

Disasters and rare life events among Filipinos: Pinatubo Ayta's ability to deal with natural disasters²

Cynthia Neri Zayas³

Abstract

We Filipinos live with typhoons all our lives. Earthquakes and volcanic eruptions happen but never as frequently as typhoons' seasonal visits to the islands. For the past four decades — from 1973 to 2013 — typhoons triggered the worst disasters in the Philippines. Recently, Typhoon Haiyan's fury lashed the Central Philippines, bringing havoc to 16 million people and leaving material losses costing US\$2 Billion. The high incidence of losses is due to the typhoon's path passing through cities and towns. Disaster studies in the Philippines rely on "worst disaster" indicators (casualties, damage costs, and number of people affected). Earthquakes and volcanic eruptions, on the other hand, result in lower incidence of destruction as they are comparatively infrequent and occur in peripheries of urban areas with a lesser amount of infrastructure. Essentially, there are more studies and funding allocation for disasters with catastrophic consequences.

Keywords : Philippines, disaster, Ayta, Mt. Pinatubo, anthropology of disaster

Disasters are a fact of life in the Philippines: natural hazards such as earthquakes, volcanic eruptions, typhoons, floods, droughts, and landslides occur with such relentless intensity that they can be regarded as 'frequent life events' (Bankoff, 2007).

I work among traditional communities like the Ayta because they possess a remarkable knowledge of their environment, e.g. flora and fauna (Zayas, et. al. 2013a). With their forest almost gone as a result of lahar and pyroclastic flows, what is left of their knowledge? As an anthropologist quietly working among peripheral communities, my studies have focused on the Ayta peoples who have lived for centuries on Mt. Pinatubo (Zayas, 2016a, 2016b, 2015, 2014, 2013a, 2013b, 2013c, 2012, 2010a, 2010b, 2007). Most of my work deals with post-disaster ethnography of traditional societies, focusing on reconstruction of people's cultural lives prior to the lahar devastation – their local survival strategy knowledge, their resilience,

² The original version was read during the Nanzan University Institute of Anthropology's International Symposium and Workshop October 1-5, 2016 in Nagoya and Sendai.

³ Professor, Center for International Studies University of the Philippines

and their continuing struggle to possess their ancestral land, among others. Many scholars have addressed the capacity of industrial societies to deal with natural disasters. However, few have looked into how traditional societies deal with it, except for a few foreign ones who have done work on Pinatubo Negritos (Gaillard, 2015; Shimizu, 1989, 2001; Seitz, 1998, etc.). Mine is a contribution to this scarcity.

“Frequent life events” is how historian Bankoff, using data going back from the 18th century, describes disaster situations in the Philippines all the way from Spanish colonial times. To give an idea: in the four decades from 1973 to 2013, typhoons produced the worst disasters in the Philippines. The three biggest generators of casualties came from two typhoons (Haiyan in 2013 and Bopha in 2012), and one 7.9 magnitude earthquake in Mindanao, which triggered a tsunami. Typhoons (Haiyan, Bopha and Nina, 1995) too caused the three biggest damage to property and infrastructure.

Typhoons are the origins of the worst disaster in terms of the number of human population affected (Haiyan, Bopha, and Mike in 1990). Typhoon Haiyan is one of the world's strongest and deadliest typhoons ever recorded, prompting a rare Public Storm Signal No. 4 in the Visayas. It caused massive devastation that killed 6,300 people. Haiyan, the worst typhoon to hit the country, brought massive damage amounting to around US\$2 billion. Aside from the big number of casualties and the massive damage, some 16 million people were affected.

