SENSING INNER FIRE: Centralized Disaster Intervention in the 1948 – 1951 eruptions of Hibok-Hibok Volcano, in Camiguin Island Philippines

by

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Sensing Inner Fire: Centralized Disaster Intervention in the 1948-1951 eruptions of Hibok-Hibok Volcano, in Camiguin Island Philippines

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Abstract

The Philippines is one of the most disaster-prone countries in the world, with over 7,107 islands of the archipelago prone to intense and frequent earthquakes, typhoons, storm surges, tsunamis, landslides, heat waves, and volcanic eruptions. Disaster, being the convergence of both geographic risk and socioeconomic vulnerability, is said to be embedded into the socio-cultural fabric of Philippine society, with the 1951 eruption of Hibok-Hibok on Camiguin island being the first major eruption encountered by the Philippine state after it was granted independence from the United States in 1946.

This was the eruption that triggered the creation of the Commission of Volcanology, a state sponsored network of seismic expertise that has since functioned as the leading authority on seismic and volcanic sensing in the country. This thesis explores the larger historical context of the eruption, by using social volcanology to examine the succeeding attempts by the Commission of Volcanology and other mid-level bureaucrats to relocate the rural population to other neighbouring islands in Visayas and Mindanao. The local population's responses to these initiatives are revealing of urban and rural tensions surrounding Hibok-Hibok's violent eruption in 1951. These tensions have yet to be explored in light of the island's material history as a major producer of Abaca – an endemic crop that thrives on rich volcanic soil. It was this crop that made Camiguin an affluent rural community, where thousands of people chose to endure the risk of living by an active volcano to sustain themselves.

This is a case study that explores the inherently political nature of disaster intervention, and how progressive narratives of expanding networks of expertise, such as that of the Commission of Volcanology, need to be challenged in a landscape with an enduring history of volcanic eruptions.

Lay Summary

This thesis is about the 1948 - 1951 eruption of Hibok Hibok volcano, in Camiguin Island Philippines. It explores the establishment of the first seismic sensing network of the newly formed Philippine government. Following the interactions between the centralized Philippine state and the local rural population living in Camiguin Island, government bureaucrats assumed that the local population was ignorant of the consequences of living beside an active volcano. This project revisits such assumptions and uses the material history of Camiguin Island to challenge the conclusions drawn by the Philippine state against the local rural population. On the contrary, because Camiguin was a major producer of Abaca, which is an endemic crop that thrives on rich volcanic soil, it was an affluent rural community, where thousands of people chose to endure the risk of living by an active volcano to sustain themselves.

Preface

This dissertation is original, unpublished, independent work by the author, Genevieve Cruz.

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Last but not least, to my grandfather, Rene R. Cruz, my heart and laughter, who I miss every single day. I finish this thesis on your birthday – July 11, 2018. Happy birthday!

"We are volcanoes.

When we women offer our experience as our truth, as human truth, all the maps change. There are new mountains.

That's what I want - to hear you erupting. You young Mount St. Helenses who don't know the power in you – I want to hear you."

-Ursula K. LeGuin

Introduction: Fire in the storm: The Invention of Sensing

It happened in their sleep.

At dawn, on a quiet morning of December 4, 1951, while the inhabitants of Camiguin Island were laying in their beds, the volcano Hibok-Hibok unleashed its worst eruption in recorded history.¹ Within seconds, cradled bodies were cemented by pyroclastic flows.² The entire five-kilometer radius of rainforest surrounding the volcano was completely incinerated.³ Thunder roared and lightning cracked from its crater, as smoke and fiery ash exploded skywards before surging into the island's barrios.⁴ This was the climax of a five-year period of collective apprehension. Although the entire country was aware of the volcano's rumblings, the eruption still came as a surprise. Witnesses later described how a rain of fiery boulders, rivers of flowing lava, and clouds of blinding black smoke violently separated them from their loved ones, purging the town from what the pious later believed was the sin of lax churchgoing.⁵

Unknown to all on the island, a storm was brewing to the east, in the Kwajalein Atoll, on the day of the eruption.⁶ Typhoon Amy was to be one of the most devastating storms to hit the Philippines in the twentieth century, one whose path heavily affected the entire Central Philippines. The Philippine archipelago bore the brunt of Typhoon Amy's landfall, which later flooded Vietnam, Taiwan, and

¹ It had erupted nineteen times before, based on records from Spanish Jesuit Priest Saderra Masó. Greg Bankoff, *Cultures of Disaster: Society and Natural Hazards in the Philippines* (London: Routledge, 2003). p. 40

² Photographs from the Hibok-Hibok archive in the Philippine Institute of Volcanology capture a scene of petrified children cradling their mothers. They are similar to the photographs of the victims of the famed eruption of Mt. Vesuvius in 79 AD.

³ Pyroclastic flows are fast moving currents of hot gas and volcanic rock moving up to 700 km/h.

⁴ Barrio is a term for a town in the Philippines, with a smaller population than a municipality. Several reports from the Philippine Institute of Volcanology confirm the presence of thunder and lightning coming from the crater. See the collection of Hibok-Hibok News items in the PHILVOLCS Archive, Quezon City, Philippines.

⁵ "Tragedy at Hibok-Hibok," *Time Magazine*, (New York, NY) December 17, 1951

⁶ 1951 Annual Report of Typhoon Post-Analysis Program. Rep. Washington: Air Weather Service, 1951. 11-77. Print.

parts of mainland China. President Elpidio Quirino declared a state of public calamity for eleven provinces, including the struggling island of Camiguin. He said that Typhoon Amy "cut a broad swath of death and destruction on the face of our land." The typhoon significantly disrupted aid distribution and rescue operations for Hibok-Hibok's volcanic eruption, as limited resources from the war-scarred capital of Manila were spread out even further across Visayas and Mindanao.⁷

Foreign journalists, aid workers, and scientists poured into the island in large steel boats, so different from the quiet fishing *bangkas* of Camiguin and its neighbouring islands.⁸ Here, the officials of the Philippine national government initiated a form of high-level disaster response:, Camiguin was the birthplace of the Commission of Volcanology. This commission was the first state-sponsored network of seismic experts in the country. Its establishment marked a pivotal moment in an archipelago that is one of the most seismically active regions in the world, with twenty-three active volcanoes on the western shoulder of the Pacific Ring of Fire.⁹

When the Commission was first established, Philippine scientists like Arturo Alcaraz and Jose M. Feliciano relied on the promise of prediction and control to convince lawmakers to rearrange bureaucratic structures in the national government. Upon doing so, Camiguin island in 1951 became the first point of testing these newly minted disaster response policies. Although the expansion of the Philippine's first state sponsored seismic network has symbolized the technological progress of Manila's emerging bureaucracy, little research has been done to understand how such an expansion was connected to the people living on Camiguin island. The Manila-based scientists and government officials decreed after the eruption that no one should live near the volcano. They developed an

⁷ Elpidio Quirino, Thirty eighth monthly radio chat President Quirino, Radio, (1951; Manila: Malacañang Palace, 1951).

⁸ Traditional Filipino fishing boats made for shallow seas and fitted with two outriggers for deeper waters.

⁹ "The violent eruption in 1951 and the consequent loss of a great number of lives was the single major factor which led to the creation of Commission of Volcanology by a Legislative Act (RA 766) in June 1952 whose foremost objective was 'safegaurding life and property against volcanic eruptions and danger" as part of "Operation Hibok-Hibok," n.d., Philvolcs Archive, Quezon City, Philippines.

evacuation plan that aimed to resettle survivors to nearby islands. Many within the local rural population met centralized intervention with indifference then resistance, choosing instead to return to Camiguin. The scientists and bureaucrats attributed this resistance to islanders' ignorance of the dangers they faced.

Through the use of social volcanology as a framework for understanding the wider social implications of volcanic eruptions, this **paper** explores the tensions between Manila and Camiguin surrounding the disaster response during the 1951 eruption of Hibok-Hibok. The eruption revealed two forms of risk assessment at work, one urban and the other rural, each rooted in contrasting ways of relating to volcanic phenomena on the island. While urban educated scientists worked to predict and control volcanic eruptions, rural inhabitants sought to adapt to the active volcano's risk and cycles of activity, to pursue a life of improved socioeconomic stability brought about by the presence of rich volcanic soil. This paper will explore an alternative form of risk calculation demonstrated by the inhabitants of Camiguin, one that extends from the material history of the island as a major producer of abaca or Manila hemp.

