

## **Knowledge, Attitudes, And Practices on Environment of the Indigenous Peoples in Capiz, Philippines**

**Leo Andrew B. Biclar**  
**Louis Placido F. Lachica**  
**Nida T. Gavino**  
**Stephanie S. Pimentel**  
**Rector John A. Latoza**

Social Science and Industrial Technology Research Development Center  
Office, College of Agriculture, Capiz State University - Dumarao  
Satellite College, Research, Development and Extension Office,  
Capiz State University, Philippines

### **Abstract**

Indigenous knowledge systems and practices (IKSP) are vital in maintaining equilibrium in the physical, socioeconomic, and cultural ecosystem. Hence, this study documented and recorded the knowledge, attitudes, and practices (KAP) on the environment of the Panay Bukidnon and Ati in Capiz, Philippines specifically in forestry, agriculture, and upland fishing; and crafted alternative policies for dissemination. Ethnographic research design through fieldworks was conducted in the indigenous peoples' communities Jamindan, Dumarao and Tapaz, Capiz from June 2016 to December 2017. Informal interviews and participation, videography, and observations were conducted in interacting with the informants. The six (6) informants were chosen using the criteria of Manuel (1955) on a three-generation test to triangulate the data. The IP communities still practice indigenous knowledge on cosmology with nature, beliefs on forest conservation, kaingin system (slash-and-burn farming), farming and fishing rituals, and traditions on community linkages. However, the attitudes of the informants vary on the practice of kaingin system. The concept of communal law of served as the framework in formulating alternative environmental policies to be disseminated in the communities. The recording of knowledge, attitudes, and practices are significant in the preservation and conservation of the indigenous peoples' natural resources.

*Keywords:* Arts and crafts, indigenous knowledge system and practices, indigenous peoples

*Corresponding author:* Leo Andrew B. Biclar  
*Address:* CAPIZ STATE UNIVERSITY - Philippines  
*E-mail:* labbiclar@capsu.edu.ph

ISSN 1908-2843 Print

## INTRODUCTION

Indigenous knowledge systems and practices (IKSP) are vital in maintaining equilibrium in the physical, socioeconomic, and cultural ecosystem. They provide frameworks in the operation of human interaction and adaptation to the environment especially on the satisfaction of basic needs and utilization of resources for survival and sustainability (Ramirez 2016). Social change, however, brought by modernity and globalization, drastically altered the normal functioning of IKSP. The advancement in technology coupled with rapid urbanization, significantly threatened the existence of IKSP as they are now relegated into the margin in favor of worldviews and practices that support consumerism and mass production of goods and services.

Nonetheless, consumer-driven society posts more harm than good to the overall ecosystem. With the depletion of resources and biodiversities, macrocosmic problems like scarcity of food and water, and fuel are prevalent. The province of Capiz is no exception. Historically endowed with fertile plains, verdant forest, and vast bodies of water, all these, however, are gradually replaced by global developments that promote better life through real estate ventures and tourism initiatives, but they do not guarantee urban resiliency and sustainability of indigenous knowledge systems. Agricultural and fishery productivity is now interlinked with its business nature rather than community prosperity.

In the same way, forest products are widely utilized to support energy-related concerns such as coal powered plants whose carbon emission even contribute to air pollution (Groppo 2012). Folk arts and crafts are left in oblivion with the young generation's preference for anything foreign and popular. Instead of reaching sustained culture in the 21st century through the mainstream of Filipino urban culture, the IKSP remained vegetated in the mountains and fermented in the basements of the cities (Biclar 2016).

Thus, the project had been conceptualized to map the knowledge, attitudes, and practices (KAP) of the Indigenous Peoples (IPs) in Capiz, Philippines, with the focus on forestry, agriculture and upland fishing. The choice of these concerns as overarching themes is anchored on the idea of environmental protection and conservation advocated by the Department of Environment and Natural Resources (DENR) wherein ecosystem is treated holistically as a prized heritage in itself (Ramirez, 2016).