Anthropologists in the Philippines are not so keen in working on disasters. In 38 years of annual conferences, the Philippine Anthropological Association (also known as UGAT) only showcased the subject twice — in 1995, during its 17th Annual Conference (with the

Table 1. Top three generators of disasters in the Philippines⁴

Disaster/degree	1	2	3
Local name International name, date 1. Population affected	Typhoon Yolanda (Haiyan) 2013.11.08 16,106,807	Typhoon Pablo (Bopha) 2012.12.04 6,246,664	Typhoon Ruping (Mike) 1990.11.12 6,159,569
Local name International name, date 2. Cost of damage	Typhoon Yolanda (Haiyan) 2013.11.08 US\$ 2.05 B	Typhoon Pablo (Bopha) 2012.12.04 US\$ 1.7 B	Typhoon Sisang (Nina) 1995.09.04 US\$ 7 M
Local name International name, date 3. Casualties	Typhoon Yolanda (Haiyan) 2013.11.08 6,300	1976 Mindanao earthquake 1976.08.17 6,000	Typhoon Uring (Thelma) 1991.11.05 5,956

⁴ Source: (NDRRMC), National Aeronautics and Space Administration (NASA), Philippine Institute of Volcanology and Seismology (PHIVOLCS), <http://www.rappler.com/moveph/issues/disasters/64916-worst-natural-disasters-philippines>, Accessed: 2016.07.11

theme “Anthropology of Disaster”) held in Nueva Ecija, the site of a devastating earthquake in 1991; and in 2005, twenty years later, during the 27th Annual Conference in Iloilo (with the theme “The Anthropology of Crisis”).

Fortunately, the U.P. Diliman Department of Anthropology made available in 2011 the results of students-gathered data , (“Ethnographies of Disaster, 2009”) at the UP Anthropology Field School in Tiwi, Albay, a collaborative effort with the conference’s host university I shall return to their contribution as I cite cases on disaster-related work by anthropologists.

The regularity of disasters is a normal event in the islands. This regularity is punctuated by interest in the effects of natural and man-made disasters. Often, interest among anthropologists is prompted by various sources, like an invitation for joint research projects on disaster-related studies, however, there are some who would now and then respond to the challenge to get involved in disaster education, research on post-disaster recovery, and ethnographies of life experiences, among others. For example:

Case 1: Prof. Lilian dela Peña, a victim herself of the flooding in her city, Cagayan de Oro, in the wake of Typhoon Sendong (international codename: Washi), led her institution’s — Capitol University (CU) -campaign for disaster education. One major output is an illustrated children’s book containing narratives of flash flood survivors (dela Peña, 2012). Published in Cebuano in 2012, *Sa Kagabhion sa Sendong* (On the Night of Sendong: Narratives of Children Survivor), co-edited by dela Peña with Amor Q de Torres, now has a English translation. The book contains 14 stories from children survivors, aged 8-13 years old. Each narrative tells how they survived and how they helped family members and neighbors survive, and relates the struggle handling post-disaster trauma and the loss of parents, family members, or both.

CU appointed dela Peña as coordinator for several projects. One such endeavor was the *Building Disaster Preparedness*, a joint project of CU, Japan Foundation Manila Office (JFMO) and Plus Arts of Kobe, Japan, which provided trainer-consultants. Started in 2014, it trained 19 students and four faculty members how to develop fun games to teach disaster preparedness. The project developed four games and four others, developed by similar projects in Thailand and Japan, were adapted. The games were introduced to and played by elementary school children in Cagayan de Oro (Capitol University Basic Education Department and Gusa Elementary School), in Manila (at the Museo Pambata, and facilitated by the Girl Scouts of the Philippines), in Bicol (Bicol University, facilitated by Japan International Cooperation Agency, or JICA, and the provincial LGU of Bicol).

Dela Peña also coordinated CU’s Strengthening Capacity in Disaster Preparedness and Climate Resilience project in five provinces from 2013 to 2015. This initiative — funded by the Australian Agency for International Development (AusAid), now Australia’s Department of Foreign Affairs and Trade - was managed by Dr. Doracie Z. Nantes, then with the Australian National University. Five provincial LGUs — Bicol, Quezon, Bohol, Misamis

Oriental, and Lanao del Norte - two city governments, and six universities participated in the project. CU and the Mindanao University of Science and Technology co-managed the activities in Misamis Oriental.

As a member of the Secretariat of the Climate and Disaster Resilient Committee of Capitol University, dela Peña's group planned and implemented the university's disaster preparedness and resilience initiatives. Emergency drills for earthquake, fire, and gun shooting incidents are now organized in CU, and there are individuals in every building and floor responsible for ensuring the evacuation of students and employees to identified areas. Annually or during summer, the committee organizes holds *Abtik* (literally meaning active), an open-to-the-public event where government organizations and NGOs in the region showcase initiatives on disaster preparedness.