This thesis paper responds to the work of environmental historian Ted Steinberg who wrote a highly influential critique of state-sponsored disaster response in America, *Acts of God: The Unnatural History of Natural Disaster in America.* Steinberg showed how rhetoric that naturalized geological or weather-related events, unequivocally placed the emphasis on "making nature the villain." In the US, The act of god rhetoric functioned as an evasion for state officials who failed to protect their citizens from the risks of living in vulnerable locales such as fault lines and flood prone areas.¹⁰

Such an evasion has been used on multiple occasions by Philippine politicians, but what is unique in this case study in 1951, is that rather than skirting responsibility, state actors were eager to

¹⁰ Ibid. Ted Steinberg, Acts of God: The Unnatural History of Natural Disasters in America (New York: Oxford University Press, 2000). p.23

allocate resources to move people out of harmful locales. This case study complicates criticisms against centralized intervention, by showing how state sponsored intervention can also fail when initiatives are divorced from the cultural and material histories of rural communities, who in this case study, chose to live by an active volcano despite the government's support to relocate.

The capital's demonstrated interest in science and technology, particularly in volcanology and seismic observation, is all the more significant given the fragile state of the Philippine government in the immediate postwar years. ¹¹ The state-sponsored expansion of science and technology in the country connects this case study to the rich discourse of how science was expanded and institutionalized in the archipelago.¹²

This interest in science and technology was an attempt by the Philippine government to align itself with the disaster response policies in the United States, where Steinberg argued that "attempts to predict and control nature have remained at the heart of the nation's policy response." In this case study, the Philippine government chose to pattern their disaster response after the United States, despite the many ethnolinguistic cultures within the archipelago that have survived near active volcanoes for thousands of years. This, I argue, extends from the context of the Philippine government being a US neo-colonial state struggling to recover from the WWII bombardment of Manila, the financial and political capital of the archipelago.¹³

This attempt of aligning with the United States approach to disaster response is proven by how Philippine scientists strived to work in close collaboration with volcanologists from the United States, seeing them as the leading experts in understanding local volcanic phenomena. When Arturo

¹¹ Greg Bankoff, "In the Eye of the Storm: The Social Construction of the Forces of Nature and the Climatic and Seismic Construction of God in the Philippines," *Journal of Southeast Asian Studies* 35, no. 1 (February 2004): 91–111. ¹² The expansion of Science in the Philippines through the Spanish and American colonial period is most significantly discussed in Warwick Anderson's work. Warwck Anderson, "Science in the Philippines," *Philippine Studies, Ateneo De Manila University* 55, no. 3 (2007): 287–318.

¹³ As Nkrumah characterized Western Africa as a neo-colony, the Philippines too had all "the outward trappings of international sovereignty" but "in reality its economic system and thus its political policy is directed from the outside." Kwame Nkrumah, *Neo-Colonialism: The Last Stage of Imperialism* (Thomas Nelson and Sons Ltd., 1965).

Alcaraz was assigned to become the leading volcanologist of the Commission of Volcanology, he was chosen not because of his experiential knowledge of volcanic eruptions in the Philippines, but because of his experience working in government and his educational background as a US-trained geophysicist. In the discourse surrounding the volcano, Hibok-Hibok is portrayed only as an explosive disaster, not as the provider that the local rural population understood it to be. Thus, this history of expanding disaster response in the Philippines is also a history of American renderings of risk and disaster, and how such ideas are translated and applied to an emerging neocolonial state.

The imminent fear of a nuclear attack after the bombing of Hiroshima and Nagasaki was a major catalyst for the creation of state-sponsored disaster response policies. In the US, when the National Security Act was signed in 1947, the Office of Civil Defense Planning and The National Security Resources Board (NSRB) were, among other things, tasked with sustaining a continued state of readiness in the public. Educational programs such as the famous "Duck and Cover" video was broadcasted in public schools, despite criticisms that such responses were futile in the event of a nuclear attack. Local governments that had assumed the responsibility of addressing "natural" disasters, started to ask the better-funded federal state to expand Civil Defense programs to include seismic and weather-related disasters in their locales. This period of change eventually led to the creation of the Federal Emergency Management Agency or FEMA in 1979.

This institutionalization of disaster response into the Federal government sparked widespread debate amongst scholars, most significantly from German sociologist, Ulrich Beck and the calculability of risk as a framework for understanding technology and disasters.¹⁴ A voluminous amount of scholarly discourse surrounding disaster and risk have been produced since the seventies, and consequently expanded into multiple disciplines and fields.¹⁵ Sheila Jasanoff, a prominent figure in

¹⁴ Ulrich Beck, Risk Society: Towards a New Modernity (Sage Publications, 1992).

¹⁵ Patrick S. Roberts, "Private Choices, Public Harms: The Evolution of National Disaster Organizations in the United States," *Columbia University Press*, Disaster and the Politics of Intervention, 2010.

Law and Science and Technology Studies, has described how "risk has shifted its locus almost imperceptibly from being principally managerial problem to one that is seen also as deeply political."¹⁶

This paper examines the physical, political, and social divide between the rural island of Camiguin and the urban capital of Manila, to connect Hibok-Hibok's eruption to the history of Manila after World War II. This case study also serves as a critique of the highly centralized tendencies of disaster response that emerged in the twentieth century. Timothy Mitchell's argued in *Rule of Experts: Egypt, Technopolitics, Modernity* that social theory is "still (being) largely trapped in the methods and divisions of labor in the nineteenth century."¹⁷ Mitchell makes this case for the spread of malaria in early twentieth century Egypt, and how public health initiatives need to be evaluated in a manner that integrates these initiatives with other disciplines.¹⁸

It's through this evaluation that it becomes clear how calculability does not merely add knowledge, in the same way that added investments in science and technology is assumed to have added knowledge of volcanoes to the Philippine state. Rather, as Mitchell pointed out, "the twentieth century's new regime of calculation did not produce, necessarily, a more accurate knowledge of the world, despite its claims, nor even any overall increase in the quantity of knowledge. Its achievement was to redistribute forms of knowledge, increasing it in some places and decreasing it in others."¹⁹ The Philippine state defined knowledge of volcanoes as having come from centralized American institutions, despite the long history of volcanic activity in the archipelago. In following the government's presumption that knowledge increased after the eruption, it can be concluded, following Mitchell's argument, that knowledge was also rearranged in some spaces, and decreased in others.

¹⁶ In this Jasanoff describes the difference between risk management and risk governance. Sheila Jasanoff, "Beyond Calculation: A Democratic Response to Risk," *The Columbia University Press and Social Science Research Council Series on the Privitazation of Risk*, 2010. 15-40

¹⁷ Timothy Mitchell, Rule of Experts: Egypt, Techno-Politics, Modernity (Berkeley and Los Angeles, California: University of California Press, 2002). 28

¹⁸ Ibid, Mitchell uses the example of Malaria and how social phenomena such as capitalism, war, and nationalism, enabled the threat in Egypt.

¹⁹ Ibid, Mitchell, 92

This case study therefore, will complicate the history of the 1951 eruption of Hibok-Hibok, in an attempt to understand how centralized disaster response was tested in a rural space, prior to the emergence of risk as a framework for understanding disasters. As Sheila Jasanoff wrote, "The past is not the same for everyone who experiences it, especially when interpreters are separated by divisions of status, income, and, analaytic capacity. As historians have shown us, the ruler's memory does not recall prior events in the same way as that of the subaltern."²⁰

The Philippine government's linear narrative of progress and development of seismic sensing in the country needs to be challenged. As a prelude to social volcanology, which is the convergence between the physical domain of volcanology and social science, this case study analyzes how this collective defiance demonstrated against centralized disaster response was motivated by a range of complex social phenomena, which has already been explored by other environmental historians of the Philippines, like Gregg Bankoff, whose work will be discussed in the later sections of this paper.

In what follows, this thesis will discuss the government's response to the eruptions of Hibok-Hibok and local resistance to it. It begins, however, with a discussion of Manila, as the capital city, and Camiguin, as an island of volcanoes. A narrative of events during the 1951 eruption of Hibok-Hibok will then be discussed, followed by a brief summary of Hibok-Hibok's past eruptions, and its significance to the Philippine Weather Bureau. The final section will be the conclusion and an epilogue that includes recommendations for other historians interested in pursuing similar case studies in the Philippines.

The recollection of the environmental history of volcanoes in the Philippines needs to move beyond state-sponsored archives in the Philippines like the PHILVOLCS archives. For anyone who wishes to revisit the 1951 eruption of Hibok-Hibok, let this case study point to the need for oral interviews to better understand the complexity of motivations behind resistance to state sponsored

²⁰ Ibid, Jasanoff, Beyond, 15

intervention in 1951 Camiguin Island. This paper is purely an analysis of archival material in the Philippines and in North America.

I. Manila and Camiguin Island: A Ruined Capital Meets an Angry Mountain

In 1951, Manila was the site of a disaster.

