Wildlife Value Orientations Based on Age, Gender and Education in Malaysia

Marjan Jafarpour[1], M.Manohar. [2*]

[1,2]Faculty of Forestry, University Putra Malaysia, 43400 Serdang, Selangor, Malaysia
[1]. Marjan.jafarpoor@gmail.com
*[2]Corresponding author: mano@upm.edu.my

Abstract: Wild Life value orientation is an important cognition to predict the behavior of individuals in wildlife management in conservation decisions. This article analyzed Malaysian value orientations toward wildlife and examined differences in value orientations among three demographic characteristics: gender, education, residency situation. In addition, it has tested the reliability and validity of a scale that can be used in on-site surveys for measuring wildlife value orientations in wildlife management. The two wildlife value orientations: domination and mutualism were based on the previous research and theorizing in other countries. Data were acquired from a self administer survey (n=1337) sent to randomly selected individuals in the Malaysian population. The questionnaire was based on seven wildlife constructs based 27 items used to measure their wildlife value orientations. The results were not according to the prior researches in other developed and developing countries; perhaps, because of basic differences in their society comparing to Malaysia. To sum up, rural people in Malaysia were more utilitarian than urban. In addition, Men were more mutualism than women. The people with average education in Malaysia similar to the developing country showed more mutualism than low education while they were more mutualism than higher education as well.

Key words: Wildlife Value Orientation, Demographics, Age, Gender, Education, Malaysia

1. Introduction

Wildlife value orientation effects either directly or indirectly in assistance or opposition associated with wildlife management judgments (Needham, 2010). It is essential realizing along with evaluation of the cognitions such as value orientations (e.g. Protection–use, biocentric-anthropocentric) because it is frequently found that WVOs straight impacts attitudes and/or norms and sometimes can have a direct effect on individual behaviors and then it can forecast and hold management answers for mitigating the influences of people on wildlife (Needham, 2010).

The wildlife value orientation (WVO) construct for the cross-cultural existence of domination and mutualism dimensions has been used to explain deeply-held beliefs about how humans should relate to wildlife (Zinn, Manfredo, & Barro, 2002). It has concluded from the semi qualitative research in Thailand (as a developing country), for example, a necessitate for a quantitative methods which can provide more precise facts of WVO concepts and more practical to apply with larger sample size than the qualitative methods (Tanakanjana & Saranet 2007). It has been provided an interesting example to study WVOs in Mongolia (as an Asian country).

This study has slightly been different from other studies on WVO dimensions beecause of its long custom as a society based on rural nomadism and the remarkable changes in the socioeconomic situation during the recent transition from socialism toward a market economy (Kaczensky, 2007). The most Recent qualitative researchers have explored the relationships between WVOs and demographic variables such as, age, gender, education among Duch publics (Needham, 2010; J. Vaske, M. Jacobs, & T. Sijtsma, 2011).

This current quantitative research has compared and analyzed differences wildlife value orientations among the Malaysian public relative to some demographic characters such as gender, residency position, and education levels. The objectives are to help wildlife managers understand the diversity of value orientations that exist among people compared with different demographic profiles. The results are enough to generalize in Malaysia. There is a great deal of gaps and a few researchers have done until now. Managers may be better positioned to estimate potential public support or opposition to alternative policy decisions in Malaysia.

2. Hypothesis

Based on prior research in the literature review section, the following hypotheses were selected:

H1: Urban residents will be more mutualism oriented than rural residents.

H2: Females will be more mutualism oriented than males.

H3: Individuals with more education will be more mutualism oriented than those with less education.

3. Conceptual Frame

Values are theorized as basic, durable beliefs or conceptions about favorite states or modes of behavior. It has suggested that values involve broad and abstract concept that transcend situations; they are stay largely unchanged during a person lifetime and tend to be widely shared by people within a culture (J. Vaske, *et al.*, 2011; Zinn & Shen, 2007). An individual's value orientations are an expression of basic beliefs providing a foundation for higher-order cognitions, such as attitudes and norms (Tanakanjana & Saranet, 2007; J. Vaske, *et al.*, 2011). Value orientations are theorized as clusters of interrelated basic beliefs within a given domain of interest (Homer & Kahle, 1988). As an intermediate between fundamental values and more specific beliefs or attitudes, value orientations serve to strengthen and give individual meaning to the more general values(Manohar *et al.*, 2012).