Case 2: Nota F. Magno, is assistant professor at the Department of Sociology and Anthropology of Ateneo de Manila University (ADMU)⁵. As part of the project to document the siege of Zamboanga in 2013 when the secessionist Moro National Liberation Front took control of the city proper and burned local communities, her group studied displacement situations - urban development, environmental causes/natural disasters, and armed conflict. The Zamboanga case represented the latter two situations. The project, done under the aegis of ADMU's Institute of Philippine Culture, focused on Internally Displaced Populations (IDP). The result of this study is being readied for publication.

Case 3: Soledad Dalisay and Carlos Tatel are both faculty members of the U.P. Diliman's Department of Anthropology. Dalisay works on food issues (2005, 2008). In 2009 both professors took their undergraduate students for several months of field work. The site, Tiwi, Albay coincidentally, is also where Mt. Mayon, the most active volcano in the Philippines, is. and Albay, a province in the Bicol region, is a major highway of typhoons coming from the Pacific Ocean, especially during the southwest monsoon. Data from the Anthropology Field School was compiled together with some articles from accompanying instructors. Essential it is composed of narratives of disaster local coping. Some of the titles, written mostly in Filipino, are:

Tatel, C. P. Jr.

Fieldwork and Fieldschool – anthropological reflections in a cultural setting
(In English)

Dalisay, S. N. M. and Tatel, C. P. Jr

The Ravaging Storm: Providing an anthropological lens to the study of disaster in two Barangays in Tiwi, Albay (In English)

Diego, M. K., de Leon, S.G. and Manalili, M. M.

Faith and Danger – Narratives of rescue and adaptation after disaster (In Filipino)

⁵ Information were obtained through email.

Filoteo, J., Muyrong P. L. J. and Tan, D. M.

Mother of Salvation, save us – Devotion and disaster in the Hamlet of Joroan, Tiwi, Albay (In Filipino)

Ferras, M. R., Landicho, J. L. And Toledo, S. J.

Food, typhoon and Mother – A study on vulnerability during disaster (In Filipino)

Bautista, V. F., Calobong, R. J. and del Prado, C. J.

Tabang (aid or help) - the politics of aid in Jaroan

Catalan, A. M., Gato, N., and Regalia, M. L.

Pakikidagos (to shelter) – Action and power in times of disaster in Jaroan, Tiwi, Albay (In Filipino).

Ferreras, M. R., Lagman, K. H. and Marquez, M. L.

Pagbuwat (Rising up) – Microfinance and response to challenges during disaster in the hamlet of Joroan, Tiwi, Albay (In Filipino)

Case 4: Ponciano L. Bennagen is a retired professor of the U.P. Department of Anthropology. His major contribution to disaster study is his critique on government's non-participatory strategy when dealing with disaster victims. To quote him:

Based on our observations and experiences in the Ayta communities hit by the Mt. Pinatubo eruptions, it can be said that victims themselves have the organizational and cultural resources and capability to manage their situation. While victims do need immediate material support such as relief goods, they are able to rehabilitate themselves successfully, if they take control of the disaster management from the beginning (Bennagen, 1996).

Case 5: Jose Cunanan, a protestant pastor-anthropologist, has written about the effects of volcanic eruption on the Ayta in Pinatubo. Unfortunately, I have not come across his later works. But I know that he continues to undertake development projects with the Ayta in Zambales and Bataan provinces.

Apart from these five examples, and brief essays of anthropology students, typhoon-related anthropological work is almost absent. Why is this so, when anthropologists in the Philippines study indigenous peoples? Since majority of indigenous people do not live in populated areas, they are not included in government disaster statistics. Furthermore, the history of anthropology in the Philippines is conjoined with the fate of the *katutubo*/the indigenous 'other'. Like Jose Cunanan, I study indigenous peoples like the Ayta of Pinatubo who were displaced as a result of the 1991 eruption of Mt. Pinatubo in Luzon.