The city consisted of ruined buildings. Walls were marked by bullet holes from the pounding of heavy artillery fire from 1945. It was the site of the worst urban fighting in the Pacific Theatre, what some described as the Warsaw of the Pacific. Manila was no longer the glowing metropolitan city that it once was. The eclectic arrangement of Spanish, Chinese, and American architecture was reduced to a memory. The walled city of Intramuros, the once proud spiritual capital of the Spanish government, with its momentous cathedrals made of volcanic rock, was nothing but dust and rubble after the war.

Although the roads were cleared, the survivors of the Battle of Manila were plagued by traumatic memories of the massacre, a time when Japanese soldiers violently attacked the vulnerable civilian population. This was followed by the US bombardment that completely destroyed the capital. The estimated range of casualties from the Battle of Manila spanned from 100,000 to 300,000 persons.

As in so many disasters, the rich recovered quicker than the poor. In the years following 1945, the gap between the classes significantly widened. Southern California style mansions sprouted like weeds among ruined public structures. Sedan taxis served upper class people who could afford the fare of fifty cents a mile, while most Filipinos squished into salvaged military jeeps or "jeepneys" made for sixteen persons. There was a normalized state of disrepair in the city, that "the common world may be going to hell and heck again, one might as well make as much money and have as much fun as possible in all that's left." After five years, odd small businesses pushed through the ruin, they

decorated dilapidated structures with cheap neon lights and dusty night clubs.²¹ The Philippine government's resources were starved. It was the real estate developers, the powerful oligarchs of the country who, unknown to most people then, were laying the blueprints for massive gated subdivisions that only a sliver of the population could afford. The once elegant pearl of the Orient was now a city of stark inequality.

It had been only five years since the Philippines was granted independence from the United States in 1946. The influence of the American government was strong on the broken capital, with only one of six newspapers published in Tagalog, the local dialect. The rest of the publications, just like official state records, were in English.

Quirino was the Vice President of the Philippines before he was appointed to the Presidency after the death of President Manuel Roxas in 1948. Quirino was a sickly President, one who suffered through much grief, having his wife and three of his children killed during the war. His administration was unpopular among Filipinos. His many requests for aid to the World Bank and the United States were denied for various reasons, most relating to Cold War tensions and the beginnings of the Korean War. Reparations that were promised to the Philippines were tactically redirected to Japan instead, leaving the Philippine government incapable of repairing its own capital, which contributed to the surmounting inequality between classes in Manila, and the widespread scourge of hunger.²²

In 1950, President Truman deployed a team of surveyors to the Philippines for "The Bell Mission", which was meant to survey the archipelago to assess Quirino's requests for aid. Robert Shaplen, a journalist for the *New Yorker*, reported that the mission ended with the promise of aid, on

²¹ Robert Shaplen, "Letter From Manila," The New Yorker, (New York, NY) April 7, 1951, 96-104

²² Nick Cullather, *Illusions of Influence: The Political Economy of United States Philippines Relations, 1942 - 1960* (Stanford University Press, 1994).

the condition that the scandalous corruption amongst Philippine government officials would cease. The condition was not met. In what seemed to be exhaustion after being denied a five-year, two hundred and fifty million-dollar grant from Washington, President Quirino's cabinet issued a statement:

What is not widely understood, is that Philippine 'bankruptcy and corruption' have an intimate relationship to the American example in racketeering and to the insidious inspiration provided by the conspicuous consumption otherwise known as the American standard of living. Filipinos are mere pikers compared to their more accomplished and eminently successful mentors, who have had and still have a vast continent on which to base their operations. Filipinos, here is no question are inefficient, all right – even in their grafting – due to the simple lack of sufficient experience.²³

The fact that Quirino later withdrew his statement is reflective of the cautious disposition he demonstrated throughout his term. Manila was in a fragile state, desperate for any form of American aid. In 1951, the Philippine military was suppressing a communist uprising in Central Luzon and worried about the fighting in Korea. Quirino remained loyal to his American counterparts. This was an approach that was interpreted as weakness by many of his colleagues in the government. In his next bid for re-election in 1953, he lost to a charismatic politician and former guerrilla leader: Ramon Magsaysay. The ending of his term ushered a new era of Philippine politics, but not before his government put the beginnings of centralized disaster response in place through Administrative Order 71, which assigned natural disaster response to the Red Cross, granting them the authority to call upon other agencies such as the Social Welfare Commission, and the Bureau of Health to respond to any disaster.²⁴

Quirino later revealed that Administrative Order No. 71 was necessary due to "a great deal of overlapping of functions, duplication of effort and expense, and confusion in the execution of plans."

²³ Ibid. Shaplen

²⁴ This is assumed to be what is known today as the Philippine Red Cross. See "Messages of the President Elpidio Quirino 1948-1953," *Republic of the Philippines,* Book 6, Volume 3, Historical Papers and Documents. p.84

He said that the renewed activity from Hibok-Hibok in 1948, and the widespread fire in Cotobato that displaced five hundred people, were among the triggers for this particular administrative order. He then proceeded to persuade his listeners to donate to the Red Cross. Interestingly enough, he added that "all we need is more science and system in our action." This eagerness to embed scientific expertise into disaster response was fully realized when Republic Act no. 766 was passed on June 20, 1952. This law created the Commission of Volcanology. The enactment of Administrative Order No. 71 and Republic Act no. 766 proves that the Philippine government was financially incapable of planning and administering centralized intervention because it had appointed an external organization as the leading authority to address national disaster response. On the sidelines, many statesmen were looking to embed science and technology into the government as a potential way to address this financial incapacity.²⁵

Arturo Alcaraz was working for the Quirino administration as a young Filipino scientist when this declaration to further embed science into the state was made. Alcaraz worked in the Geological branch of the Philippine Weather Bureau and had previously received a Philippine government scholarship to pursue his MS Geology degree in the University of Wisconsin, after excelling in his undergraduate degree in Mining Engineering in Mapua Institute of Technology in the Philippines.²⁶ His work on Philippine volcanoes made him into the leading authority of seismic and volcanic observation in the country.

In his early years before graduating from the University of Wisconsin, Alcaraz wondered out loud, after witnessing the environmental degradation from mining projects in Baguio city, where he grew up, he said, "surely there must be ways to effect trade-offs between our desire to mine minerals

²⁵ Anderson, "Science in the Philippines."

²⁶ Alcaraz graduated from the University of Wisconsin with the help of funding from the American sponsored Commonwealth Government.

and cut trees and our need to preserve the environment." Alcaraz was drawn to the study of volcanoes for their proven potential as a renewable energy source. Later in his life he would be remembered as the "Father of Geothermal Energy" in the Philippines, someone who "showed the way in nearly taming nature, transforming its wild energy from – in his own words – malefactor to benefactor."²⁷

He would later study Volcanology in University of California-Berkeley under a Guggenheim fellowship in 1955, after he had encountered the 1947 eruption of Mayon volcano and the 1948 - 1951 eruptions of Hibok-Hibok.

In 1947, Alcaraz was assigned to observe a minor eruption of the highly active volcano, Mayon, in the Albay Province of Visayas. Due to a chronic lack of funding within the Philippine Weather Bureau, Alcaraz used public transportation to survey the volcano, riding in a bus to collect his observations. A colorful account depicted how Alcaraz was asked by one of the elders in Mayon, "what time are you hearing confession today?", thinking that he was a Jesuit priest. It was rare, even unheard of, to see a dark-skinned Filipino scientist.

Hibok-Hibok was only his second assignment just one year after Mayon volcano's tamer eruption. In 1948, Hibok-Hibok first bellowed smoke and shook the earth. The phenomena alerted the local government of Camiguin, which then called on the national government for assistance. In September that year, the Philippine Weather Bureau first arrived on the lush island of Camiguin. The small island (area is only approximately two hundred square kilometers) was home to five volcanoes: Vulcan, Mambajao, Uhay, Ginsiliban, and Hibok-Hibok. The latter, was known as one of the most active volcanoes in the Philippines.²⁸

²⁷Juan Rufino Vigilar, "Great Men and Women of Asia" (Ramon Magsaysay Award Foundation, 1982 - 1984).

²⁸ This number is based off of a quick reference guide available in the compendium of Hibok-Hibok reports. Esfeca T. Del Mundo, Bella S. Tubianosa, and Sabit, Julio P., *"Quick Reference Notes On Six Monitored Active Volcanoes"* (Philippine Institute of Volcanology and Seismology, March 1994), Department of Science and Technology.

Unlike Manila, Camiguin was not in ruins. In 1948, Camiguin was an affluent rural province, even compared to other provinces in the region.

Camiguin was one of the first islands encountered by Magellan in 1521 and Miguel Lopez De Legazpi in 1565, before it was entrusted to the Augustinian Recollects. As early as 1623, the date of Camiguin's first census, the Spanish colonial government was aware of people living on the island. Records from the Augustinians confirm that the Manobos from the Butuan River were already inhabiting the island upon Magellan's arrival. Boholanos from the nearby island of Bohol also migrated to Camiguin and eventually settled on the island.