Cognitive hierarchy helps elucidate conceptual distinctions between cognitions of interest to the researchers and managers (J. Vaske, *et al.*, 2011). Fulton, Manfredo & Lipscomb (1996) mark the cognitive hierarchy model in their studies associated with the consistency and connectivity of individual beliefs. It is because, from a non-logical viewpoint, we commonly expect similarity and predictability in the beliefs held by individuals. The cognitive hierarchy structures comprise of values, value orientations, attitudes, normative beliefs, behavioral intentions, and behaviors, with each built upon another in a reversed pyramid formation with rather few values forming the basis and serving as the guiding principles for individual behaviours (Manohar, *et al.*, 2012). Preliminary human dimension research certainly measured value orientations toward wildlife, for example, by asking individuals how strongly they recognize biocentric or protectionist belief statements (e.g. wildlife should have equal rights as humans) and utilitarian or use beliefs about wildlife (e.g. Wildlife should be used by humans to add to the quality of human life). Recent studies, has developed the protection–use continuum to a mutualism–domination value orientation dimension or biocentric to anthropocentric continuum(Needham, 2010; J. Vaske, *et al.*, 2011). People with domination/anthropocentric value orientation believe wildlife should be managed for human benefit and are more likely to emphasize human well-being over wildlife in their attitudes and behaviors. They are also more probable to find explanation for management of wildlife in utilitarian terms and to rate actions that result in death or harm to wildlife as acceptable (Needham, 2010; J. Vaske, *et al.*, 2011).

A biocentric or protectionist value orientation is a more nature-cantered approach. The value of ecosystems, species and natural resources is elevated to an important level. Human requirements and wishes are still important, but are viewed within a larger perspective. This approach assumes that environmental and natural resource objects have influential and innate worth, and that human uses and benefits are not always the most important. In a natural resource management framework, these natural values are to be valued and conserved even if they conflict with human-centered values (Needham, 2010; J. Vaske, *et al.*, 2011). Protectionist and use orientations are not mutually exclusive; they can be arrayed along a continuum with protectionist orientations at one end and use orientations at the other end; the midpoint represents a mix of these two extremes. Users arranged along this value orientation continuum can then be categorized into more meaningful homogeneous subgroups (Needham, 2010; J. Vaske, *et al.*, 2011).

4. Literature review

Research on values toward wildlife was amongst the initials managed by human dimensions of wildlife researchers. One of the earliest was by Kellert (1976) who developed the values typology. Due to limited scientific information on wildlife values at that time, Kellert directed an exploratory study by interviewing people with various wildlife-related interests. Information obtained from these interviews was grouped according to themes which were then used in the development of the survey items. The survey items were categorized into nine separate values; utilitarian, naturalistic, ecologistic-scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic and negativistic (Manohar, *et al.*, 2012).

Studies have examined public value orientations wildlife (Dougherty, DAVID, & DOROTHY, 2003; Manfredo, Pierce, Fulton, Pate, & Gill, 1999; Needham, 2010; J. Vaske, et al., 2011; Zinn & Shen, 2007). Some of these studies have shown relationships between demographic characteristics and value orientations. People with a protection orientation, for example, are often more likely to be females and younger and live in more urban or developed areas(Needham, 2010; J. Vaske, *et al.*, 2011).

Although conclusive evidence for the cross-cultural existence of domination and mutualism is largely absent, qualitative studies in the Netherlands (Jacobs, 2007), China(Zinn & Shen, 2007), Estonia (Raadik & Cottrell, 2007), Mongolia (Kaczensky, 2007), and Thailand (Tanakanjana & Saranet 2007) suggest that these orientations may exist in various cultures. The strength of mutualism versus domination orientation, however, varies by country. A recent exploratory quantitative survey in 10 European countries, including the Netherlands

(Teel *et al.*, 2010), declares that mutualism is predominant value orientation. The purposive sample size of 20 subjects, however, did not allow generalization to the Dutch population(Jacobs, 2007).