Hence, it is assumed in this study the vital role of the KAP systems on environment is significant in knowing, understanding, and sustaining the indigenous peoples' best practices as the keys for conservation and preservation of their natural resources.

## Materials and Methods

### Research Design

This study primarily aimed on the documentation and recording of the knowledge, attitude, and practices on environment of the Panay Bukidnon and Ati in Capiz, Philippines. It used the qualitative research design employing ethnographical approach from June 2016 to December 2017. Ethnography as employed in this study refers to the two (2) week participation and observations of the researchers with the Panay Bukidnon and Ati communities by conducting informal interviews and documentation on the desired data. Photographs of the actual practices performed during the conduct of the study were also taken during fieldworks.

### Participants

The six (6) informants were chosen using the criteria of Manuel (1955) on three-generation test in triangulating the data. Based from the list of community elders given by the National Commission for the Indigenous Peoples (NCIP) in Tapaz Cluster Office, the researchers identified PB1 (75 years old), PB2 (54 years old) and

PB3 (62 years old) to represent as the informants for Panay Bukidnon from Tapaz and Jamindan respectively. AT1 (64 years old), AT2 (42 years old) and AT3 (82 years old) on the otherhand represented the Ati communities in Mt. Tag-ao and Aglalana in Dumarao, Capiz. Permit from the NCIP (National Commission for the Indigenous Peoples) Region VI and informed consent were secured to address the ethical considerations in conducting this type of research.

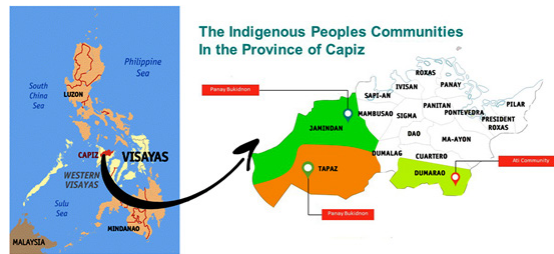


Figure 1. Map of Indigenous Peoples' Communities in Capiz, Philippines  
Photo credit to <https://www.zamboanga.com/z/images/d/dd/Capiz>

## Data Analysis

In Vivo Coding (Charmaz, 2006; Corbin & Strauss, 2008; Claser, 1978; Claser & Strauss, 1967; Strauss, 1987; Strauss & Corbin, 1998 cited by Sadaña, 2009) was extensively used in the study. After transcribing, the researchers mapped the major concepts. In this study, principal data were derived from the lengthy interviews conducted from the 6 participants. Moreover, assembling of tables, and charts assisted with cluster of codes were done. After clustering the codes, the researchers described the meaning of each code that rose by linking them on literatures reviewed. Because the meaning of the participants' KAP on environment was the most central aspect of this study, literatures on meaning that have most relevance on the coded themes were reviewed. Folk or indigenous terms are participant-generated words from Panay Bukidnon and Ati. Folk terms indicate the existence of the group's cultural categories (McCurdy, Spradley, & Shandy, 2005 as cited by Saldaña 2009).

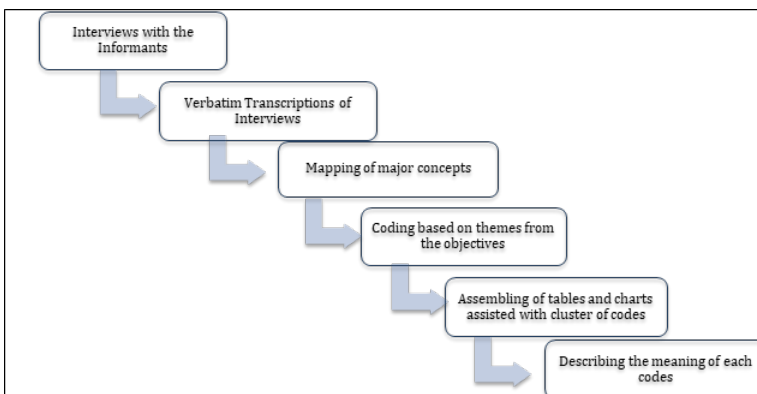


Figure 1. Steps performed in the data analysis using the In Vivo Coding

## Results and Discussion

### Indigenous Peoples in Capiz

The Panay Bukidnon has its unique cultural practice binukot, (well-kept maiden) where beautiful women are kept in closed rooms forbidden from exposure from their childhood until the day of their engagement (Del Callejo 2017). Binukot serves as the databank of the cultural heritage of the tribe since they are kept and trained to chant, weave, and dance – the cultural bearers of Panay Bukidnon.

