

Awareness and Priority of Stakeholders towards the Conservation of the Philippine Tarsier in Adlay, Carrascal Surigao Del Sur

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Abstract

The endangered Philippine tarsier has the potential to endorse environmental awareness and has the power to assist the growth of ecotourism. This can upshot the provision of economic freedom to the local people. The sense of awareness of the existence of the Philippine tarsier in Adlay, Carrascal and the priority in their conservation are factors that dictate the environmental and economic development of Carrascal. The survival of the Philippine tarsier relies on how stakeholders value their conservation. This study applied a descriptive type of research using the questionnaire that indicates basic statements of awareness and priority. The study revealed that residents are moderately aware of the existence of the Philippine tarsier in Adlay and set a high priority in their conservation. In comparison, the local government is extremely aware of the Philippine tarsier's existence in Adlay and noted that their conservation is an essential part of their program. The findings of both stakeholders were differentiated revealing highly significant results in the level of awareness and level of priority. Although the results of the stakeholders are ideal, it was found contradictory to the actions of both residents and local government. They have a much greater priority over direct profitability since no Philippine tarsier conservation projects exist or currently in the works.

Keywords: *Endangered Specie, Local Residents, Local Government, Priority, Awareness.*

Introduction

There is an immense need to conserve and save wildlife, particularly in Southeast Asia. Among the Southeast Asian countries, the Philippines holds the record with the fastest habitat rate loss with 93% of its original forest already converted for either commercial or agricultural purpose. Furthermore, conservation priorities for endangered species such as the Philippine tarsier are a particular concern in the island archipelagos, where rates of habitat demolition are among the highest in the world (Brown et al., 2014); (Duckworth et al., 2012). Different human activities instigate mass extinction of diverse kinds of species globally. It is vital in building planning strategies for the protection, conservation and minimizing the loss of natural resources and its species (Naz & Hussain, 2016).

The Department of Tourism (DOT) is a government agency in the Philippines that often feature the Carlito Sycrichta or Philippine tarsiers as its flagship species. The Philippine tarsiers are one of the smallest primates in the world. Their existence in Bohol is the highlight of many tourism promotion campaigns of stakeholders both government and private sectors. Bohol is the home of half of the world's tarsier population. By using the Philippine tarsiers as flagship species, conservation programs source out funds for their research and management and encourage domestic and foreign tourists to visit conservation sites and experience the unique beauty of the species.

Flagship species such as the Philippine tarsiers are "popular and charismatic" and a representation of a uniting motive for conservation awareness and action. They endorse environmental awareness and the growth of ecotourism in the Philippines that offer economic freedom to local communities (Brown et al., 2014); (Virssisimo, Macmillan & Smith, 2010). However, many conservation projects are not sustained according to their goals with more focus on the economic advantage that the Philippine tarsiers provide rather than their protection. (Cañete, 2003); (Chun, Sulaiman & Samah, 2012) ; (Virssisimo, Macmillan & Smith, 2010). Unknown to many Filipinos, tarsiers are also found in other provinces of the Philippines. The Philippine tarsiers are also found in Mindanao, and one of those places is Carrascal. Carrascal is known for its thick forest areas and mining economy. The forests play a fundamental and principal role that the global communities recognize (Naz & Hussain, 2016).

Carrascal is the home to many diverse species. The Department of Environment and Natural Resources (DENR), a government agency responsible for conservation and development management, acknowledges the Philippine tarsier's existence in Carrascal in the mangrove area in Sitio Amontay, Adlay. It is the natural habitat of the Philippine tarsier. The DENR's statement is in line with past Philippine President Fidel V. Ramos' proclamation No. 1030 on the Philippine tarsier's protection. He affirmed that the Philippine tarsier is an endangered faunal species of the Philippines. However, mining businesses still continue to flourish that result in deforestation, losing fractions of the species' habitat. Most mining companies in Surigao del Sur have political links making the problem more challenging because of the politicians' conflict of business interest (Gita, 2017); (Garganera, 2016) ; (Philippine News Agency, 2012).