There is not, however, literature on wildlife value orientation in Malaysia. The result of studies in developing countries or even developing countries cannot be easily generalized to the Malaysian population because some of the key values and value orientations reported in past literature may differ. For instance, people in Thailand where geographically is near Malaysia, believe in Buddhism and they respect highly for the king and these two specific notions in Thai culture were revealed in the symbolism WVO concept. The mutualism beliefs were expressed 6 times as frequently as materialism in Thailand. Prohibition of consumptive uses of wildlife by law might be another factor accounting for this trend. The evidence of mutualism found in Thailand was consistent with the value shifting trend taking place in western societies although the reasons may different in every society (Tanakanjana & Saranet 2007) . The 2007 statistics from Thailand indicated the Tai population in rural and semi rural areas were almost two times of urban areas and urbanization was increasing (Tanakanjana & Saranet 2007) while the Netherlands was an urbanized country with high average income and education levels, indications for the existence of mutualism can be expected among Dutch citizens(J. Vaske*, et al.*, 2011).

To compare basic wildlife values between the public in the United States and Japan, Japanese residents accounted significantly higher on dominionistic and lower on moralistic values than U.S. residents in spite of similar levels of economic possessions and a confusing custom that is based on "harmony with nature"(S. Kellert, 1991). Based a more detailed analysis, the assumption "harmony with nature" confirmed the lack of an ecological and moral view and to be vastly idealized and principally considered a few charismatic species(S. Kellert, 1991; S. R. Kellert, 2005). It is not easily comparable these results from Japan to the approach by Manfredo et al. (2007) in USA because understanding the cognitive component of the human–wildlife correlation might be very problematical when comparing different cultures (Kaczensky, 2007).

Prior research concludes that females are likely to be more mutualism oriented than males (Teel*, et al.*, 2010; J. Vaske*, et al.*, 2011). Rural–urban differences also scored for noticeable variations in wildlife and environmental orientations (Applegate, 1984; S. R. Kellert & Brown, 1985; Shaw, Carpenter, Arthur, Gum, & Witter, 1978). Compared with urban residents, rural residents were more likely to have strong positive value orientations toward wildlife use

and hunting (Vaske, 2011). Findings connected education and value orientations have been assorted. To elucidate, It is reported respondents who are more highly educated were more protection-oriented (i.e., biocentric in their terminology) than the less educated (Steel, List, & Shindler, 1994; J. Vaske, et al., 2011). However, It is observed a converse relationship between education and biocentrism (Grendstad & Wollebaek, 1998). Most of the literature, on the other hand, shows that higher education is related with biocentric (or mutualism) value orientations (J. Vaske*, et al.*, 2011).

5. Methods

Data were obtained from a self administer survey (n=1337) sent to randomly selected individuals in the Malaysian population. The questionnaire was based on seven wildlife constructs with 27 items which categorized as utilitarian, hunting, mutualism, interest, caring, scientific and environmentalist value orientation. The data are checked for internal consistency of multiple item indicators (Cronbach's Alpha) and Normality of constructs. The normality of the data was tested by Skweness, Kolmogorov - Simrnov and Shapiro-Wilk tests. All statistical analysis was performed with the software SPSS n.19.0 (SPSS Inc., Chicago) with the α-level set at 0.05. All values reported are means $\pm$ SE. An Independent-Sample T-Test was used to test for differences between men and women as well as urban and rural residence. Moreover, One Way analysis of variance was used to Compare (Mean$\pm$SE) between Wildlife Value Orientation and education levels of respondents, including low (no formal education), medium (including UPSR, PMR/SRP, SPM/MCE, STPM/Matric) and high (diploma above) in Malaysia. Sheffee was used for *post hoc* multiple comparisons. All variable were coded in five-point scales ranging from -2 "strongly disagree" to +2 "strongly agree" with zero as a neutral point.