Vicente Elio Y Sanchez, who originated from Navarra Spain and married "a prominent Mambajao girl" from Camiguin, published a history of Camiguin in the 19th century, including his own personal observations during his time on the island.²⁹ Agriculture developed there due to the presence of fertile volcanic soil.

Sanchez documented the gradual and continuous arrival of people from Spain, China, Manila, and other Visayan islands, to Camiguin. By 1875, Camiguin's population stood at 25,000 people. This population was engaged in all forms of trade with the Chinese, the city of Cebu, and the Spanish colonial capital of Manila. The diverse range of settlers on the island explains why Kinamigin, the island's unique language, is a mixture of Bohollano, Manobo, Spanish, and Tagalog.³⁰ It was a link language. The presence of the different languages on the island provides a glimpse of migratory patterns with other provinces in Visayas and Mindanao, like Bohol, Surigao, Cebu, and Butuan, to

²⁹ The description for Vicente's wife is provided by Philippine Historian Francisco R. Demeterio, who wrote the introduction for Sanchez's account when it was published by the Philippine Studies Journal in 1970. See Vicente Elio y Sanchez, "The History of Camiguin," *Journal of Philippine Studies* 20, no. 1 (1972).
³⁰ Ibid. Sanchez p.15

name a few. Many of these visitors settled and engaged in various forms of agriculture and trade. Rice, corn, cacao, bananas, coconuts, coffee, and abaca were grown and sold on the island.

Abaca, often referred to as Manila hemp, is a native crop from the Philippines and was one of the country's largest exports.³¹ Abaca grew abundantly in Camiguin because of the island's rich volcanic soil. Sanchez wrote that abaca was "the plant which stands out in importance and value among the other plants cultivated here, which is as it were, [is] the only product of this island which all the farmers plant, forgetting the rest, the plant for which the island is known (for) and, which finally gives life and importance to its commerce."³² In 1904, plantations of abaca were found everywhere in Camiguin, even on inaccessible slopes.³³ Other towns in Northern Mindanao, such as Bagacay, had been growing abaca but it never reached the production levels of Camiguin, which by 1875 was producing a tenth of all the abaca in the world.³⁴

The island was still a major producer of abaca by the turn of the twentieth century, after the Spanish had sold the Philippines to the United States. There was a small resistance against the Americans when they arrived in Camiguin during the Spanish American War, but eventually the Americans did gain control of the island.³⁵ By 1920, Camiguin had been the site of some development projects. Reports from the *Bureau of Public Works Quarterly* confirm that national projects such as new

³¹ "The term Manila hemp usually applied to the abaca fiber is very misleading. Properly speaking hemp is the bast fiber extracted from the inner bark of the Cannabis sativa. The so called Manila hemp is the structural fiber obtained from the leaf sheath of the Musa textilis. The term abaca designates both the plant and the fiber under consideration." See Lee George Sterling, "The Fiber Monopoly of the Philippine Islands," *American Association for the Advancement of Science* 11, no. 2 (August 1920): 159–70.

³² Elio y Sanchez, "The History of Camiguin." 20

³³ M. Saderra Maso, "Volcanoes and Seismic Centers of the Philippine Archipelago," 1904.

 ³⁴ The True Northener (Paw Paw, Mich.) August 11, 1871. Chronicling America: Historic American Newspapers. Library of Congress. <u>http://chroniclingamerica.loc.gov/lccn/sn85033781/1871-08-11/ed-1/seq-5/</u> Accessed February 7, 2018
 ³⁵ Godofredo S. Apugan, Joseph B. Gaa, "History of the island..of the town," Official website of the government of Catamaran, 1999, access date April 13, 2018, http://www.catarmancamiguin.gov.ph/history/.

roads, schools, and even a monument for Jose Rizal, the Philippine's "National Hero", had been built on Camiguin.³⁶

In June 1942, the Japanese Imperial Army landed on Camiguin and occupied the island. They cut off export of precious abaca, depriving the US of a key raw material. The United States Office of War Information announced:

Without [fiber crops], we could neither fight nor eat. Without rope no warship could race to do battle against the Nazis and Japs; no cargo ship cross the seas with tanks and guns for armies fighting Hitler. They must have hundreds of million of feet of rope. Without binder twice there would be famine in the midst of bumper crops because the crops could not be harvested. The farmers who grow the food we eat much have hundreds of millions of feet of binder twine for their harvesting machines.³⁷

The shortage in Abaca prompted the US Raw Materials Board to recommend that "20,000

acres of Latin-American jungle be cleared and planted to Abaca plants from which the Manila Fiber is obtained." In January 10, 1946, the US seized abaca plantations from Japanese nationals in Mindanao. James E. Markham, Alien Property Custodian, said the he hoped the seizure would "alleviate the serious shortage of hemp in this country." On May 17, 1951, the Armour Research Foundation of Illinois Institute of Technology announced that it was conducting research on increasing the production of Manila hemp at the Monte Verde plantation in Costa Rica to address possible shortages in supply.³⁸ This is how and why abaca started to be produced in other countries outside the Philippines like Costa Rica, and Equador. Uses of abaca has since expanded from marine cordage to currency notes, cigarette filter papers, and other high-quality paper products. It is still regarded as the strongest natural fiber in the world.

³⁶ Records for these projects have been classified as developments in the province of Misamis, before Camiguin became its own province in June 18, 1966. See *Bureau of Public Works Quarterly Bulletin* Vol 4. No.1, October 1, 1915: 44 – 45. ³⁷ "Plan 16,000 Acres in Rope Plants: Panama and Costa Rica will use Large Areas to Overcome the Fibre Shortage," *New York Times,* (New York, NY), Sep. 13, 1942.

³⁸ "Research due on Manila Hemp" New York Times (New York City, NY), May 17, 1951

The cultivation of abaca on Camiguin presented settlers with a new hope of gaining affluence, but the bellowing volcano Hibok-Hibok presented a significant risk. This risk was one that sixty thousand people chose to live with, for what the Commission of Volcanology assumed was the lack of adequate knowledge on what a volcano was capable of. In 1948, when the Philippine Weather Bureau arrived, Camiguin was an island of considerable affluence. Yes, it was rural, but it was not as vulnerable as other provinces in the country, and certainly not as vulnerable as the capital itself during that period.

II. Sensing Inner Fire: The 1948 - 1951 eruptions of Hibok-Hibok

"What is the Bureau or the Commission in Mambajao for if not to warn us that on such a day at such an hour the volcano will explode?

Yet no one warned us of the past explosions! And we have been warmed it shall explode whereas it has not!"

- Residents of Mambajao on the Commission of Volcanology³⁹

In 1949, the Philippine Weather Bureau installed the country's "first" seismograph on Camiguin Island – a two-component low magnification Vincentti seismograph.⁴⁰ Although this was a considerable development for the Weather Bureau, Alcaraz continued to lament the lack of topographical maps in the area, and the general lack of funding overall for labour and research. This added to surmounting tensions on the island amongst members of the Philippine Weather Bureau.

³⁹ "The Activity of Hibok Hibok since January 1952," October 17, 1952, Philvolcs Archive, Quezon City, Philippines. ⁴⁰ The "first" seismograph is a topic of contention within the archive. An article from *The Manila Times* speaks about the Weather Bureau's Father Miguel Selga's earlier attempt to install a seismograph in 1917. See Raul R. Ingles, "No Water Shortage throughout summer," *The Manila Times*, (Manila, Philippines) April. 5, 1917.

Using the seismograph, Alcaraz observed that seismic fluctuations had decreased since 1948, suggesting that Hibok-Hibok could be approaching a dormant state – but given the unpredictable nature of volcanic eruptions, he could not be certain.

In September 7, 1950, an eruption killed sixty-six people when it "belched forth hot acidic acids." Alcaraz then issued a warning that he said was ignored by locals, who "had become accustomed to and unperturbed by, the activity of the volcano and have ventured to cultivate areas close to it." Seventeen survivors were flown to Cebu City to receive medical care for intensive burns, nose bleeds, and limited lung capacity due to the chemical fumes from the eruption. This triggered Alcaraz' recommendations to the Philippine government to expand medical expertise as well as seismic expertise in the country. Alcaraz asked that the government invest in studies from other countries with "more established expertise." He then viewed the aftermath from the air and identified six towns to be marked as danger areas that needed to be evacuated immediately. He asked that the national government take charge of the evacuation, which in accordance to Administrative Order no. 71, was the responsibility of the Philippine Red Cross. The Secretary of Health Juan Salcedo, and J.H Yanzon, the manager of the Philippine Red Cross, brought one of the casualties who had died in Cebu City to Manila for an autopsy.

