

AWARENESS LEVEL AMONG TEMIAR COMMUNITIES TOWARDS FOREST CONSERVATION IN GUA MUSANG DISTRICT KELANTAN

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ABSTRACT

Forests worldwide are known to be critically important habitats in terms of the biological diversity and the ecological functions to sustain the ecosystem. Forest conservation is the practice of planting and maintaining forested areas for the benefit and sustainability of future generations. The conservation of forest also stands and aims at a quick shift in the composition of trees species and age distribution. Forest conservation involves the upkeep of the natural resources within a forest that are beneficial to both humans and the environment. (Pawar and Ravi, 2015). Forests are vital for human life because they provide a diverse range of resources especially food and medicine. This paper was conducted in Gua Musang Kelantan to study the awareness level of the Temiar Communities towards the forest conservation. The selected sub-ethnic of Temiar were interviewed which involved 80 respondents through a survey method through questionnaire. Temiar tribal people are famous of using forest resource as their food and medicine supply (Mohammad and Sharif, 2012). However, forest nowadays are depleting due to many reasons as such urbanization, plantations, constructions and also industries. Severe damages, pollution and environmental disruptions to the forest need awareness at all level of communities and this paper featured factorial analysis categorizing level of awareness of Temiar tribal towards forest sustainability and conservation.

Keywords: Forest conservation, awareness, Temiar tribal

Introduction

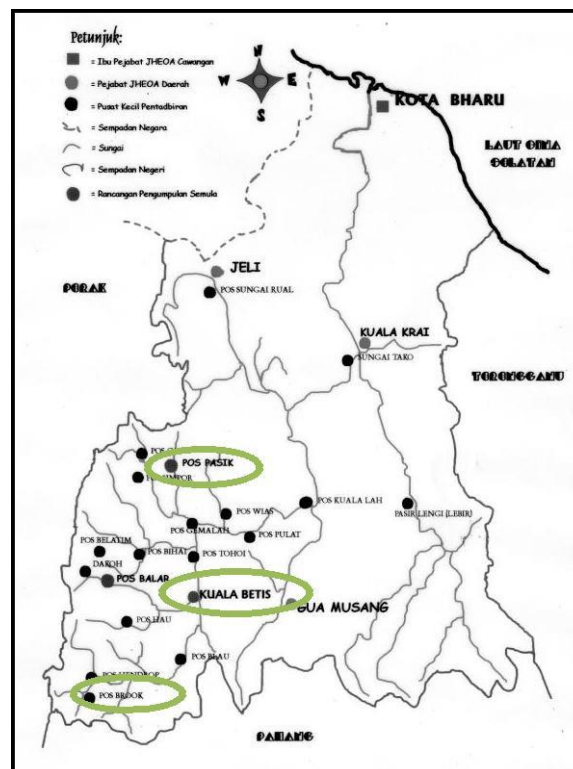
Forests hold an important part in the maintenance of climatic and environmental stability, conservation of priceless biodiversity as well as supply of clean water besides timber for downstream industries (Chan, 2002). Forests hold the majority of the world's terrestrial species: tropical, temperate and boreal forests offer a diverse set of habitats for plants, animals and micro-organisms. Forest not only provide wood or natural herbs but forest contribute the complete ecosystem especially for the human, flora and fauna. Forest provide as oxygen contributor and act as carbon sink which beneficial to human and other species (Pawar and Ravi, 2015). In addition the forest play important roles as habitats for organism, hydrologic flow modulator, soil conserver which contributing in the aspect of biosphere. Thus this need to conserve the forest. At present with no proper planning by the timber ,

agriculture and plantation, tourism and rapid development on urbanization to conserve the forest. As a result the climate change of uncertain weather such as flood, global warming and land slide frequently occurred. As a result the muddy flood which occurred in December 2014 in Gua Musang and Kuala Kerai in Kelantan contributed the high impact to the local communities of this state. Most of them losses their income and shelter. This also included the Temiar aborigines who lived nearby the river. Most of the Temiar communities shelter were washed out by muddy flood. The total losses according to Datuk Seri Mustapa Mohamed the chairman of Kelantan's Flood Disaster Operation Committee estimated losses RM200 millions (Malay Mail 2015) The areas in Gua Musang district in Kuala Betis also effected which this area contributed the high impact to Temiar Communities which most of this villages situated in this district. The income losses among of aborigines Temiar communities also affected. Most of them depend on agriculture activities, herbs etc from the forest sources. Therefore this paper is to highlight the awareness level among aborigines of Temiar towards the forest conservation due to Temiar aborigines is the frontier in conserving the forest in Lojing, Kuala Betis the district of Gua Musang.