The Ati on the otherhand, who also inhabit the mountainous areas of Panay and Negros islands had found their settlement in Capiz at Mt. Tag-ao and Barangay Aglalana both in Dumarao, Capiz. The Ati settlement usually located near to areas with good water supply.



Plate 1. An Ati residing in Mt. Tag-aw, Dumarao, Capiz



Plate 2. A Panay Bukidnon woman elder performing the binanog dance as the ritual practice during a wedding festivity.

## Indigenous Peoples Knowledge, Attitudes, and Practices in Forestry

**Cosmology with Nature.** Living with nature and the beliefs to those who live with it is the cosmology of the aboriginal Filipino. It has been a part of the Filipino cosmology that every part of nature has living creatures and therefore be treated as rational beings (Almocera 2005). Otherwise, these creatures will bring bad omen to them. Just like with the Ifugao in Northern Luzon and the Maranaw in Mindanao, the Ati and Panay Bukidnon in Capiz are not exempted to this cosmic philosophy – they have the association with every part of nature and live themselves as part of it. Clothing and accessories

**Kaingin System.** Both the Ati and Panay Bukidnon practice upland farming as their recourse in the kaingin (slash and burn) system. Farming in the uplands is rice-based which they had learned the skills from their ancestors. Cultivation is done through kaingin system where the land is cleared by slashing and burning the shrubs and bushes present in the forest areas. From thereon, the cut branches of the trees are utilized as the posts of their houses. Some of these cuts were made into charcoal to sell in the lowland as a means of their living. The rest were used as firewood. However, in performing the kaingin, they act a ritual in a form of prayer to seek the approval of the idadalmon (supernatural or unseen creatures) living in the place or talon (forest). The Panay Bukidnon believes that the kaingin must be done on dates that fall to a noncircular number (1,2,3,5 & 7) because these figures give luck to farmers (Domingo 2016).



Plate 3. An upland farm where kaingin system was newly performed as preparation for planting

**Forest Conservation.** Indigenous people understand that the cosmos is inhabited not only by humans but also non-human beings. They believe, non-human beings do not only live together but also share the life with human beings in this world (Maarif 2015). In a way, they make means to conserve the local flora and fauna provided by the forest for their utilization.

## Indigenous Peoples Knowledge, Attitudes, and Practices in Agriculture

**Farming Practices and Rituals.** Farming has been a major source of living for the Panay Bukidnon who are well known to be industrious farmers.

The traditional way of farming is the *duna* (inherent) of the indigenous peoples (Mantikayan and Abas 2015) in Capiz. Their way of living is primarily dependent on farming. It is their *kusog* (strength). It is also a living proof that the *magurang* (old folks) have brilliant minds in such a way that they could understand the language of nature and they also developed indigenous technologies that are resilient and sustainable (Mantikayan and Abas 2015). Moreover, upland rice production is the *kina-iyá* of Capiznon hinterland farmers. It is the people's source of *kusog* because rice serves as their major staple food. Aside from consumption purposes, some Panay Bukidnon engage in upland rice farming for business purposes. Indigenous variety of rice has high demands in the market because of its great quality and aromatic taste.



Plate 4. A banana seedling planted in the middle of the ricefield as part of the *paminhi* ritual



Plate 5. A Panay Bukidnon farmer performing the *pagbuo* ritual prior to the harvest activity

**Pest Control Management and Rituals.** The indigenous peoples of Capiz

have their distinct ways of controlling farm pests. They have learned these crafts from their forefathers. The use of these pest controls still exists in their communities.

