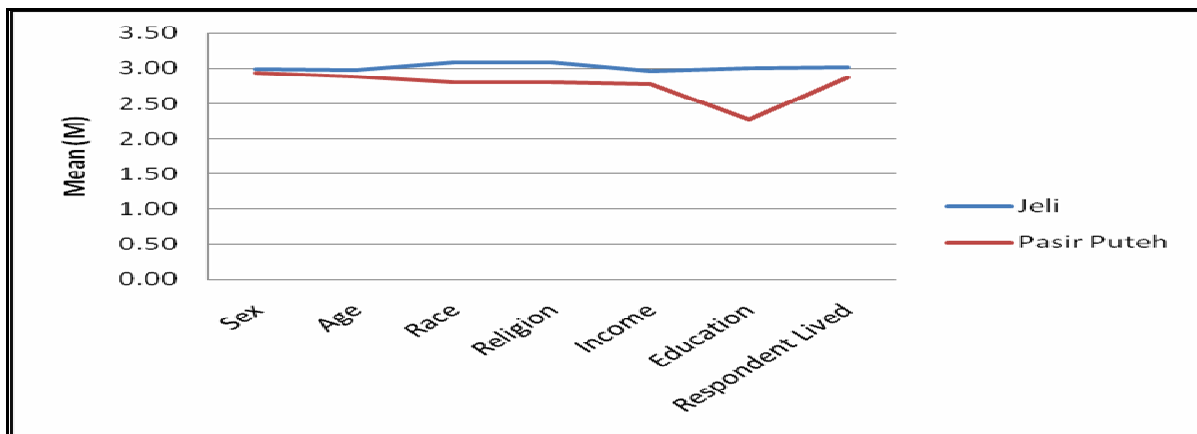


Figure 5: Relationship with Mean (M) Demographic Factors on The Level Of Respondent's Knowledge of Local Environmental Issues

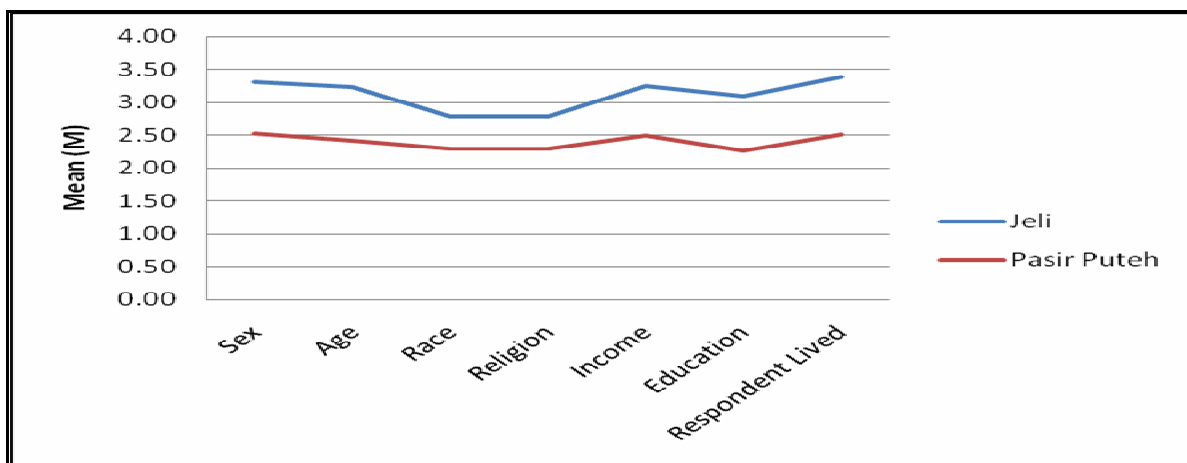


Figure 6: Relationship with Mean (M) Respondent's Demographic Factors On Constraint Factors Involved In Issues Related To the Environment