Carrascal's income is heavily reliant on mining as its key industry. According to Keppel et al., (2012), occasionally the same habitat for endangered species provides the only source of income for local communities mostly through destructive activities such as logging and mining. The Philippines and other third world countries have the poor implementation of laws and governance that outcome inefficiency of conservation concepts and projects. The absence of economic advantages for local communities allied with conservation decrease the effectiveness of conservation or to no conservation at all. Intense mineral-based economic and ecological activities of livelihood changes in areas of mining activities provide financial relief to local residents in the area. The mining industry is damaging the habitats of the Philippine tarsier and other species. The defense of communities supporting the damaging activities of mining is always about the coherent economic decision. They view policies as bias and irrational and are contrary to their conscience or practices even if it might cause environmental damage. They find it morally acceptable due to greater human needs (Slater, Mgaya & Stead, 2014).

Government projects have become some of the most unethical landowners and agents of change in districts that have been habitually overwhelmed by the country's highest rates of poverty and unemployment. It is problematic for most people to work for an ecologically damaging industry (Keppel et al., 2012). Good governance and conservation go together. Misuse and its impact on the value of conservation initiatives are not only dependent on ecological data collection but in public devotion to the protection of the programs. People's awareness and perception of species condition are the strength and focus of public participation in conservation initiatives (Vincenot et al., 2015).The awareness and orientation of stakeholders can offer a crucial point for policy makers and may influence decision-making that can improve management and

effective policy creation. This will help in formulating policies that are more likely to gain support and achieve greater compliance among communities (Slater, Mgaya & Stead, 2014).

Environmental attitude is an indicator of support for wildlife conservation (Vincenot et al., 2015). Investigating and understanding the concern on conservation priority and identifying the stakeholders' level of awareness in the existence of the "Amag" in Adlay, Carrascal at the grass-roots level are the goals of this study. In this study, gauging the awareness and priorities of local stakeholders might be the most effective in promoting conservation aims. One of the most important factors of conservation success within protected areas is the size to which stakeholders comprehend and support the protected species. Education and public awareness programs are critical to achieving this understanding and inspiring support. The differences in conservation methods and priorities of stakeholders provide to the efficiency of any conservation efforts (Keppel et al., 2012).

Research Design and Method

The respondents in this study are the stakeholders. They are divided into two groups: the local residents of Sitio Amontay in Adlay (the mangrove area where tarsiers are prominent) and the Local Government Unit of Carrascal represented by the Local Barangay Council. Sitio Amontay, Adlay has a population of 270 legal-aged local residents and there are 25 local government respondents. The Slovin's formula set at 95% confidence level and a margin of error at 0.5 was used to determine the 159 sample population size of the local residents.

This study applied a descriptive type of research method using a survey instrument and an in-depth interview. The questions were simple to suit the background of the respondents. Translating questionnaires from the English language to Cantilangnon dialect ensured that respondents could easily understand the questions. The questionnaire was used to discover the inherent difference between the level of awareness and level of priority of stakeholders. The desired outcomes were reached through clarifying statements referring to two Likert scale response anchors with a .79 interval.

The following response scale anchor designates 5 as in extremely aware/essential, 4 as in moderately aware/high priority, 3 as in somewhat aware/medium priority, 2 as in slightly aware/low priority and 1 as in not at all aware/not a priority.

A consent from the Barangay Captain of Adlay was given prior to the formal conduct of the study. A colored photograph of the Philippine tarsier was attached to every questionnaire. The local residents asked not to reveal some information and negative opinions they have about mining and the local government. To protect the local residents, specific information shared during the in-depth interview were not disclosed.

Results and Discussion

Table 1 shows that 30.19% of the local residents and 48% of the local government are between the ages of 36-45 years old. This is consecutive to age bracket of 25-35 years old. Meanwhile, only 6.29% of the local resident respondents represent the 65 above age bracket. It is understandable that there are no respondents of that age in the local government.

Most local resident respondents are females at 65.41% while most of the local government respondents are males at 56%. In exploring the employment status of the local residents, it shows that 44.65% are unemployed while 55.53% are employed. Almost all of the employed residents have mining industry

provided or related jobs. Most of the local resident respondents favor mining operations in the area at 96.86% and 100% of the local government respondents favor mining.