**Farming Community Linkage Practices and Rituals.** The sense of community linkages has been planted among the aboriginal groups. Thus, farming labor becomes easier and faster compared to monopolized field of farming labor. The hil-oanay (reciprocating) and patabang (to seek help from others) are common as farming collaborative labor.



Plate 6. The Panay Bukidnon performed the patabang during the harvest participated both by men and women.

### **Indigenous Peoples Knowledge, Attitude and Practices in Upland Fishing Practices and Rituals**

One way of capturing small aquatic organisms is through panikop and igip. Panikop is simple fishing method employed by the Panay Bukidnon in Jamindan, Capiz. They catch aquatic organisms such as kagang (Subphylum Crustaceabare) through their hands. Igip however is another method comparable to panikop but the fishermen use moskitero (net) to catch the unog (family Gobiidae).

Both panikop and igip are still practiced until today. The informants believe that through this method, they contribute in the conservation of the abundance of fishes provided by the river. Fishes with roe (bihod) may still preserve through indigenous fishing practices. Beliefs and practices still exist purposely for sustainability on food security and preservation of traditional fishing methods.



Plate 7. A Panay Bukidnon elder performing the panikop as a form of fish-catching practice using the bare hands

Thepamunit fishing method still continues until today because of its simplicity both in the procedure as well the materials being used. Anybody can operate this method either in the sea, river or fish ponds. Furthermore, the materials used can be easily gather in the places.



Plate 8. An Ati performing the pamunit in a river along Mt. Tag-aw

Pampalipong is a method of stunning fishes using ichthyotoxic plants present in the environment. The leaves or the fruits of the plant is pounded and squeeze to extract its juices using stones. Once the juice is ingested, the fish stuns and floats thus making it easier to gather. Pampalipong has been used by many cultures around the globe as part of their adaptability to survive during the hunting and gathering. This only showed how resourceful the people are to utilize other uses of the forest. The method is still practiced particularly by the indigenous people of Tapaz and Dumarao as part



of their lives. However, the Panay Bukidnon of Jamindan, Capiz regulates the use of the said method especially on their sanctuary known as seperado. They prohibited the use of large quantities of ichthyotoxic plants to avoid stunning of all fishes especially those with bihod (roe).

The pampalipong method is done through a collection of plants in the forest then pound it using stone. This method is an evolution from hand fishing where it was originated. The people still employed the functions of the hands but they add the plants coming from the environment as part of their resiliency. Diversification increases both efficiency of farming systems and builds resilience to climate change as it spreads the risk, providing an increased economic resilience at farm or local level (Makondo 2018).



Plate 9. An Ati informant showing the tag-aw leaves to be used in performing the pampalipong ritual in upland fishing

### **Alternative Environmental Policy**

The Panay Bukidnon and Ati regard themselves as the stewards of nature. They have a culture unique to it. They have their own laws and customs such as the seperado (protected land). Seperado is a place assigned by the mal-am (old folk) that was implemented to the community long before. This local knowledge will form as the basis of the evidence for determining local conservation needs and strategies (Smith 2017). It is one way of preserving the environment.

*Seperado* is a preserved sanctuary assigned by Elena Gardoce Francisco - the last binukot that separates the place and prohibited the entire community in extracting any resources from the forest and river.

In the river, set of laws were imposed as well penalties for those who are violating it. For them, they need to protect the river since it provides them the nourishment to live. They also respect fishes thus, prohibited them to catch fish roe. Once caught, the fisherman brings back the fish having roe for it to multiply.

They also strictly implemented the cleanliness of the river. Anyone who violates it may suffer the consequences once proven. They are no longer allowed to go fishing or even take a bath within the protected area for a week, a month or years.