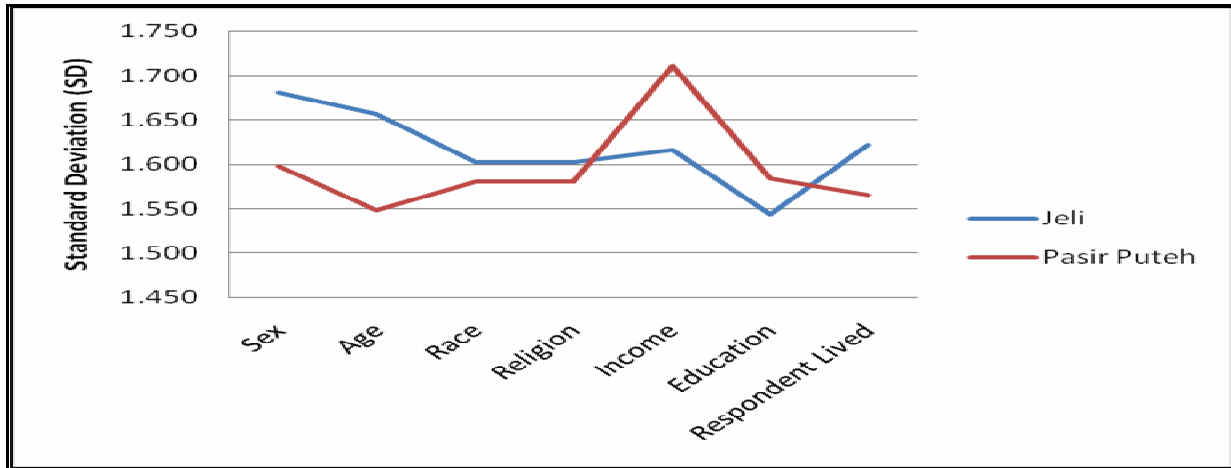


Figure 7: Relationship With Standard Deviation (SD) Demographic Factors On The Level of Respondent's Knowledge of Environmental Issues

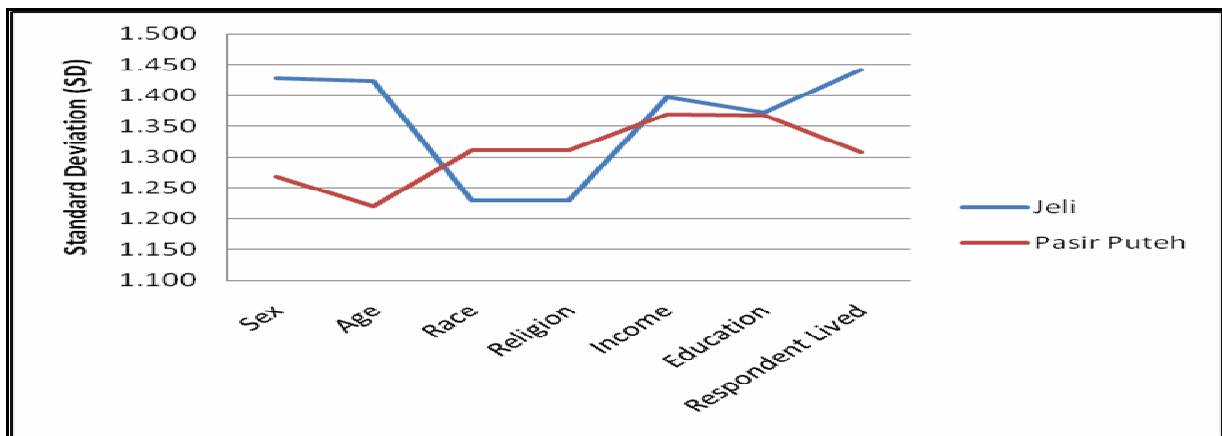


Figure 8: Relationship with Standard Deviation (SD) Demographic Factors On The Level of Respondent's Knowledge of Local Environmental Issues