Case 6: Since 1991, I have devoted myself to the study of the Ayta. Anthropologists consider the Ayta of Mt. Pinatubo as environmentally-resilient people. Twenty-five years ago, Mt. Pinatubo erupted in the main Philippine island of Luzon. The native peoples living on the

slopes, the Ayta, were temporarily housed in evacuation camps located below the slopes of the volcano.

Being seasonally slash-and-burn cultivators as well as hunters and gatherers, most of the Ayta planned to return immediately to their land despite the danger of lahar flows. One keen Ayta observed, “If the indigenous people simply eat and sleep without doing anything, they will soon die”. This Ayta learned that his father did not wait for the government to declare their area safe, but immediately looked for a suitable land and began raising goats and planting sweet potato and taro -food most suitable instead of canned sardines, instant noodles, or other packed foods distributed in the evacuation camps. The Ayta thought: time lost doing nothing during the waiting period could have been allotted for the tending of animals and cultivation of plants. This is the mentality of the dwellers of the volcano. They did not only plant, but took to the river, caught fish and shrimps, and gathered shells.

Another victim, the medicine man, left the evacuation area and returned to his devastated home to plant vegetables and rejuvenate the medicinal trees in his backyard. In short, the victims of the volcanic eruption were active actors who wanted to restore “normalcy” in their lives through various strategies. This is what common people think of the Ayta, as hardy people who are used to difficult situations in their lives. However, the eruption of Mt. Pinatubo did not really register much on the top 10 worst disasters in the Philippines in terms of casualties, in cost of damage (it was number 5), and terms of people affected because the Ayta did not figure in government statistics.

Table 2. How Mt. Pinatubo eruption fared in worst disaster category

I. Worst disasters in PH in terms of casualties: Mt. Pinatubo did not figure in the top 10
II. Worst disasters in PH in terms of cost of damage: No. 5 Mt. Pinatubo eruption, 1991.06.15 US\$443,000,000
III. Worst disasters in PH in terms of number of people affected: Mt. Pinatubo eruption did not figure in the top 10

My work with the Ayta involves bringing students for first-hand observation of the effects of the volcanic eruption, and organizing symposia, undertaking collaborative research with botanists, sociologists, organizing disaster mitigation workshops, among others. All these activities resulted in the creation of a course entitled Global Studies 197 (Special Topics

of Global Concern – Cultures of Disasters), an elective course offered once a year to undergraduate students.⁶ My class has produced a monograph from results in the field.

C. N. ZAYAS

Papers read and published on cultures of disaster studies

- 2016a. “Memoires of the UPCIS Out of classroom Learning Activities – Pagsabog ng Bulkang Pinatubo, Ayta sa Sitio Target Sapang Bato, Angeles, Pampanga.” In *Beyond Diliman* No. 1 University of the Philippines Center for International Studies, Diliman.
- 2016b. “Land is Life and Life is Land: Development, Resilience, Family and Knowledge for the Ayta of Mt. Pinatubo. ” In *The Consequences of Disasters: Demographic, Planning, and Policy Implementations*. Ed. Helen James and Douglas Patton. Springfield, Illinois: Charles C Thomas.
2015. “Ayta Pinatubo’s Post-Disaster transformations & indigenous sustainability- ‘the Sitio Target experience.’” Paper presented during the Asia-Pacific Research University’s 11th Research Symposium on Multi-Hazards around the Pacific Rim. Microtel by Wyndham, Techno hub, UP Diliman, Quezon City, October 7-10, 2015.
2014. “Ayta strategies to repossess ancestral land after the eruption of Mt. Pinatubo, Philippines.” Paper presented to the ASSOCIATION OF PACIFIC RIM UNIVERSITIES (APRU) X MULTI-HAZARDS INTERNATIONAL SYMPOSIUM: “Discovering, Researching and learning in time of disasters in the Pacific Rim: bridging the gap through academic work”. Campus Andrés Bello, University of Chile, Santiago, Chile, November 18-20, 2014.
- 2013a. “Useful Plants of Selected Ayta Communities from Porac, Pampanga, Twenty Years after the Eruption of Mt. Pinatubo.” *Philippine Journal of Science*, 142 (0):161-189. Co-authored with Elena M. Ragragio and Jasper John A. Obico.
- 2013b. “Disaster experiences in place names and memories from Japan and the Philippines.” Paper read on the occasion of the UGNAYANG PANG-AGHAMTAO, INC. (UGAT) - ANTHROPOLOGICAL ASSOCIATION OF THE PHILIPPINES 35th ANNUAL CONFERENCE: Rethinking and Remaking Forms of Knowledge: The Critical Work of Anthropology. Ateneo de Davao University, Davao City, 24-26 October 2013.
- 2013c. “Anthropologizing tao, lupa, hangin at tubig and tumao - Understanding the sources of Filipino responses to natural disasters.” Module written for *Integrating Climate Change Adaptation and Disaster Risk Reduction*. Project funded by the AusAid Public Sector Linkages Program - Capacity Strengthening Program on Integration of Climate Change Adaptation and Disaster Risk Reduction in Five Provinces in the Philippines. December 3, 2013, Cagayan de Oro City and December 6, 2013, ITTC MSU Iligan City.