The concept of *seperado* signifies the territorial sense of the indigenous peoples who value the lands not only because these are handed to them by their ancestors from generation to generation, but also because of the sweat and blood that their ancestors shed in these lands (Chisholm and Malone 2017). Their territory is not just a parcel of land but it is everything to them. They would die to defend their territory from foreign invaders (Chisholm and Malone 2017). This indigenous policy and/or communal law may serve as the basis of the policy-making bodies such as the LGU in implementing the environmental policies not only in the province but also in the country in general.

Since, there is the ardent love for their territory, the *mal-am* declared the *seperado* as one of their environmental protections that can somehow be widened in scope by proposing the following policies:

1. The *seperado* only prohibits the indigenous people and outsiders to extract anything from the protected area. However, some places are used for the *kaingin* method of farming. In order to restore what has been damaged, the IPs shall coordinate with the LGUs, DENR and other concerned agencies in regulating the *kaingin* farming from one area to another.

2. The IP elders in coordination with the LGU and other agencies shall frame an off-season policy in conducting the *kaingin* system of farming. Thus, will declare a moratorium in cutting and burning of trees to restore the fertility of soil and other natural resources.

3. The LGUs and other government agencies shall frame policies or regulations to provide cash crops among the IPs to sustain their way of living and not to depend their resources solely from the forests. By this, the natural resources will be preserved and the lives of the IPs will be sustained.

4. The LGUs shall revisit the Comprehensive Land Use Plan for strong implementation. They would require the land developers, not only in the protected areas of the IPs, but also in the urban setting to seek the permit or approval of the latter before the implementation of the urban development and infrastructure

## CONCLUSIONS

The Panay Bukidnon and Ati in Capiz, Philippines have rich and unique way of life. Their knowledge, attitudes and practices on environment are significant in the preservation and conservation of their natural resources and heritage. As territorial bounded people, their KAP systems on environment are manifestations of social control and intentions to preserve and conserve all parts of nature – the flora and the fauna; for these give them all the resources in life. Their cosmic philosophy should be the voices to be heard by today's generations who shall inherit the KAP Systems and the entire cultural and natural heritage. The Indigenous Peoples' KAP Systems embodied in the environment are the foundations of life and values of the people who

are the stewards of their natural resources.

## **RECOMMENDATIONS**

Based on the findings of the study, the following recommendations were made:

The preservation of the indigenous knowledge, attitudes, and practices on environment becomes the challenge of the 21st century because of the acculturation of today's generation. The marginalization of the KAP system froze its progress. Thus, the indigenous peoples in Capiz, Philippines as the care takers of the land, should preserve their KAP system and all forms of their oral tradition by passing them to the new generations.

The conduct of training programs will bring back the awareness of the people on the different KAP systems on environment, with a particular focus on the new generations. This will also help the IPs to develop consciousness on the importance of preserving the environment.

The formulated alternative policies through this study will serve as the benchmarks of collaboration between the indigenous peoples' community and the local government unit (LGU) in promoting the preservation and conservation of the natural resources and other ancestral domains. Thus, a larger representation of the indigenous peoples in the LGU is a must so they can voice their practices as guiding principles in the utilization of their ancestral domains.

## REFERENCES/SOURCES

### Research Informants

Castor, Mely (75 yrs. old), female elder and cultural bearer of Panay Bukidnon in Minan, Tapaz, Capiz, February 9-11, 2017

De Luna, Clarita (64 yrs. old), female elder of Ati in Aglalana, Dumarao, Capiz. February 18-19, 2017

Gardose, Samuel (62 yrs. old), male elder of Panay Bukidnon in Jaena Sur, Jamindan, Capiz. February 9-11, 2017

Jimenez, Mario (54 yrs. old), male elder of Panay Bukidnon in Minan, Tapaz, Capiz, , February 9-11, 2017

Salveo, Fidel (82 yrs. old) male elder, Sitio Tag-ao, Barangay Tamolalod, Dumarao, Capiz, February 18-19, 2017

Valencia, Rodney (42 yrs. old), male, Sitio Tag-ao, Barangay Tamolalod, Dumarao, Capiz, February 18-19, 2017

### Journal Articles

Asmiwyati, G.A., Mahendra, M.S., Arifin, N.H.S., and Ichinose, T. 2015. Recognizing Indigenous Knowledge on Agricultural Landscape in Bali for Micro Climate and Environmental Control. *Procedia Environmental Sciences* (28): 623-629.