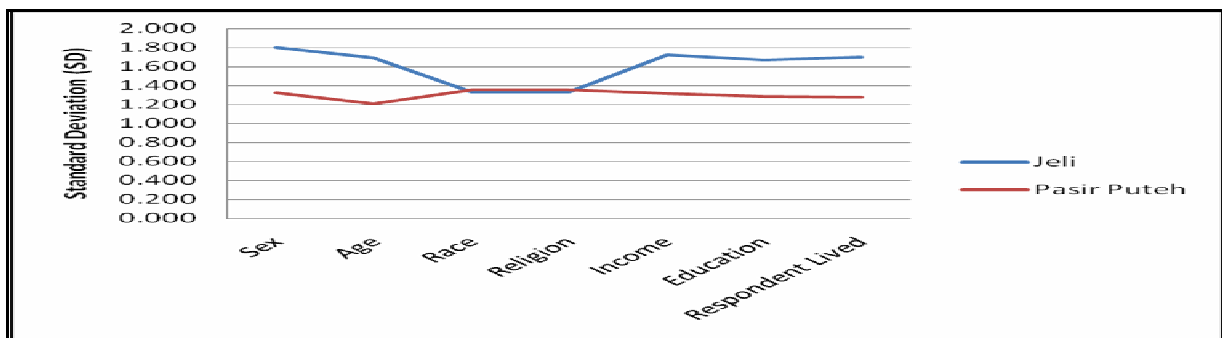


Figure 9: Relationship with Standard Deviation (SD) Respondent's Demographic Factors on Constraint Factors Involved In Issues Related To Environment The Result of Respondent's Answer For The Questionnaires Given

The result of some comparison of public involvement on environmental issues for both concern districts during the research is shown and summarized in bar charts below (Fig 10-15). The study was founded that although the understanding and knowledge of local communities for the both research areas in issues involving the environment are quite well, but their involvements are stills less and needed to improved for the next times. This factor caused the local community in both the study area are less aware and lack of knowledge of environmental issues in particular of those involving policy, regulatory agencies, as well as their interest to participate in issues related to the environment especially in Pasir Puteh districts. In addition, the main factors that how respondents in both research

areas not or less participation in environmental issues is they are less exposed and not given opportunities to be involved directly in issues involving the environment, particularly in the planning and implementation of programs and projects in their area. Respondents in both research areas concern also complaints that problems they face are often not be taken appropriate actions by the authorities. This situation caused hinder local people's interest in the study area to get involved in environmental issues. The end of the research, respondents of both districts gave a recommendation how to control environmental issues in research areas to ensure that each development that was done in their location is must be focused to create a sustainable development and also use the green technologies.

Respondent’s Answer for the Questionnaires Given

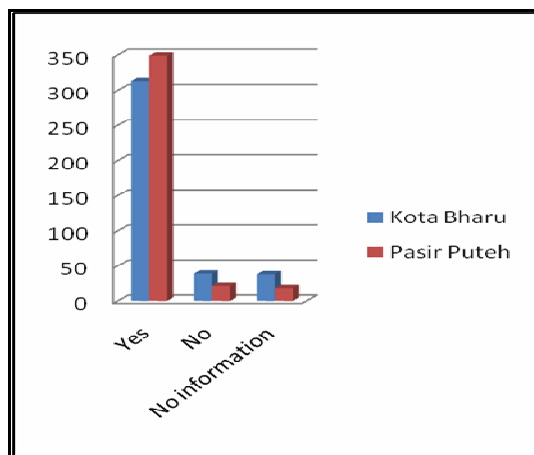


Figure 10: Question On : Phenomenon Environmental Should Be Damage Worrying?

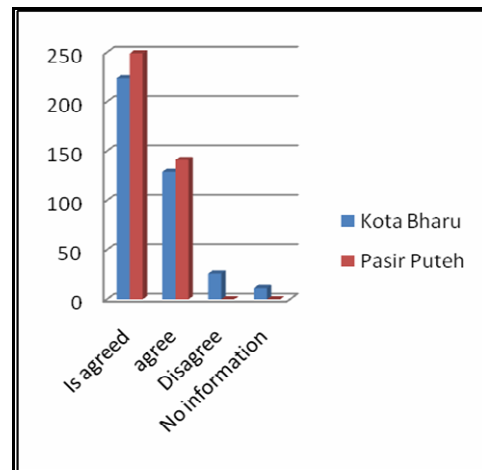


Figure 11: Question On : Is Public Opinion Included Development Plans?