Table 1. Respondent’s Profile

Age	Local residents		Local Government	
	Frequency	Percentage	Frequency	Percentage
18-24	15	9.43	0	0
25-35	46	28.93	10	40
36-45	48	30.19	12	48
46-65	40	25.16	3	12
65 above	10	6.29	0	0
Total	159	100	25	100
Gender				
Male	55	34.59	14	56
Female	104	65.41	11	44
Total	159	100	25	100
Employment				
Unemployed	71	44.65	0	0
Employed	88	55.35	25	100
Total	159	100	25	100
View on Mining				
Pro-Mining	154	96.86	25	100
Anti-Mining	5	3.14	0	0
Total	159	100	25	100

All the awareness statements as shown in table 2 the local residents have a verbal interpretation of moderately aware. The results are in a slight variance to the Local Government. Their response translates to extremely aware. The first statement of awareness, “I am aware of the Philippine tarsiers’ (Amag) existence in Adlay, Carrascal” local residents attained a mean of 3.98 or moderately aware and the local government attained a 4.79 mean or extremely aware. This was the lowest mean for local residents and the highest for the local government.

Table 2. Level of Awareness of stakeholders in the existence of the Philippine Tarsier in Adlay, Carrascal

Statement (Awareness)	Local Residents		Local Government	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1. I am aware of the Philippine Tarsier’s existence in Adlay Carrascal	3.98	Moderately Aware	4.79	Extremely Aware
2. I am aware that the Philippine Tarsier is an endangered specie.	4.02	Moderately Aware	4.56	Extremely Aware
3. I am aware that the Philippine Law protects the Philippine tarsier, any form or act of violence and methods that will contribute to the extinction of the specie is punishable by law (including poaching and keeping it as a pet)	4.13	Moderately Aware	4.49	Extremely Aware
Weighted Mean	4.04	Moderately Aware	4.61	Extremely Aware

The second statement, “I am aware that the Philippine tarsier is an endangered specie” local residents attained a 4.02 mean or moderately aware level and the response differed from the local government’s of extremely aware by having a mean of 4.56. The difference between the two group respondents shown in table 2 indicates that awareness by both stakeholders highlights as a key indicator of their understanding of what resources exist in the area. This result is in contrast to the study of Ziadat, (2009) that environmental awareness affects the difference in age range with older groups having more consistent responses and higher overall index of awareness.

The third statement, “I am aware that the Philippine Law protects the Philippine tarsiers” managed a moderately aware level with a mean of 4.13 of the local resident respondents and attained a 4.49 mean that translates to extremely aware of the local government. Therefore, the stakeholders are in full knowledge of what species live among them, that both stakeholders are cognizant of what resources they have. The design of the priority statements shows the actual determination of conservation practice based on what respondents believe. However, the questionnaire does not prove the stakeholders’ value of the Philippine tarsiers in Sitio Amontay, Adlay, Carrascal.

Table 3. Level of Priority of stakeholders in conservation of the Philippine Tarsier in Adlay, Carrascal

Statement (Priority)	Local Residents		Local Government	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1. Conservation of the Philippine tarsiers over economic gain	4.02	High Priority	4.79	Essential
2. Preservation of Forested Areas	3.88	High Priority	4.56	Essential
3. Increase Education on endangered species found in Carrascal and their intrinsic value	4.22	High priority	4.49	Essential
Weighted Mean	4.04	High Priority	4.61	Essential

The results also revealed that when it comes to the conservation of the Philippine tarsiers over economic gain, local resident respondents place a high priority with a mean of 4.02 while the local government has a much higher result of a 4.79 mean placing it as an essential priority. The second statement, “Preservation of Rural Forested Areas” has the lowest mean of 3.88 of the local resident respondents but still belong in high priority range. Meanwhile, with a mean of 4.56, the local government has an essential priority to preserve rural forested areas. When it comes to the perpetuation and care of the habitats of the tarsiers, the local government response is essential or in expression, the natural order of things. Abovementioned implies that the local government has a great priority in conservation than the local residents. This is because it is the government’s primary role in managing the country’s environment and natural resources and environmental protection. The local government is indeed mindful of its role in enacting laws and making a connection to other government agencies to manage and protect the very resource they have.

The local government secures an essential priority in the increase in education on the endangered species and their value in nature by attaining a mean of 4.61 while local residents give it a high priority attaining a mean of 4.22. The direct significance of this statement lies in the existence of policies, educational programs and existing institutional arrangements that the local government creates for the local residents in order to move forward and deliver the promise of sustainable development.