⁶ This course is popular among Mass Communication majors, Psychology students, and Business Administration and Economics majors as well.

2012. *Tagging vulnerabilities to natural disasters through local knowledge: the founder's cult, landscapes and place names.* Paper read during the KAPWA 3: Indigenous knowledge in the academe, bridging local and global paradigms. An International Conference with Symposium for Schools of Living Traditions (SLT), June 25- July 1, 2012 Baguio City, Philippines.
2010. *Overcoming Disasters – lessons from post-disaster interventions in Japan and Southeast Asia.* Ed. Cynthia N. Zayas et al. Diliman: UPCIS Publications.
2010. “Aeta Lessons from Mt. Pinatubo- Restore the forest, revive heritage.” Co-written with V.V. Hernandez, E. M. Ragragio and R. Alejandro. In *Overcoming disasters –lessons from post-disaster interventions in Japan and Southeast Asia.* Zayas, C.N., V. V. Hernandez and A. C. Fajardo (editors). Diliman: UPCIS Publications.
2007. “*The wrath of the Deity Koujin and the Great Hanshin-Awaji Earthquake in Awaji Island, Japan*” (淡路島における災害と記憶の文化—荒神信仰を中心に)。第204回日文研フォーラム。国際日本文化研究センター、International Center for Japanese Studies, Kyoto. In Japanese.(booklet)

Conferences and field work related to disaster studies
Education & documentation

2015. Out-of-classroom organizer. “Studies and reports on the Ayta of Clark at Camias, Porac, Pampanga: Out-of-classroom learning activities, Global Studies 197 (Special Topics on Cultures of Disaster),” in *Beyond Diliman*, No. 1, Center for International Studies, University of the Philippines, Diliman. Note: In 2015 I led a multi-disciplinal class field work for the course Global Studies 197 – Cultures of Disaster, in Sitio Target, Bgy. Sapang Bato, Angeles, Pampanga. This monograph is the output from that field work.
2011. Convener and paper reader: International Symposium Eco-cultural adaptations in Volcanic Environments. Commemorative meeting of the 20th year of Mt. Pinatubo Eruption. University of the Philippines, Diliman and Pampanga. February 25-28, 2011.
2011. Organizer of the Field study in Bgy. Inararo, Porac Pampanga among the Aytas of Pinatubo during the UPCIS - Osaka University GLOCOL Seminar “Natural Disaster and Global Collaboration – Responses to the Great Japan Earthquake, 3.11 and Study Tour.” September 17-19.
2010. Convener and paper reader: International Symposium and Study Tour: Towards a Culture of Prevention: the Best Educational Practices on Disaster Risk Reduction in Japan and Southeast Asia. UP Diliman. February 15-17, 2010.