On September 19, 1950, some residents of nearby towns were allowed to return to their homes. Alcaraz and the rest of the Philippine Weather Bureau entered a state of apprehension, as they waited for the Philippine government to respond to their initial recommendations, which they never did. During this time, the volcano became the center of public discourse in Camiguin and Manila. One compelling series of pictures depicted artist's drawings of abstract shapes on top of smoke emanating from Hibok-Hibok. This, according to the editors of the *Sunday Times*, captured a "private line of leisurely thinking" as to what the volcano meant to different people. This prolonged state of agitation

extended from the Weather Bureau, to the journalists and readers of the *Manila Times*. Hibok-Hibok was a matter of concern not just to the island of Camiguin, but to the distant capital as well.



Figure 1 - On October 1, 1950 - The Sunday Times Magazine released a series of art works that conveyed "a private line of leisurely thinking" that was said to reflect the sentiments of some of the islanders on Camiguin.

On December 4, 1951 at 6:15 am, without any warning, Hibok-Hibok had its worst eruption in recorded history. In a published scientific article about the presence of Nuées Ardentes during the eruption, Arturo Alcaraz observed: "The force of the blast is attested by the fact that a coconut tree 25 centimeters in diameter was wrapped in the form of a U around a mango tree 5 kilometers from the source of the blast."⁴¹ The incandescent ash that blasted from Hibok-Hibok's crater glowed with temperatures of at least 7000 °C and remained hot for many days after the eruption.

Governor Paciencio Ysalina, Governor of Misamis Oriental, sent a telegram to Congressman Emmanuel Pelaez that "80% of the population" of Camiguin Island had perished.⁴² The town that was worst hit by the eruption, was Mambajao, the municipal capital of the island. Survivors were urged to leave the island as soon as possible, as a seven-kilometer radius was established around the volcano, which was declared a "no man's land" by Alcaraz, an area that had to be evacuated immediately and barricaded by the Philippine constabulary.

This evacuation plan was decided at a conference that included Misamis Oriental Governor Ysalina and Dr. Joaquin Canuto, the relief coordinator. Two zones were identified by Alcaraz as danger zones. The first, "Zone A" was an area extending three kilometers from Hibok-Hibok's crater, where permanent habitation would be prohibited, and a second zone, "Zone B" known as the potentially dangerous area, which covered the entire island. According to Alcaraz: "The people residing in this area are assuming risk during an eruptive activity by Hibok-Hibok and should be on constant alert."⁴³ The meeting called for 20,963 people to be evacuated immediately. It was determined

⁴¹ A Nuées Ardente is an incandescent cloud of gas, ash, and lava fragments ejected from a volcano, typically as part of a pyroclastic flow Arturo P. Alcaraz and Gordon A. Macdonald, "Nuees Ardentes of the 1948-1953 Eruption of Hibok-Hibok,". *Bulletin Volcanologique*, Volume 18, Issue 1, pp. 169-178

⁴² This figure, "80% of the population" has presented some contention over the official death toll of the eruption, which can range from five hundred to three thousand persons. "141 Die in Hibok Eruption: Governor fears 2000 dead; relief sped by all agencies collection," The Manila Bulletin, (Manila, Philippines) Dec. 5, 1951

⁴³ "Operation Hibok-Hibok."

by the attendants of the meeting that they could transfer, at most, three thousand people a day at full capacity.⁴⁴

Alcaraz was in Manila on the day of the momentous eruption. Alcaraz's colleague, Jose M. Feliciano, head of the Geology Department at the University of the Philippines, held an emergency meeting amongst members of the Philippine Weather Bureau. They decided to send Alcaraz and Juan S. Teves, another geophysicist, to Camuguin.⁴⁵ Feliciano wrote that they could not send Alcaraz and Teves immediately because of a lack of transportation funds in the Weather Bureau. The US Navy eventually brought the geophysicists to Camiguin later that day. Feliciano was perturbed by the lack of support shown by the Philippine government after the Weather Bureau report in 1950. "If they gave us that needed appropriations our men could have studied every movement of the volcano thoroughly," said Feliciano.⁴⁶

Returning to the weather station, Alcaraz found that the seismograph that was installed in Camiguin had predicted no forthcoming eruption, as earlier reported by Eugenio Omahoy, the Weather Bureau observer stationed in Mambajao. It was the worst eruption in Hibok-Hibok's known history, but not even a mild tremor gave clue to the coming annihilation. Alcaraz recorded the time of the eruption on his report: 6:15 am on Tuesday, December 4, 1951. The residents of Mahinog, the town neighbouring Mambajao, insisted that the seismograph had been dysfunctional since before the December 4 eruption.⁴⁷ In his final report of the eruption however, Alcaraz noted that the seismograph was functional before the eruption and continued to function after – but it had not detected any seismic activity beforehand.⁴⁸

⁴⁶ "Hibok Victims Offered Land," The Manila Times, (Manila, Philippines) December 12, 1951.

⁴⁷ "Teacher Dies in Rescue Try; Hunger Looms: Mahinog Folk Say Seismograph was Out of Order" *The Evening News* (Manila, Philippines) December, 1951

⁴⁸ Arturo P. Alcaraz and Juan S. Teves, "Preliminary Report to the Committee on Volcanology on the December, 1951, Activity of Hibok-Hibok Volcano," December 12, 1951, Philvolcs Archive, Quezon City, Philippines.

On December 6, the volcano erupted once again at 12:45 am, this time the crater oozed lava and killed fifteen more people. A vivid account recalled how Philippine Red Cross workers tried to retrieve twenty-two bodies that were spread out, approximately three kilometers from the crater, but could not do so due to a column of flowing lava. The bodies were visible only with binoculars, and their exposure fanned fears of an epidemic outbreak. The Philippine Red Cross was in short supply of blood plasma to help the burn victims and implored the US Red Cross to send supplies over. Evacuation centers were crowded and food supplies were scarce. There was a lack of adequate hospital facilities. The Philippine Red Cross converted the Municipal Building of Mahinog into a makeshift hospital. The construction site of what was supposed to be the Mahinog Maternity Hospital, with no walls and no roof, was also used as an emergency hospital.⁴⁹ Survivors laid on army cots and wooden beds lined with fragile sheets of Manila paper.

On the day after the eruption, Typhoon Amy made landfall on Camiguin which not only delayed the arrival of Quirino's presidential entourage, but all the relief and rescue operations as well. The evacuation was halted, as people waited for the typhoon to cease. There were times when survivors became restless due to the lack of food. Access to potable water was limited due to the pyroclastic flows that blocked streams and rivers.

On December 13, 1951, Quirino declared a "state of public calamity" in eleven central Philippine provinces, including Camiguin island. 422 persons were reported dead due to Typhoon Amy, whose combined aftermath with Hibok-Hibok displaced over 80,000 people.⁵⁰

When the tumultuous rains had ceased, the death toll for Typhoon Amy ranged from one to two hundred throughout the Southern Philippines. Cebu City, a city that was identified for

⁴⁹ Prior to the eruption, construction of the hospital was ceased due to the lack of funds. See Benigno S. Aquino

[&]quot;President eyes future as he tours island", The Manila Times, (Manila, Philippines) December 19, 1951

⁵⁰ "Typhoon Emergency Declared by Quirino", New York Times (New York, NY) December 13, 1951

Camigueños to evacuate to, was heavily hit by the typhoon, and so response efforts had to be reevaluated.

Archival records identified a number of places that were set for survivors to be evacuated to: Misamis Oriental, Bukidnon, Cotobato, Cebu, and Surigao. It is not clear, however, which portions of the population were designated for each province. By December 11, only six thousand people had been transferred to Misamis Oriental, in a town called Claveria which would be designated as "the new Mambajao." Considering the aforementioned goal of evacuating three thousand people a day at full capacity, this meant that the evacuation was significantly delayed.

Meanwhile in Manila, on December 11, 1951, the lower house of Congress was preparing to leave for Camiguin. A special probe was launched to "determine the responsibility of the weather bureau seismologist stationed at Mambajao for failure to predict the oncoming eruption" and investigate why government volcanologists "declared the environs of Hibok-Hibok safe for resettlement shortly after the explosions of 1948." This was a blow to Alcaraz and the Weather Bureau. Alcaraz said that "to expect categorical pronouncements on the future activity of any volcano in the absence of precursory signs that the volcano is going to erupt, is to assume that volcanologists are capable of clairvoyance." He continued to say however, that prediction is possible, "so long as these signs lend themselves to an intelligent evaluation in the light of progress made by the science of volcanology."⁵¹

In a week's time, on December 19, six members of congress held a roundtable conference with the Weather Bureau and drafted a program that included the creation of the Commission of Volcanology, the legislation authorizing president Quirino to declare the no-man's land on Camiguin, the condonation of taxes in Mambajao (the town most affected by the eruption and the capital of

⁵¹ Arturo P. Alcaraz, "Preparedness and Relief Operations in Volcanic Eruptions," Philvolcs Archive, Quezon City, Philippines; Alcaraz.