Three demographic variables were examined: sex (male vs. female), current residence (rural vs. urban), and education (low, average and high) as independent variables which influence dependent variables. Seven value orientations were examined. They were based on two basic belief dimensions which each comprised of multiple items: Utilitarian beliefs (seven items), hunting beliefs (four items), the mutualism value orientation contained four items basic, caring beliefs (five items), interest beliefs (two items) and environmentalist (two items). Specific question wording for each statement in each basic belief dimension is shown in Table 1.

6. Results and Discussion

Reliability and confirmatory factor analysis revealed that the scale measuring value orientation toward wildlife was valid and reliable. It is checked for internal consistency of multiple item indicators (Cronbach's Alpha) and Normality of constructs (table1). There were no significant difference between the mean (±SE) of urban and rural residents in caring, and environmentalism, hunting variables, (t=1. 34, p=. 199), (t=-0.68, p=. 458), (t=1. 09, p=0. 277), respectively. Then, it showed that rural and urban residents had almost the same caring and environmentalist wildlife value orientations (table2). Nevertheless, there were significant difference in the mean of utilitarian, mutualism, interest, scientific and hunting variables between urban and rural residence (t=6. 44, p=. 001), (t=6. 64, p=. 001), (-10.47, p=. 001), (2.49, 0.009) and (t=1. 09, p=. 000), respectively. Thereafter, it showed that rural and urban residents had different value orientations in utilitarian, mutualism, interest, scientific and hunting concepts (table2).

As it comes from mean measurement (M±SE), rural people were more utilitarian and also mutualism than urban people, (utilitarian (3.36±0.018) $_{rural,}$ > (3.15±0.029), mutualism (3.59±0.027) $_{rural}$ > (3.27±0.040) $_{urban}$). In addition, the mean (±SE) showed the number of rural people who were not interested in wildlife were more than urban people (2.30±0.033) $_{rural}$> (2.93±0.052) $_{urban}$. Finally, people in rural area had scientific value orientation more than urban people ((3.57±0.026) $_{rural}$ > (3.45±0.045) $_{urban}$. It showed that they believe technology and science can solve the environmental problems. Moreover, it can be concluded that rural population showed the mix of both value orientations. They were in extreme positions of value orientation in the 3 groups, mutualism, utilitarian and not interested in wildlife and they believe that scientific improvement can help wildlife problems (Table 2).

As a whole, rural people in Malaysia were more utilitarian than urban. The second hypothesis were rejected (H1: Urban residents will be more mutualism oriented than rural residents). The results were not similar to that one from modern countries. As discuss before, For example, USA showed rural people were more utilitarian, but urban people were more mutualism. There is not much data is available from Asia. According to Kaczensky (2007) rural people in Mongolians were more materialism. Although the findings of his research cannot be considered representative of the rural population of Mongolia due to very limited sample size of only nine respondents.

There were no significant differences between the mean (±SE) of male and female in utilitarian, hunting, caring and scientific variables (t=0. 98, p=0. 51), (t=0.94, p=0.82), (t= 2.72, p=0.39), (t=0.85, p=0.18), respectively. Then, male and female had the same value orientation in utilitarian and hunting, mutualism, caring and scientific subjects. On the other hand, There were significant difference between male and female in Mutualism, Interest and environmentalism variables (t=-3.15, p=0.005), (t= 1.61, p=0. 005), (t=0. 85, p=0. 006), respectively. Thereafter, Male and female had different value orientations in mutualism, interest and environmentalism (Table3). Furthermore, the data showed that men were more mutualism than women (3.45±0.73) $_{men}$> (3.31±0.72) $_{women}$ although some of them were not interested in wildlife, even more than women (2.79±0.94) $_{men}$> (2.69±0.89) $_{women}$. The men showed the same trend in environmentalism value orientation than women (3.80±0.70) $_{men}$> (3.76±0.56) $_{women}$. On the other hand, the recent results from developed countries, for example, USA showed that female are more mutualism than men (table3).