Although the local respondents reach a high result of 4.04 and a 4.61 mean of the local government, it is difficult to overlook the reality that there are no initiating conservation efforts in Carrascal that benefits the Philippine tarsiers or any species at all. The existence of mining alone is an action against conservation.

During the in-depth interview, residents shared that they fear for their lives and livelihood that if they answer with all honesty, the result of the study might go against the favor of the local government. They revealed that most of the politicians are the owners of the mining business operating in Carrascal and in other municipalities near it. They verified that there are no conservation and biodiversity educational programs or conservation projects relating to the conservation of the Philippine tarsiers. A number of the respondents are poaching not just tarsiers but sea turtles, eagles and different kinds of animals.

The need for protecting natural areas from traditional uses of people is important in achieving effective conservation (Bekele, 2014). The result of the study is comparable to Edward et al., (2013), the influx of mining investments in Africa means that environmental considerations are in danger of marginalization or even totally ignored. He further explained that attention focuses on the local impacts of mine-site operations, alleviates poverty and improves the protection of the environment but such outcomes are impossible under current conditions of corruption and weak governance.

The study of Vincenot et al.,(2015), on Ryukyu Flying Fox in Japan showed that people are aware of the existence of endangered species in the island and do not debate their endangerment status but there is low willingness to act for species conservation. According to Mir et al.,(2015), the majority of respondents expressed a positive attitude toward wildlife but have issues with providing more priority over the species than the well being of the local people. The poor people in rural areas often rely on wide-ranging natural resources which are crucial for the community's well being that potentially affects degradation (Billé, Lapeyne & Pirard, 2012). Complex choices are made about helpful strategies of conserving biodiversity in a populous world, while it is important to consider the legitimate livelihood and the well being of the people (Redpath et al., 2013). It is also difficult to point out an alternative source of income such as ecotourism because it can be infeasible due to the accessibility of the community and prospective disadvantages that affect conservation (Keppel et al., 2012).

Table 4. Difference in the responses of the stakeholders in thier awareness of the Philippine Tarsier in Adlay, Surigao

	Awareness
Mann-Whitney U	564.500
Wilcoxon W	13284.500
Z	-5.560
Asymp.Sig. (2-tailed)	.000

Table 5. Difference in the responses of the stakeholders in thier priority of the Philippine Tarsier conservation in Adlay, Surigao

	Priority
Mann-Whitney U	393.000
Wilcoxon W	13113.000
Z	-6.277
Asymp.Sig. (2-tailed)	.000

Using Non-Parametric Mann-Whitney U test shows the difference between the level of awareness and the level of priority in the conservation of the Philippine tarsiers between stakeholders. The gathered data fits all the assumptions of using such test. The asymptotic statistical significance of the level of awareness shows that the difference between the residents and the local government is highly significant in both levels of awareness and priority.

A formal evaluation of conservation mechanism was not included as part of the research due to the concern of the residents over the influence of political and mining conglomerate. However, the presence of mining and the absence of conservation projects despite the respondents' answers are not adequate to instill confidence that there is conservation towards the Philippine tarsiers in Adlay, Carrascal. Some people want to act in their self interest and avarice. Stakeholders in Adlay argue trying to justify activities that will harm the environment as crucial to the survival of the community; that even with such actions, the environment is preserved and taken care of.

Traditionally, conservation is the sole responsibility of the government and its agencies (Chun, Sulaiman & Samah, 2012). There are no existing conservation programs for the Philippine tarsiers in Carrascal nor collaboration with the academic institutions in Surigao del Sur. Governance rarely has accountability in conservation planning approaches. In Southeast Asia, the Philippines' larger proportion of areas is poorly governed (Eklund et al., 2011). Outsiders are prioritizing and implementing conservation program (Hviding, 2003). Oftentimes there is little consultation and collaboration between the NGOs, government agencies and academic institutions (Hunnman, 2002); (Hvding, 2006).

Conclusion

The responses of the residents indicated that they are moderately aware of the existence of the Philippine tarsiers and place a high priority in the conservation while the local government denotes that they are extremely aware of the existence of the Philippine tarsiers and assessed it as essential to conservation. The local residents have immense priority over direct profitability. Fear shook the minds of the residents over the possibility of loss of the source of income and political pressure to support pro-mining initiatives.

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