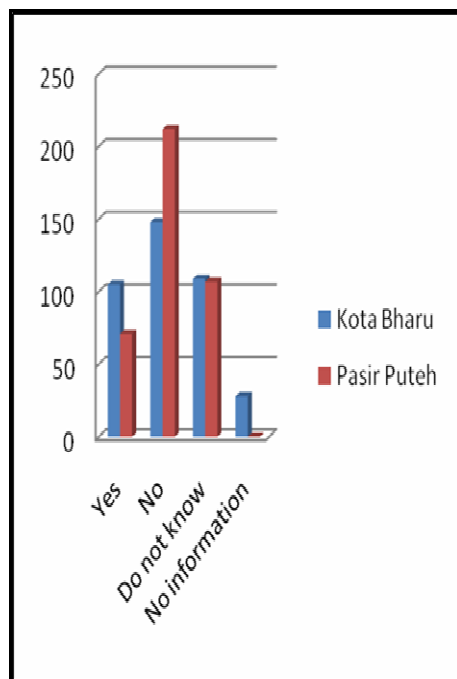


Figure 12: Question On: Environmental Quality for 10 Years (2000-2009) Is Better?

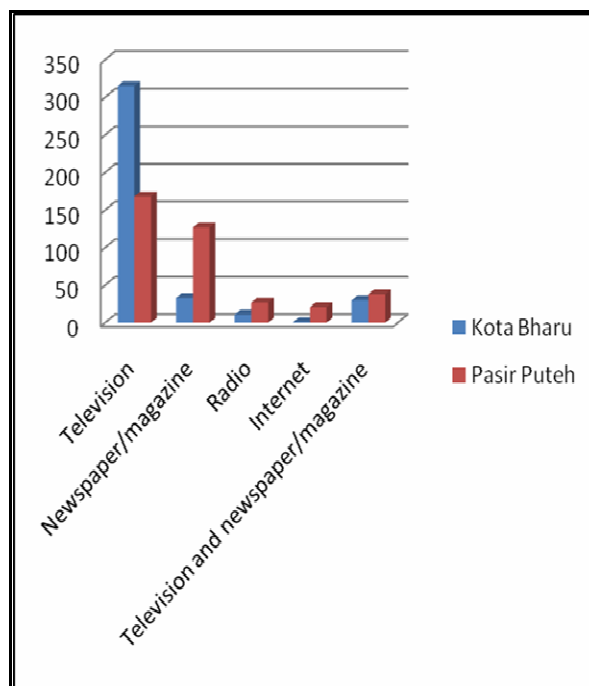


Figure 13: Question On: The Most Influential Mass Media In Environmental Education

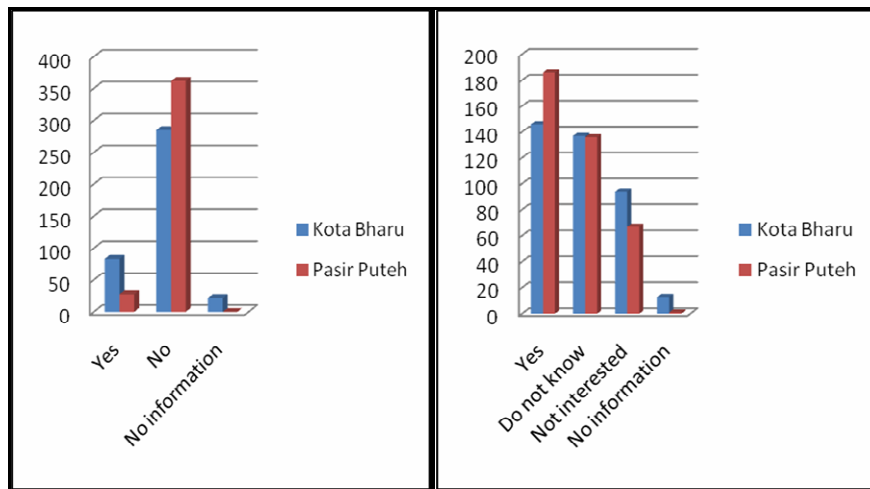


Figure 14: Question On: Aware Of Relevant Public Voice Can Be the Impeller in Resolving Environmental Issues?