2. Materials & Method

The data of this cross-sectional study has been collected through face-to-face interview with the 80 selected ethnic of aborigines in Kelantan which is Temiar ethnic. A structured questionnaire was used during the interview. A multistage sampling method has been used in selecting the respondents. Several villages of Temiar ethnic were selected as shown in the Figure 1. There were Pos Pasik, Kuala Betis and Pos Brook.

Figure 1: Selected villages of Temiar aborigines



Likert's scale item was used to measure the awareness level of the aborigines towards forest conservation and factorial analysis was done to simplify and categorize the variables of awareness. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and the Bartlett's

Test of Sphericity was also shown as the verification of the data suitability for factorial analysis. Kruskal-wallis test was also conducted afterwards to compare the age categories of 80 focus respondents among the Temiar tribal on the awareness factors.

3. Results & Discussion

The results cover 80 Temiar aborigines which sampled from different villages as stated above. The details information of the respondents according to their demographic characteristics are as shown in Table 1.

Table 1: Demographic information of 80 Temiar aborigines in selected villages

Characteristics		N	%
Gender	Male	43	53.8
	Female	37	46.3
Age	≤30	28	35.0
	31-40	36	45.0
	41-50	12	15.0
	>50	4	5.0
Education Level	Never attended school	31	38.8
	Primary Level	31	38.8
	Secondary Level	18	22.4
Ethnic	Senoi (Temiar, Semai, Semoq Beri, Jah Hut, Mah Meri, Che Wong)	80	100.0
	Melayu Proto (Orang Kuala, Kanaq, Seletar, Jakun, Semelai, Temuan)	0	0.0
	Negrito/Semang (Kensiu, Kintak, Lanoh, Jahai, Mendriq, Bateq)	0	0.0
Religion	Islam	23	28.8
	Christian	1	1.3
	Ethiast	56	70.0
Marital Status	Married	64	80.0
	Divorced	2	2.5
	Single	10	12.5
	Widow/widowman	4	5.0
Job	Private sector	1	1.3
	Farming sector (plants)	5	6.3
	Farming sector (animals)	1	1.3
	Farmers	18	22.5
	Hunting for forest products	13	16.3
	Others	42	52.5
Residence	Aborigine traditional houses	15	18.8
	Government house	56	70.0
	Quarters	7	8.8
	Others	2	2.5

Table 2: Reliability Statistic

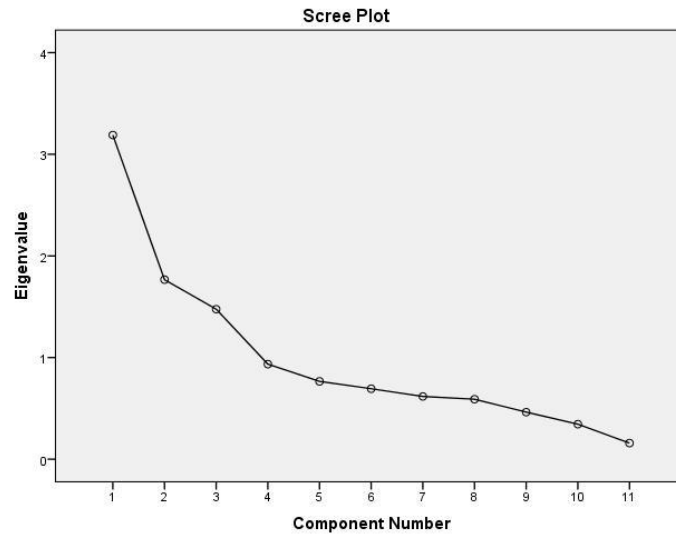
Cronbach's Alpha	N of Items
.776	11

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.635
Bartlett's Test of Sphericity	Approx. Chi-Square	243.482
	df	55
	Sig	0.000

Based on the reliability test (Table 2), the internal consistency of the component considered to be good with a Cronbach's alpha of more than 0.7 that adhered to the ideal Cronbach's alpha coefficient (Coakes and Ong, 2011). Kaiser-Meyer-Olkin Measure of Sampling Adequacy(KMO) value for this data set is 0.6, therefore factorial analysis is appropriate (Pallant, 2010). Table 3 shows the KMO and Bartlett's Test derived from the data.

Figure 2: Scree Plot



Scree plot above (Figure 2) aids in the interpretation of the three components, Varimax rotation with Kaiser Normalization was performed and the rotated solution revealed the presence of simple structure with three components showing a number of strong loadings and all variables loading substantially on only one component. The total three components solution explained total of 58.475 percent variance with Component 1, 28.995 percent, Component 2, 16.058 percent, Component 3, 13.422 percent.