Camiguin), the release of funds for the construction of a road in a settlement site for evacuees in Claveria, Misamis Oriental, a review of the public lands law to explore possibilities in redistributing land, and a P 2.00 daily allowance for those living in Camiguin.

The investigative probe against the Weather Bureau seemed to have been dropped, but such a gesture was indicative of fluctuating expectations of what science was and what science was expected to do. During the meeting between Congress and the Weather Bureau, senator-elect Felisberto Verano recommended that a bomb be dropped into Hibok-Hibok -- a suggestion that Alcaraz said was "impractical and useless."⁵²

The Commission of Volcanology was the central network of expertise when it came to seismic observation, and when RA No. 766 was passed, it was embedded into the government response for all later volcanic eruptions in the Philippines. "Volcanoes are notoriously individualistic," said Alcaraz, "each one having quirks or behaviour not shared by others." It became clear after the 1951 eruption that the Commission of Volcanology would be the experts in charge of monitoring the twenty-three active volcanoes in the country. and Alcaraz became the leading authority on volcanic eruptions for the next twenty two years of his life.

^{52 &}quot;Hibok Legislation" The Manila Times (Manila, Philippines) December 19, 1951



Figure 2 – A political cartoon about the Commission of Volcanology that was later published in the Sunday Mirror on October 18, 1969

Aside from the Commission of Volcanology, Hibok-Hibok's 1951 eruption also sparked the creation of the Provincial Disaster Coordinating Council (PDCC) which was composed of the Office of Civil Defense, Civil Aeronautics Administration, Commission of Volcanology, Ministry of Education and Culture, Ministry of Health, Ministry of Local Government, Philippine Red Cross, Ministry of Public Roads and Highways, Ministry of Communication and Transportation, Ministry of Social Services and Development, Ministry of Public Information, and The Constabulary and the

National Police. Due to the combined effects of Typhoon Amy and Hibok-Hibok, Act No. 4164 was also made into law, which penalized hoarding and profiteering relief aid, including food, clothing, school supplies, laundry soap, fuel and fuel oil, matches, shoes, construction materials, and medicines.

Despite these newly created mechanisms within the Philippine state, the response of Camiguin's rural inhabitants proved to be a surprise to the national government which had failed to anticipate the collective recalcitrance to its evacuation efforts. Just as Quirino had said earlier, national disaster response in the Philippines consisted of "a great deal of overlapping of functions, duplication of effort and expense, and confusion in the execution of plans." Considering the combined effects of Typhoon Amy, and the lack of aid for the capital after the US bombardment in World War Two, this form of disaster response was unevenly reliant on foreign expertise to understand and address Hibok-Hibok's 1951 eruption.



Figure 3 - A map of Camiguin island showing the radius of the "no-man's land" in relation to Hibok-Hibok, 1951.

III. Return to Camiguin: Resistance to State Intervention and Bahala Na as a cultural phenomenon

Paciano Agon was a sixty-four year-old man who had lost his wife and eleven children during the eruption. Agon returned to Panasan, a town buried by lava, insistently shouting the names of his wife and children. Rescuers dragged him out as he screamed, "Let me go, let me die with all of them."⁵³

Agon's story was not an outlier. On December 18, 1951, *The Manila Times* wrote that "the refugees milled around checkpoints wanting to return to their homes, but army troops kept holding them back, warning that the volcano may erupt again at any time."⁵⁴ By this time, although the volcano was quiet, sulphurous smoke still emitted from the crater. Journalists noticed how survivors from Mambajao, returned to their destroyed homes, to "clean their yards."⁵⁵

"Mambajao is a veritable ghost town today," they wrote, "but only by night. For many people still roam the town's ash covered streets by daytime."⁵⁶

This resistance to the Weather Bureau's No-Man's Land extended to the sea. Although food supplies were scarce during those first few weeks of the evacuation, the local population remained peaceful despite the scarcity, and some of them preferred to fish rather than depend on the Philippine Red Cross for food. When the Presidential entourage arrived in Camiguin, Quirino spotted fishing boats with fishermen casting their nets well within the danger zone, west of the crater. Quirino saw the fishermen from the yacht, and remarked, "These Mambajao folks are brave."⁵⁷

For the population who had already left Camiguin, government officials observed a collective yearning amongst evacuees to return to the island. The survivors preferred to return home to Camiguin despite being offered financial incentives to resettle in Mindanao. Asuncion Perez, a social

^{53&}quot;Resettlement Plan to be pushed through" The Manila Times, (Manila, Philippines), Dec. 18, 1951

^{54 &}quot;Hibok Relief Supplies" The Manila Times, (Manila, Philippines), Dec. 14, 1951

⁵⁵Ibid. Manila Times, Resettlement.

⁵⁶ Ibid, Hibok Relief Supplies

welfare administrator, made arrangements to allot portions of Cotobato lands in the mainland for the resettlement of survivors. The survivors however, expressed that they did not want new land and just wanted to return to their island. They didn't want to resettle in towns and cities in Mindanao, or elsewhere in the country.

To outsiders, Hibok-Hibok was the "the haughty and arrogant conqueror", "the angry mountain", "the punch drunk pugilist", even the "atomic bomb" – but on January 12, 1952, Rafael A. Bautista published an article in the *Philippine Free Press* that described Hibok-Hibok in more playful terms. "Like people on a merry go round," he said, "the people of Camiguin island just go 'round and 'round with Hibok-Hibok providing the music."⁵⁸

Bautista, in this article, referred to the ways in which Camiguin's inhabitants were already accustomed to relocating on their own during times of past eruptions, circling different parts of the island in response to Hibok-Hibok's activities. He then proceeded to name some wealthier individuals who simply moved to different parts of the island during the 1951 eruption, unaffected by the government's warnings.⁵⁹ This suggests that the more affluent members of Camiguin island had other means of responding to the disaster, and thus state sponsored intervention became irrelevant.

Bautista described how thirty thousand people were still living on Camiguin, and had no plans of leaving the island, and how those who left, were already planning their return. He said that the locals were known to say: "We'll sink with Camiguin." Even Father Arthur O' Shea, the celebrated parish priest, vowed to stay on the island.

Today Mambajao, the town that was assigned to be relocated to the mainland of Mindanao, is still on Camiguin with more inhabitants than ever. The once municipal capital is now the provincial

⁵⁸ Rafael A. Bautista "Camigueños Go Round and Round" *Philippine Free Press* (Mambajao, Camiguin Island, Philippines) January 12 1952

⁵⁹ A Don Catalino Chan from Mambajao simply relocated from Mambajao to Sagay, Don Vicente Reyes transferred to Binoni, Don Paulino Dagondon transferred 5km from Poblacion, still within the "danger area" See Rafael A. Bautista "Camigueños Go Round and Round" *Philippine Free Press* (Mambajao, Camiguin Island, Philippines) January 12 1952

capital of Camiguin, which is no longer a district of Misamis Oriental province, but is its own province. The archive remains silent about any follow-through on the specific evacuation plan that was designed by the Philippine government in 1951, but the presence of eighty-eight thousand people in a 2015 population census showed that many still continued to choose the risk of living by an active volcano.⁶⁰

"Foolish idea, so it seems. But the Camigueños really mean it," Bautista wrote, "Economically they're better there, than they'll be elsewhere. Bahala na!"

This notion of Bahala Na, a phrase that is known throughout the archipelago, is often mistranslated to mean a reckless disregard for risk, often bordering on a fatalistic "come what may" attitude. However, as Greg Bankoff has noted in his work *Cultures of Disaster*, "What is missing from this interpretation is any appreciation of risk taking. Bahala Na is also about courage and daring and a sense of finely calculated assessment of the odds."⁶¹ This coping mechanism can be observed throughout the archipelago, which is continually facing the significant risk of encountering typhoons, earthquakes, and volcanic eruptions.

Following Bankoff's line of reasoning, the people of Camiguin have always been aware of Hibok-Hibok's dangers, but they chose to live beside an active volcano over the risk of living anywhere else. As a result, the inhabitants of Camiguin have already anticipated some ways to respond to the risk. The cultural phenomena of Bahala Na has been observed on several occasions throughout the Philippines, both as a form of risk calculation, as well as a coping mechanism.⁶²

Filomeno V. Aguilar Jr., an influential Filipino historian, has responded to Bankoff's work by asserting that Bahala Na as a form of calculated risk assessment is not a rigid term. Its applications are fluid and highly dependent on the context in which it is used. Aguilar maintains that, "*Cultures of*

⁶⁰ "Camiguin," Republic of the Philippines, Philippine Information Agency, April 18, 2018, <u>http://pia.gov.ph/provinces/camiguin</u>. Accessed June 11, 2018

⁶¹ Bankoff, Cultures of Disaster: Society and Natural Hazards in the Philippines. p.167

⁶² Bankoff has since changed his views about Bahala Na as a coping mechanism, but the popularity of Culutres of Disaster in Philippine History begs that these assertions constantly need to be reassessed and reevaluated.