Final words

The eruption of Mt. Pinatubo was a rare event, as volcanologists and geologists believed that the volcano had not erupted in the preceding 500 years or so. The displacement of indigenous people who claim the volcano as their homeland was unprecedented. An Ayta

leader thanks the volcano for informing the government that they do exist and there are many of them. The slope dwellers on the volcano are not used to living with their lowland neighbors. They in fact flee whenever a lowlander would come close to their hamlets. My interest in the study of these people could have been influenced by their rarity as well as the uncommon eruption of an unknown volcano. In the study of such an event, the victims provided a rare glimpse of how native peoples showed their resilience despite the enormous destruction of their environment. In 2015, I wrote that

Human dispersal due to volcanic eruption has aggravated the quest for land tenure among the indigenous peoples of Mt. Pinatubo – the Aytas. Being semi-nomadic people, the Aytas have established village communities in a vast territorial land at the same time [they] seasonally camp in forests for slash-and-burn agriculture and hunting and gathering activities. As a result, they are often targets of land-grabbing miners, ranchers and cultivators from the lowland. The long struggle to regain their homeland began during the Spanish colonization of the Philippines (mid-1600s to late 1800s) and “ended” when Mt. Pinatubo erupted, triggering America to leave its air and naval bases on the slopes of the volcano. The only remaining land Aytas had prior to the volcanic eruption unfortunately was covered with lahar and other debris. Land is life and life is land as a native concept connects with the issues of ancestral domain and the Indigenous Peoples Rights Act of 1997. Examining these relations will provide the opportunity for a sharper view of the effects of natural disaster on human population. By further examining traditional social organization and village formation as a response to volcanic eruption, future policy on development and resilience may be guided by the native ways of doing things and thus, avoid costly human development engineering.

Anthropologists wear many hats. They can be academics or they can work directly with NGOs for the benefit of people. In the Philippines, the academe provides a prestigious position but does not give good economic returns. Besides, there are a limited number of posts in universities. The advent of NGOs has paved the way for the employment of anthropology graduates in the Philippines.

Reference

Bankoff, Greg

2007. “Bodies on the beach: domestication and disasters in the Spanish Philippines 1750-1898,” *Environment and History* 13(3)285-306.

Bennagen, P. C.

1996. "Amin ito: who controls disaster management?" *Aghamtao : Journal of the Anthropological Association of the Philippines*, 8: 56-64
- Cunanan, J. T.
- 1982-83. "The impact of the United States military bases on the (Negritos): victims or beneficiaries?" *Aghamtao: Journal of the Anthropological Association of the Philippines*, 5-6: 63-79.
- Dalisay, Soledad
2005. "Surviving *inaagosto*: household responses to the threats of the lean season," *Philippine Geographical Journal* 49(1-4): 121-134.
2008. "Survival strategies to overcome *inaagosto* and *nordeste* in two coastal communities in Batangas and Mindoro," *The Philippines: Disaster Prevention and Management* 17(3): 373-382.
- Gaillard, J. C.
2015. *People's Response to Disasters in the Philippines: Vulnerability, Capacities and Resilience*. New York: Palgrave Macmillan.
- Magno, Notan.d.
- Zamboanga crisis of 2013, a human disaster that was complicated by natural disasters* (directly and indirectly). Quezon City: Institute of Philippine Culture. In Press.
- Dela Peña, Lilian
2012. *Sa Kagabaion sa Sendong (On the Night of Sendong: Narratives of Children Survivor)*. Ed. with Amor Q de Torres.
- Tatel, Carlos, Jr
2009. *Ethnographies of disaster: the 2009 UP anthropology field school, Tiwi, Albay*. Aquinas University of Legazpi, Legazpi.
- Shimizu Hiromu
1989. *Pinatubo Aytas: Continuity and changes*. Ateneo de Manila University Press, Quezon City.
1992. "Past, present and future of the Pinatubo Aetas: At the crossroads of socio-cultural disintegration." In H. Shimizu (ed.) *After the eruption: Pinatubo Aetas at the crisis of their survival*. Tokyo: Foundation for Human Rights in Asia.
2001. *The orphans of Pinatubo: The Ayta struggle for existence*. Manila: Solidaridad Publishing House.
2003. "Diaspora and ethnic awakening: The formation of cultural consciousness among the Ayta of Mt Pinatubo after the eruption of 1991." In S. Yamashita and J. S. Eades (eds.) *Globalization in Southeast Asia: Local, national and transnational perspectives*. New York: Berghahn Books.
- Seitz, Stefan
1998. "Coping Strategies in an Ethnic Minority Group: The Aeta of Mount Pinatubo," *Disasters*, 22(1): 76-90.