Bettina, J., Winkel, G., Primer, E. 2018. "The unknown known – a review of local ecological knowledge in relation to forest biodiversity conservation. *Land Use Policy*. (79): 520-530.

Biclar, L. 2016. "Assumptions related to the literary persona in Demetillo's Barter in Panay: An Epic." *Kritike: An Online Journal of Philosophy* 10(1): 38-53

Chhetry, G. K. N. and Belbahri, L. 2009. "Indigenous Pest and Disease Management Practices in traditional farming systems in North East India: A review." *Journal of Plant Breeding and Crop Science* 1(3): pp 028-038

Grosso, P. 2012. "A Territorial Development Vision Oriented to Indigenous Peoples: A Possible Path." *Food and Agriculture Organization of the United Nation*. (2) 01-33

Maarif, S. 2015. "Ammatoan Indigenous Religion and Forest Conservation." *Brill Online Books and Journals*. 19(2): pp. 144-160

Mantikayan, S. M. and Abas, E. L. 2015. "Traditional Rice Farming Ritual Practices of the Magindanawn in Southern Philippines." *American Journal of Agriculture and Forestry*. 3(6): 15-18

Makondo, C.C. and Thomas, D.S.G. 2018. Climate Change adaptation: linking indigenous knowledge with western science for effective adaptation. *Environmental Science and Policy*. (88): 83-91

Smith, B.M., Chakrabarti, P., Chatterjee, A., Chatterjee, S., Dey, U.K., Dicks, L.V., Giri, B., Laha, S., Majhi, R.K., Basu, P. (2017). Collating and validating indigenous and local knowledge to apply multiple knowledge systems to an environmental challenge: A

case-study of pollinators in India. *Biological Conservation* (211): 20-28

Villanueva, P. M., Ramos, V. B., Villaroma, L. V., Villanueva, A. A., 2017. "Indigenous Peoples Mandatory Representation in the Local Legislative Councils: Status, Challenges and Trajectories." *Scientific Research* (4):1-17

### **Books**

Almocera, R. A. 2005. *Popular Filipino Spiritual Beliefs with a proposed Theological Response in Doing Theology in the Philippines*. Suk, John., Ed. Mandaluyong: OMF Literature Inc.: 78-79

Chisholm, L., Malone, M., Indigenous Territory. *The Canadian Encyclopedia*  
Dudgeon, P., Darlaston-Jones D., Nikora, L. W., Waitoki, W., Pe- Pua, R., Tran, L., Rouhani, L., *Changing the Acculturation Conversion: Indigenous Cultural Reclamation in Australia and Aoterea/New Zealand*. Cambridge University Press. pp 113-133

Saldaña, J. (2009). *The Coding Manual for Qualitative Research*. Sage Publications: California, USA.

#### Online References

Domingo, L. (2016, December, 07) Official Backs IPs Kaingin System. Retrieved from <http://www.manilatimes.net/official-backs-ips;kaingin-system/300504>

Guia, J. (2012, June, 29) Capiz: The Seafood capital of the Philippines. Retrieved from <https://www.vigattintourism.com/tourism/articles/Capiz-The-Seafood-Capital-of-the-Philippines>

Maentz, J. (2016). *Moving Forward: The Ati and Tumandok People of Panay Island*. Retrieved from <http://www.jacobimages.com/2016/01/the-ati-tumandok-people-of-panay-island>

Ramirez, M. (2016, November). *UPV to Spearhead Work on Traditional Knowledge Systems and Environment Book*. Available at <https://www.upv.edu.ph>

### **Proceedings**

United Nations 2010. "Activity Guide for the Implementation of the Second International Decade of the World's Indigenous People 2005-2014." United Nations, New-york Press. pp. 01-49