Disaster provides a blanket portrayal of seemingly static perceptions and aberrant behavioral patterns of Filipinos, which renders its formulation about cultures of disaster prone to essentialist thinking." He continued: "Although the author probably did not intend to do so, Philippine culture is reduced to a pathological state."⁶³

Aguilar uses the 1951 eruption of Hibok-Hibok as evidence that Filipinos, through the actions of the national government, were interested in scientific explanations of volcanic and seismic phenomena. This assertion converges with existing debates surrounding what "Philippine culture" truly is, and who is the "Filipino" acting out this said culture. Philippine historians like Nick Joaquin have long sought to complicate the notion of the "Filipino" as a race, and challenges assertions about Philippine culture being a stagnant term determined by skin color, place of birth, and socioeconomic status.⁶⁴ The Philippines as a geographic region is a colonial construction, named after King Philip II of Spain. In between the more than seven thousand islands in the archipelago lies differences in the material relationship between humans and their surroundings.

The widespread use of Bahala Na throughout the archipelago suggests a conscious assessment of risk embedded in cultures that are constantly exposed to weather-related and geophysical hazards, but such an assessment is still subject to the context in which this form of risk calculation is used. Resistance to the state's evacuation plan cannot be ascribed to Philippine-wide cultural values.

Following Aguilar's recommendations, it is important to understand the historical context in which the eruption took place. This context, I argue, is deeply rooted in the region's environmental and material history as a major producer of abaca. To view resistance against disaster intervention as a purely cultural phenomenon, potentially exoticizes the rural population and removes them from

⁶³ Filomeno V. Aguilar Jr., "Disasters as Contingent Events: Volcanic Eruptions, State Advisories, and Public Participation in the Twentieth-Century Philippines," *Philippine Studies: Historical and Ethnographic Viewpoints*, 64, no. 3–4 (December 2016): 593–624.

⁶⁴ Nick Joaquin, A Question of Heroes : Essays in Criticism on Ten Key Figures of Philippine History (Ayala Museum, 1977).

the historical context. What instead must be done is to use social volcanology to further understand the complexity of motivations for resisting state-sponsored intervention.

Although this paper seeks to correct the assumptions made by the Philippine Government about the rural population lacking knowledge about Hibok-Hibok, it does not assert that such alternative forms of knowledge were better at achieving the goals identified by bureaucrats in the Philippine national government – that is, to predict and control volcanic phenomena. Instead, the rural population calculated risk on a different scale, based on what was valuable to the local population at that particular time and place.

In this analysis, the difference between Manila and Camiguin is rooted in their history as urban and rural spaces. This distinction between the rural and the urban is used to move beyond cultural explanations of resisting state sponsored intervention.

This paper maintains that the political differences between Manila as an emerging neocolonial capital and Camiguin as a rural society and major producer of the most lucrative crop in the country, is a most influential factor in understanding resistance against state-sponsored intervention during the 1951 Hibok-Hibok eruption. The under-resourced nature of historical archives in Mindanao and other rural provinces in the Philippines however, indicates that there could be more opportunities for historians to complicate these assertions even further, and use oral history to further understand this collective assessment of risk. This paper calls for more localized research on the social context of volcanic eruptions in the Philippines to decentralize notions of expertise within these spaces.

IV. The Rise of Vulcan: Volcano Observers in the Philippines

"Risk is a disciplined projection of archived memory onto the blank screen of the future." 55

- Sheila Jasanoff

Manila's state-sponsored intervention in 1951 was not only centralized, but divorced from archival memory as well. Before Arturo Alcaraz, the leading authority on volcanic observation in the Philippines was Rev. Miguel Saderra Maso. In 1887 a seismological branch within the Manila Observatory run by Spanish Jesuit priests was established. Even before the Jesuits received official recognition from Spain, they had already begun collecting information on seismic activity in the archipelago. Their seismic observations from the violent 1880 Manila earthquakes gained widespread recognition in Europe when the systematic study of seismology was only in its infancy, and seismological stations in Italy and Japan were just starting to be established. Maso was the first director of this seismological branch in the Manila Observatory. He sought to establish seismic stations throughout the Philippines, starting from Luzon and expanding to Visayas then Mindanao.⁶⁶

The success of the Manila Observatory was so well known throughout the continent that after Spain gradually withdrew funding for the observatory after the Spanish-American wars, General Otis of the American Military Government continued to maintain it on a provisional basis. In 1901, the Manila Observatory was renamed the Philippine Weather Bureau under the American Civil Government in the Philippines. Maso remained in charge of all seismic stations and large-scale attempts to map terrestrial magnetism in the archipelago from 1901 to the outbreak of the second

⁶⁵ Jasanoff, "Beyond Calculation: A Democratic Response to Risk."

⁶⁶ Interestingly, Maso patterned the expansion of Seismic Stations in Luzon with the Telegraph Network, before expanding to Visayas and Mindanao John N. Schumacher, "One Hundred Years of Jesuit Scientists: The Manila Observatory 1865-1965," *Philippine Studies* Vol. 13, no. 2 (April 1965): 258–86.

World War. This was how Maso continued his work, publishing numerous papers in the growing field of seismology and terrestrial magnetism.

In 1904, Maso was a leader of an American geological survey conducted in Camiguin. The findings of the survey confirmed that Hibok-Hibok was a volcano rising from another extinct volcano, whose crater was found in Surigao on Mindanao. This crater was actually Lake Mainit, the deepest lake in the Philippines. Mainit in the local dialect means "hot", which was initially attributed to the presence of hot springs in the area. These findings from Maso aligned itself with the oral tradition in the area.

Oral traditions from the neighbouring island of Surigao spoke about Hibok-Hibok as the dwelling place of Engkantos who wanted to isolate themselves from the noise of humans and animals. Rosario R. Teves from the University of San Carlos in Cebu, who wrote about indigenous groups from Surigao, summarized the story in this way:

Mainit, meaning hot, a town along the coast of a lake is named after a hot spring. Many people, believing in its healing powers, often take a bath there. There once was a time when Mainit did not exist at all. In its stead was a thick and wild forest in which were all kinds of animals and birds. In it lived monkeys, wild pigs, and deer. Although there were many kinds of birds, the kalaw, far out-numbered the others. Its low loud croak drowned out all the call of the other birds and animals.

Close to the forest was a mountain where dwelled the enkanto. With so many animals and birds around, especially the kalaw, the enkanto were irritated and disturbed by the noise they created. Finally, they decided to transfer. It had to be done at night so that the people would not see them. Having special powers, all the enkanto, bringing with them their mountain dwelling, left the forest one night. They travelled as far as they could. Dawn caught them in Camiguing Island and they hastily placed their mountain on it. Due to the fertility of the place, many people flocked to it. In order that people would not disturbed them, the enkanto would occasionally let out smoke and fire from their mountain home. Meanwhile, the people who lived near the big forest were astonished to see that the mountain was gone. In its place was a big hollow spot. As time went on, this slowly, filled with water. Today the spot has become Lake Mainit. As for the place where the enkanto

settled, it is now Mt. Hibok-hibok, a volcano in Camiguin. Somehow the enkanto have

not completely severed connections with their first home because the water in Mapaso Spring is warmed by Mt. Hibok-Hibok.⁶⁷

Hibok-Hibok's relationship with other geological features in the area presented an expansive subject for the Philippine Weather Bureau. The observation of Hibok-Hibok as an active volcano entangled the expansion of European seismology with the local oral and precolonial history of Camiguin's surrounding inhabitants. Although this relationship needs to be nuanced further, Maso's publications in 1904 were a turning point that confirmed to European audiences what the oral tradition in the area had always known, that Hibok-Hibok was only one peak in an expansive network of volcanoes, and that Lake Mainit was the crater of a larger volcano believed to be extinct.