Zayas, Cynthia N.

- 2016a. “Memoires of the UPCIS Out-of-Classroom Learning Activities – Pagsabog ng Bulkang Pinatubo, Ayta sa Sitio Target Sapang Bato, Angeles, Pampanga,” *Beyond Diliman* No. 1. University of the Philippines Center for International Studies, Diliman.
- 2016b. “Land is Life and Life is Land: Development, Resilience, Family and Knowledge for the Ayta of Mt. Pinatubo.” *The Consequences of Disasters: Demographic, Planning, and Policy Implementations*, Ed. Helen James and Douglas Patton. Springfield, Illinois: Charles C Thomas.
2015. “Ayta Pinatubo’s Post-Disaster transformations & indigenous sustainability- ‘the Sitio Target experience.’”, Paper presented during the Asia-Pacific Research University’s 11th Research Symposium on Multi-Hazards around the Pacific Rim. Microtel by Wyndham, Techno Hub, UP Diliman Quezon City, October 7-10, 2015.
2014. “Ayta strategies to repossess ancestral land after the eruption of Mt. Pinatubo, Philippines.” Paper presented to the ASSOCIATION OF PACIFIC RIM UNIVERSITIES (APRU) X MULTI-HAZARDS INTERNATIONAL SYMPOSIUM : “Discovering, Researching and learning in time of disasters in the Pacific Rim: Bridging the gap through academic work”. Campus Andrés Bello, University of Chile, Santiago, Chile, November 18-20, 2014.
- 2013a. “Useful Plants of Selected Ayta Communities from Porac, Pampanga, Twenty Years after the Eruption of Mt. Pinatubo,” *Philippine Journal of Science*, 142 (0):161-189. Co-authored with Elena M. Ragrario and Jasper John A. Obico.
- 2013b. “Disaster experiences in place names and memories from Japan and the Philippines.” Paper read at the 35th Annual Conference of the Ugnayang Pang-aghama, Inc. (UGAT) - Anthropological Association of the Philippines: Rethinking and Remaking Forms of Knowledge: The Critical Work of Anthropology. Ateneo de Davao University, Davao City, 24-26 October 2013.
- 2013c. *Anthropologizing tao, lupa, hangin at tubig and tumao - Understanding the sources of Filipino responses to natural disasters*. Module written for the Project: Integrating Climate Change Adaptation and Disaster Risk Reduction. Project funded by the AusAid Public Sector Linkages Program - Capacity Strengthening Program on Integration of Climate Change Adaptation and Disaster Risk Reduction in Five Provinces in the Philippines. December 3, 2013 Cagayan de Oro City and December 6, 2013, ITTC MSU Iligan City.
2012. *Tagging vulnerabilities to natural disasters through local knowledge: the founder’s cult, landscapes and place names*. Paper read during the KAPWA 3: Indigenous knowledge in the academe, bridging local and global paradigms. An International Conference with Symposium for Schools of Living Traditions (SLT) June 25- July 1, 2012 Baguio City, Philippines.
- 2010a. Overcoming Disasters – lessons from post-disaster interventions in Japan and

Southeast Asia. Diliman: UPCIS Publications. Ed. Cynthia N. Zayas et. al.

2010b. “*Aeta Lessons from Mt. Pinatubo- Restore the forest, revive heritage.*” Co-written with V.V. Hernandez, E. M. Ragrajio and R. Alejandro. In *Overcoming disasters –lessons from post-disaster interventions in Japan and Southeast Asia*. Zayas, C.N., V. V. Hernandez and A. C. Fajardo (editors). Diliman: UPCIS Publications.

2007. *The wrath of the Deity Koujin and the Great Hanshin-Awaji Earthquake in Awaji Island, Japan* (淡路島における災害と記憶の文化—荒神信仰を中心に)。第204回日文研フォーラム。国際日本文化研究センター、International Center for Japanese Studies, Kyoto. In Japanese.