Figure 15: Question On: Sit Any NGOs to Protect the Environment

Conclusions

As the conclusion, from this research, nearly 14 proposals were put forward by respondent for both research area concerns as purposed to preserve and conserve the environment, including the role of education, laws, campaigns and taking into account the views of the community in local development. Through this research also has demonstrated the role of respondents education level and income factors in influenced the public involvement in environmental issues in research areas as well as the importance of collaboration of all parties such as governments, private sectors and communities in the development of a strategic plan to create a sustainable environment. The study found that demographic factors such as age, income, education and respondent lived has a significant relationship to respondents' knowledge about environmental issues, local environmental and factor constraints to be involved in environmental issues. By Model Hines, to change the attitude of a person through environmental education, an individual must be given the knowledge and information on issues of environmental pollution that requires immediate action. In addition to the knowledge, skills and action must be given to the individual that will affect the interest, curiosity and the desire of an individual. However, factors such as personality and external social pressures, economic demands and the opportunity to choose will affect the formation of interest.

As a result, the researcher expects that adequate education about the environment have been given. Various studies have been carried out by (Md Taff, 2004; Mittelstaedt et al., 1999; Palmberg & Kuru, 2000) in the field of outdoor education, proving that it is one of the effective medium in shaping the attitudes and understanding of environmental positively to the students since the early stages because the education allowed them more aware about the environmental issues in addition to reducing the environmental issues. In addition, the government must do everything in our human capital development strategies and economic to increase the household population. In Model Hines Hines (Hines 1987) explains the importance of economic factors in promoting environmental awareness.

Recommendations

The recognition of public involvement in various international environment initiatives, such as conventions, agreements and declarations, is a relatively recent phenomenon. However, the task to implement public involvement is challenging and often difficult.

In Malaysia, generally, public are concerned about environment, but their concerns do not naturally translate into action. Associated with the findings of the study, the researchers suggest several aspects

that need to be and can be reviewed to ensure that the knowledge and involvement of civil society on environmental issues to achieve the goals that are being set. This proposal also takes into account the recommendations proposed by the respondents in the survey through questionnaires given. An example of suggestion is, stricter enforcement should be performed to any company or person who does not emphasize the care of the environment properly. In addition, civil society should be more actively involved in issues relating to the environment because they are capable in giving constructive ideas to the implementation of laws and acts effectively in the protection of the environment other than to assist in the development of environmentally sustainable. In addition, the relevant parties should participate intensify in the environment campaign for enhancing public awareness of the importance of caring for the environment, while improving the function and role played by the NGOs concerned. Besides that, provide proper education to the public is also very important in preserving and conserving the environment. The government should strive to increase income among the general public. This is because the income is sufficient to provide the best input in an effort to educate the public about environmental issues as well as to increase interest and awareness on environmental issues.

Knowledge and awareness of public on policies and legislation related to the environment in our country must be improved to ensure the public is fully understood about policies and legislation related to the environment. This will provide information needed by public as ways to improved their level of knowledge about legal action that can be applied to criminals who damaged the environment as well as additional knowledge on environmental issues. Planning approach in the form of top to bottom must be reduced and replaced with the planning approach from the bottom up. This approach needed to implement as also the hopes and aspirations of civil society in efforts to minimize environmental problems. With this, the public will be given opportunities to provide ideas and opinions that can help the government to formulate a plan for sustainable environmental development, with strategic and integrated policies.

Furthermore, all forms of information, discussion and consultation between relevant bodies and agencies, governments, the private sector, developers and contractors, and civil society must be comprehensive, transparent and more sensitive to the effects of development on environmental health, particularly to the public. The government should strive to provide a data base where the public can access to make reference to current environmental issues and to give their views to produce the best approach in minimizing environmental problems. The role of the media must be used and fully extended in a program that involves the knowledge that must be owned by the public related to environmental issues. This is very important that the goals and objectives of a program to achieve its targets relating to environment and not just stay as a program solely.

However, to ensure the validity and accuracy of the status and progress of public participation in Malaysia, the numbers of respondents should be increases nationwide. Overall, major progress is still needed at the level of practical implementation of Malaysian public involvement at national and local levels (Haliza 2011).

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