In this study, men were more mutualism than women. Results were almost different from the first hypothesis (H2: Females will be more mutualism oriented than males). Prior researches in developed countries such as USA reported that females tend to be more mutualism orientation than males (Teel, et al., 2010; J. Vaske, et al., 2011).

Consequently, Results regarding to gender (men, women) and residency (rural and urban) were not accorded with expectations developed from western USA. This is most likely due to widely differing economic and cultural realities. In order to test whether or not the observed patterns are real, and a more broadly applicable trend, longitudinal and cross-cultural studies is needed. As it comes from the table4, there were not significant differences among people with caring, hunting, scientific wildlife value orientation. P value reported as a following: ($F_{5, 1337}$=2.27, p=0.1, p>0.05), ($F_{5, 1337}$=1.43, p=0.24, p>0.05), ($F_{5, 1337}$=3.42, p=0.33, p>0.05), respectively. Then it showed that people with these value orientations had the same value orientation according to their educational level. It demonstrated that the level of education did not affect in these dependent variables. On the other hand, there were significant differences among people with utilitarian, mutualism, environmentalism and interest value orientations. P value reported as a following: ($F_{5, 1337}$=17.83, p=0. 01, p<0.05), ($F_{5, 1337}$=25.98, p=0.01, p<0.05), ($F_{5, 1337}$=4.29, p=0.01, p<0.05) and ($F_{5, 1337}$=22.79, p=0.01, p<0.05), respectively. It concludes that the levels of education were effective in utilitarian, mutualism, environmentalism and interest value orientations. Additionally, it results from the post hoc and scheffe analyses that people with low education were more utilitarian rather than people with average education

and high level education, whereas individuals with average education showed less utilitarian value orientation M±SE (low) =3. 47±0.05, M±SE (average) =3. 16±0.02, M±SE (High) =3. 30±0.00). The people who had higher education (diploma and above) were more mutualism than low educated people and average ones, respectively (M±SE (low)= 3.45±0.09±0.05, M±SE(average)= 3.28±0.03, M±SE(High)= 3.67±0.05). In addition, There was the same trend as the mutualism value orientation in environmentalism value orientation (M±SE(low)= 3.93±0.08, M±SE(average)= 3.75±0.02, M±SE(High)= 3.67±0.05) (table4).What is more, the individual with lower education had more scientific value orientation than

those with average and higher education, respectively (M± SE) (low)= 2.94±0.10, (M±SE) (average)= 2.82±0.03, (M±SE) (High)= 2.36±0.06).

In conclusion, these results had almost the same trend comparing to other countries. Although the people with average education in Malaysia similar to the developing country showed more mutualism than low educations while they were more mutualism than higher education. It showed that people with an average education level were more mutualism than other two groups (low and high education) while in other researches mostly compared (high and low) and had not considered average education.

Table 1. Reliability Analysis for Wildlife Value Orientation (WVO) of 7 constructs from 27 questions.

[1]Wildlife Value Orientation Dimension	Corrected item-Total correlation	Cronbach's alpha If item deleted
Utilitarian		
Cronbach's Alpha=0. 58		
The need of Humans should take priority over fish and wildlife protection.	0.12	0.61
It is acceptable for people to kill wildlife if they think they think it poses a threat to their life.	0.47	0.48
It is acceptable for people to kill wildlife if they think it poses a threat to their property.	0.48	0.48
It is acceptable to use fish and wildlife in research even if it may harm or kill some animals.	0.36	0.53
Fish and wildlife are on the earth primarily for people to use.	0.40	0.51
[1]People should never be allowed to use any fish or wildlife for any reason.	0.18	0.59
[1]Humans should manage fish and wildlife populations so that humans benefit.	0.13	0.60
Hunting		
Cronbach's Alpha=0.52		
We should strive for a world where there's an abundance of fish and wildlife for hunting and fishing.	0.18	0.56
People who want to hunt should be provided the opportunity to do so.	0.31	0.44
Hunting is cruel and inhumane to the animals[1]	0.39	0.37
Hunting does not respect the lives of animals[1]	0.35	0.40
Mutualism		
Cronbach's Alpha= 0.67		
We should strive for a world where humans and fish and wildlife can live side by side without fear.	0.18	0.56
I viewed all living things as part of one big family.	0.31	0.44
Animals should have rights similar to the rights of humans.	0.39	0.37
Wildlife is like my family and I want to protect them.	0.35	0.40
Interest		
Cronbach's Alpha=0. 71		
I am not interested in knowing anything more about fish and wildlife.	0.55	-
I am really not that interested in fish and wildlife.	0.55	-
Environmentalism		
Cronbach's Alpha=0. 36		