Table 4: Rotated Component Matrix

Awareness	Component		
	1	2	3
Taking care of the environment is not important to aborigines	0.657		
River cleanliness in tourist are is government's responsibility only	0.513		
Aborigines feel that it is important to organize forest conservation campaign	0.770		
Aborigines feel satisfied to get to conserve forest	0.837		
Variance explained	28.995%		
Aborigines do not bother about animal extinction if it is the food sources		0.763	
Aborigines will inform mass media if pollution happened in the forest		0.844	
Massive oil palm plantation and other agriculture project did not affect aborigines' income furthermore open up more job opportunities		0.737	
Variance explained		16.058%	
Aborigines like the traditional house better that the ones that government provided			0.526
Aborigines feel that their income will be affected with the existence of forest conservation rules			0.687

Daily income is more important than forest conservation			0.747
Aborigines do not bother about deforestation if it helps in improvising their income			0.376
Variance explained			13.422%

There are three components of awareness that can be categorised out of all the 11 Likert scale's item. The items which are related to self-responsibility of aborigines were loaded strongly on component 1, while the items that related to upholding the aborigines tradition and lifestyle loaded strongly on component 2 and items that loaded in component 3 are related to aborigines' importance of income and comfort zone (see Table 4). Therefore, component 1 is named as 'self-responsibility' component and component 2 is named as 'tradition and lifestyle' component while component 3 as named as 'income and comfort zone' component.

There are four issues of awareness under component 1 which are 'Taking care of the environment is not important to aborigines', 'River cleanliness in tourist are is government's responsibility only', 'Aborigines feel that it is important to organize forest conservation campaign' and 'Aborigines feel satisfied to get to conserve forest' with the total variance explained of 28.995%. In component 2, there are three issues with total of variance explained 16.058%. There are 'Aborigines do not bother about animal extinction if it is the food sources', 'Aborigines will inform mass media if pollution happened in the forest' and 'Massive oil palm plantation and other agriculture project did not affect aborigines' income furthermore open up more job opportunities'. This shows that issues of awareness in component 2 is less critical than component one. Meanwhile component 3's issues are 'Aborigines like the traditional house better that the ones that government provided', 'Aborigines feel that their income will be affected with the existence of forest conservation rules', 'Daily income is more important than forest conservation' and 'Aborigines do not bother about deforestation if it helps in improvising their income' with the total of variance explained 13.422%. Comparing the three components, component 3 has the lowest total of variance explained and component 1 has the highest of total of variance explained. This shows that issues of awareness in component 1 are the most critical and issues of awareness in component 2 are intermediate and issues in component 3 are the less critical. Thus 'self-responsibility' is the main concern in developing awareness among the Temiar tribal.

Table 5: Mean rank between age categoris on Component 1, 2 and 3

Components	Age Categories	N	Mean Rank
C1 (self-responsibility)	≤30	28	45.95
	31-40	36	39.40
	41-50	12	32.25
	>50	4	37.00
C2 (tradition and lifestyle)	≤30	28	39.98
	31-40	36	40.60
	41-50	12	37.00
	>50	4	53.75
C3 (income and comfort zone)	≤30	28	43.45
	31-40	36	42.75
	41-50	12	34.75
	>50	4	17.00

Table 5 showed that in component 1, the highest mean rank of age categories is below age of 30. This indicates that based on their perception the government need to play their impotant role on forest conservation and this group of respondents felt that the government need to set up the awareness program and awareness campaign. In component 2 the highest mean rank is above age of 50. This indicates that this group respondents did not bother of forest wildlife consevation due to priority of their tradition and lifestyles. However they were very concern if their income and shelter will be affected. In component 3 the highest mean rank of age categories is below age of 30. This indicates this group of age give priority on their income rather than forest consevation.

Conclusion

This study provides the evidence that the variable factor on awareness among the Temiar communities have the relationship on independent variable factors based on the three components on the descriptives analysis. The KMO show the strong evidence on the correlation with three components of awareness level. The finding from this study showed that all parties need to play important role to conserve the forest . The Temiar communities had sense of responsibilities when most of respondents will inform the mass media if any pollution or damages which affected the forest . The Temiar feel the income were important and will be sustained if the forest properly conserved. The flood which were occurred due to illegal timber logging , opening the oil palm plantation in Gua Musang and agriculture activities in Lojing area were effected their income from forest sources . However the different age of respondents gave the different perception on awareness of forest conservation.

Acknowledgement

FRGS GRANT (R/FRGS/A07.00/002951A/003/2015/000251)

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