Table 1. Reliability Analysis for Wildlife Value Orientation (WVO) of 7 constructs from 27 questions (*continued*)

[1]Wildlife Value Orientation Dimension	Corrected item-Total correlation	Cronbach's alpha If item deleted
The natural environment should be protected for its own sake rather than simply to meet our needs.	0.22	0.17
Protecting the natural environment should be this country's top priority.	0.22	0.18
Caring		
Cronbach's Alpha=0. 74		
It would be more rewarding to me to help animals rather than people.	0.28	0.77
I care about animals as much as I do other people.	0.48	0.70
I take great comfort in relations I have with animals.	0.59	0.66
I value the sense of companionship I receive from animals.	0.57	0.67
I feel a strong emotional bond with animals.	0.61	0.65
Scientific		
Cronbach's Alpha=0. 66		
Advances in technology will eventually provide a solution to our environmental problems.	0.36	0.70
Science can provide answers to any problems that we encounter in nature.	0.47	0.54
We can find solutions to environmental problems through science and technology.	0.58	0.40

[1] Variables coded on five-point scales ranging from -2 (strongly disagree) to +2 (Strongly disagree).

[2] Item was reverse coded prior analysis.

Table 2. Comparison of Wild life value orientation between the rural and Urban Residents

Value orientation	Residence[1]		t	p
	Rural	Urban		
Utilitarian	3.36±0.018	3.15±0.029	6.44	.001
Hunting	3.29±0.018	3.24±0.033	1.09	.277
Mutualism	3.59±0.027	3.27±0.040	6.64	.001
Interest	2.30±0.033	2.93±0.052	-10.47	.001
Caring	3.17±0.024	3.11±0.033	1.34	.199
Scientific	3.57±0.026	3.45±0.045	2.49	.009
Environmentalism	3.75±0.021	3.78±0.038	-0.68	.458

[1] Cell entries are mean score (±SE) based on a 5 point Likert Scale. 1. Strongly disagree, 2. Disagree, 3. Neither, 4. Agree, 5. Strongly Agree

Table 3, Independent sample T test, Gender (Male and Female)

Value orientation	Gender[1]		t	p
	Male	Female		
Utilitarian	3.19±0.53	3.23±0.49	0.98	0.51
Hunting	3.28±0.60	3.25±0.48	-0.94	0.82
Mutualism	3.45±0.73	3.31±0.72	-3.15	0.01
Interest	2.79±0.94	2.69±0.89	-1.61	0.01
Caring	3.07±0.59	3.18±0.65	2.72	0.39
Scientific	3.51±0.81	3.47±0.70	-0.85	0.18
Environmentalism	3.80±0.70	3.76±0.56	-0.97	0.01

[1] Cell entries are mean score (±SE) based on a 5 point Likert Scale. 1. Strongly disagree, 2. Disagree, 3. Neither, 4. Agree, 5. Strongly Agree.

Table 4. Comparison (Mean±SE) between Wildlife Value Orientation and education levels of respondents, including low (no formal education), medium[*2] (including UPSR, PMR/SRP, SPM/MCE, STPM/Matric) and high (diploma above) in Malaysia.

Wildlife value orientation	[1*]EDUCATION LEVELS			F value	P value
	Low	Medium	High		
Utilitarian	3.47 ± 0.05^a	3.16 ± 0.02^b	3.30 ± 0.00^c	17.83	0.01
Mutualism	3.45 ± 0.09^a	3.28 ± 0.03^a	3.67 ± 0.05^b	25.98	0.01
Environmentalism	3.93 ± 0.08^a	3.75 ± 0.02^b	3.83 ± 0.05^{ab}	4.29	0.01
Caring	3.13 ± 0.08^a	3.11 ± 0.02^a	3.21 ± 0.04^a	2.27	0.10
Hunting	3.31 ± 0.06^a	3.24 ± 0.02^a	3.30 ± 0.04^a	1.43	0.24
Scientific	3.30 ± 0.07^a	3.49 ± 0.03^{ab}	3.56 ± 0.05^b	3.42	0.33
Interest	2.94 ± 0.10^a	2.82 ± 0.03^a	2.36 ± 0.06^b	22.79	0.01

[1]*Cell entries are mean score based on a 5 point Likert Scale. Mean with different superscript differ significantly at $p < 0.05$ across rows. Sheffee was used for post hoc test.

[*2] Ujian Pencapaian Sekolah Rendah (UPSR) a national examination taken by all students in Malaysia at the end of their sixth year in primary school before they leave for secondary school. Penilaian Menengah Rendah (PMR) is a Malaysian public examination taken by all students in both government and private schools throughout the country. It was formerly known as Sijil Rendah Pelajaran (SRP; Malay for Lower Certificate of Education). The Sijil Pelajaran Malaysia (SPM), or the Malaysian Certificate of Education, is a national examination taken by all fifth-year secondary school students in Malaysia. SPM is equivalent to the O-Level and is the second last public examination at the secondary school level before the entry into a first bachelor degree course at a university. The Sijil Tinggi Persekolahan Malaysia (STPM), being a pre-university study and equivalent to the A-Level, is the last public examination at the secondary school level. Other available pre-university studies in Malaysia include matriculation, foundation study, A-Level, etc., which are conducted at a college or university. A diploma is a certificate or deed issued by an educational institution, such as a university, that testifies that the recipient has successfully completed a particular course of study or confers an academic degree.

7. Application In Management

Wildlife value orientations provide a measure for evaluating public help for management policies. Wildlife agencies can use information about the different value orientation groups to support for estimation of the percentage of different publics who are probably to support, oppose, or be the same toward wildlife management performances (J. J. Vaske, M. H. Jacobs, & M. T. Sijtsma, 2011; Vaske, Needham, & Cline, 2007). A latest technical statement (Sijtsma, Vaske, & Jacobs, 2010), for instance, studied the effects of mutualism and domination on the satisfactoriness of using lethal control to reduce the effects of geese and deer on agricultural crops in The Netherlands. The value orientations were statistically considerable predictors, accounting for 39% (geese) and 37% (deer) of the variance. Of the two WVOs, domination was a better predictor of acceptability ratings than mutualism (J. J. Vaske, et al., 2011).These results are recommended in specific human–wildlife conflict conditions, domination may have a better effects. In other words, the relative influence of domination opposed to mutualism may be context-specific (J. J. Vaske, et al., 2011).

8. Conclusion and Future Research

Overall, this study further compared wildlife value orientations of Malaysian people with different demographic profiles, gender, residency (Urban /rural) and education level.The results show rural people in Malaysia were more utilitarian than urban people. In gender comparison, men were more mutualism than women and the people with average education in Malaysia similar to the developing country showed more mutualism than low educations while they were more mutualism than higher education. It showed that people with an average education level were more materialism than other two groups (low and high education). The statistical results reflected insights from previous studies while offering a more comprehensive framework concerned with wildlife value orientation that would assist in addressing management issues.

There is a need for further researches and additional work for exploring value orientations and relation to other demographic features in Malaysia and other developed and developing countries. Much of initial human dimensions of wildlife research lacked a clear conceptual foundation and had limited to be generalized as mentioned by Vaske et. al, (2011). The more quantitative and qualitative WVO measurement will provide more precise details of WVO concepts.

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