Because of Maso's work, it was well known by the capital that Camiguin was a highly active geological area. From its last known eruption in 1871-1875, Maso noted how Camiguin had changed drastically when a new volcano, Vulcan, was formed. Vulcan's rise unearthed and displaced the town of Catamaran which had a population of 14,000 people:

On May 1, the level plain near the village of Catamaran began gradually to subside, till the tops of the houses became level with the surface of the earth. This remarkable phenomenon attracted a large number of people, when suddenly some terrible shocks were felt, and, before the thundering reverberation died away the whole level plain fell in, engulfing 150 persons. This plain became the crater of a volcano 1500 feet wide, and from it smoke, ashes, and stone were thrown into the air⁶⁸

People immediately fled from Camiguin during this time and only about 200 people remained on the island. Five thousand fled to Bohol on their own, twenty thousand to Mindanao in a Spanish government gunboat, two sailboats, and a handful of bangkas. After 1875, these inhabitants returned to Camiguin, with previous residents from Catamaran moving to the nearby town of Mambajao.⁶⁹

⁶⁷ It is unfortunate that studies on these Enkanto ontologies are so sparse and spread out, that including them in an academic analysis goes so little beyond merely mentioning them. See Rosario R. Teves, "The Surigao Myths and Legends An Indigenous Explanation of the Universe and Natural Phenomena" (University of San Carlos, 1970). ⁶⁸ Ibid, The True Northerner

⁶⁹ Ibid. Sanchez p. 135

Thus, it can be learned from this eruption that inhabitants of Camiguin had previously fled the island during an eruption without the help of centralized intervention.

The high-level disaster response that Manila attempted in 1951, did not include this history in their decision-making processes. The Philippine Weather Bureau in 1951 had a limited view of Camiguin's environmental history, considering that Vicente Elio Y Sanchez's account was only made available to the public in the 1970's. The Philippine Weather Bureau's destruction in 1945 also presented significant setbacks. Japanese forces burned the Manila Observatory, destroying thousands of manuscripts, 20,000 undistributed copies of observatory publications, and most importantly, a 10,000-volume scientific library that would never be reconstructed again. Elders living in 1951 would have had memory of the last volcanic eruption on the island, but nothing about Alcaraz's reports made reference to the previous evacuation that occurred from 1871 to 1875.

Although Manila's mid-level bureaucrats have framed the 1951 intervention as a humanitarian initiative aimed at preserving the lives of Camiguin's inhabitants, the previous eruption of 1871 – 1875 prove that the local population had previously escaped an eruption without the help of centralized government intervention. It is therefore necessary to suggest that there were also political motivations that inspired the implementation of such an intervention, one that sought to expand Manila's centralized control over the expansive region of Mindanao. If the goal was to evacuate an endangered population to the mainland of Mindanao, the opposite was achieved, as more and more people continued to migrate to Camiguin despite the eruptions, and continue to do so even to this day.⁷⁰

⁷⁰ Current population of Camiguin Island is roughly eighty thousand people.

Conclusion: Collaborative Sensing: The Potential of Social Volcanology

There has been an increasing interest in challenging the assumption that seismic phenomena are purely geophysical events. Kenneth Hewitt, a professor of geography and geology, summarized a chronic problem in physical hazard research, that it has "stagnated" and can "easily miss the main sources of social influence over hazards"⁷¹ As Katherine Donovan, who wrote about Mt. Merapi in Indonesia as a case study wrote, "volcanic events over the last decade have demonstrated the need to improve the long-term understanding of those communities at risk."⁷² This need for long-term understanding, calls for a deepened analysis of the past and the larger social context of the communities most affected by volcanic eruptions. This presents an area of promising research for historians, who are adept at recollecting past events, and hold themselves to a global community of researchers active in different fields and networks.

The expansion of disaster science was accelerated when the United Nations declared 1990 – 2000 as the International Decade for Natural Disaster Reduction (IDNDR). The goal of the IDNDR was to "reduce through concerted international action, especially in developing countries, the loss of life, property damage and social and economic disruption caused by natural disasters such as earthquakes (and) volcanic eruptions."⁷³

This notion borrowed from the IDNDR, of reviewing the past in order to minimize the loss of life, property damage, and social and economic disruption in developing countries, is valuable, but it continues to present seismic or volcanic phenomena as a disruptor of seemingly more established systems of human activity. Hibok-Hibok's eruptions were fairly frequent. Through oral histories that viewed Hibok-Hibok as a home for enkantos, and the Spanish colonial period when it was being

⁷¹ Katherine Donovan, "Doing Social Volcanology: Exploring Volcanic Culture in Indonesia," *Area,* Volume 42, no. 1 (March 2010): 117–26.

⁷² Ibid. Donovan. 117

⁷³ United Nations General Assembly Session 44 Resolution 236. A/RES/44/236 22 December 1989.

observed by Jesuit priests, to the neocolonial period when it was observed by the Commission of Volcanology, Hibok-Hibok continued to erupt. What has changed were the observers of its eruptions, what they believed counted as expertise, and what they believed was needed to respond to such an awesome and destructive geological event.

It is the people and the political systems that have observed volcanoes that have changed, and the ways in which risk is calculated based on what was seen to be valuable and meaningful for that time. This particular history is a history about an emerging state, a damaged urban space expanding their assumptions about science and technology to a rural community, as much as it is a history about an active volcano.

In conclusion, the 1951 eruption of Hibok-Hibok is a case study in understanding the beginnings of centralized disaster response in an emerging state. It has shown how the neocolonial Philippine government, rearranged its bureaucratic structures in order to plan and execute state-sponsored intervention on a rural population assumed to be without knowledge of a volcano. The high yield of abaca on the island is a contributing factor in understanding why inhabitants chose to calculate risk in the way that they did, eventually resisting centralized state sponsored intervention by returning to Camiguin and choosing to live with an active volcano. This case study proves that resistance to high-level intervention is dependent on a range of motivations that can be better understood through the decentralized study of social volcanology in the Philippines, as well as further historical and anthropological research on communities surrounding volcanoes, given the tumultuous nature of both physical and political landscapes in the archipelago.

Epilogue: The Rise of Namalrayi: Applications of Social Volcanology

Four decades later, after the Commission of Volcanology was reconstituted in 1982 as the Philippine Institute of Volcanology and Seismology (PHILVOLCS), an extinct volcano that did not demonstrate any sign of being an active volcano, Pinatubo, erupted in June 1991. It was the second largest eruption in the twentieth century, second only to Novarupta's 1912 eruption in Alaska. Pinatubo however, threatened a larger urban and rural population of 500,000 people – including hundreds of towns and cities, and US and Philippine military bases. Similar to Hibok-Hibok and Typhoon Amy, Pinatubo's eruption also converged with the combined effects of Typhoon Yunya. Despite these dangers, less lives were lost in the 1991 Pinatubo eruption than in Hibok-Hibok.⁷⁴

Pinatubo, despite being remembered as an intense, catastrophic eruption, is remembered as a success in the history of PHILVOLCS, one that highlighted the necessity of collaboration between centralized disaster response and local communities. Representatives of the indigenous population in the area, the Aeta, claimed that they had no oral history about Pinatubo being an active volcano, but they did detect unusual signs on the ground, like minor tremors and fluctuations in steam vents. Initially, PHILVOLCS believed that these were the effects of aftershocks in the area, from a catastrophic earthquake that occurred in a nearby province, but after repeated warnings from the Aeta, and the opening of a new steam vent in April of 1991, PHILVOLCS was placed on high alert.

By then, PHILVOLCS had encountered several volcanic eruptions in the archipelago, and were more adept at collaborating with local populations surrounding the volcano. They considered various strategies to communicate the need for evacuation to the surrounding area, such as gathering inhabitants from other volcano provinces in the Philippines to send warning to the surrounding communities in Pinatubo, or collaborating with hundreds of local groups, churches, and schools. As Aguilar Jr. recalled, PHILVOLCS often relied on the elderly members of the Aeta to understand Pinatubo's landscape and the environmental history of the area.⁷⁵ The Aeta were cautious in their

⁷⁴ Aguilar Jr., "Disasters as Contingent Events: Volcanic Eruptions, State Advisories, and Public Participation in the Twentieth-Century Philippines." *Philippine Studies: Historical and Ethnographic Viewpoints,* Volume 64, Numbers 3-4, September-December 2016, pp. 593-624

⁷⁵ An elderly Aeta man said, "Parating pumupunta ang taga-PHIVOLCS sa akin para makinig tungkol sa kasaysayan ng panahon" (Those from PHIVOLCS often come to me to listen to stories of old) Aguilar Jr. 610

collaboration. They participated with PHILVOLCS when it came to the design of evacuation plans, but when the Philippine National Oil Company came to Pinatubo, elders of the Aeta were hesitant to cooperate, asking for forgiveness from Namalyari, their deity in the mountain, for "allowing men and machines to desecrate their mountain"⁷⁶

Although Pinatubo's evacuation plans were deemed successful by the national government, it was the Aetas who shouldered the most destruction. Some members of their community chose to resist government intervention, while others did not.⁷⁷ This divide within the community shows the complexity of community-based planning in disaster response – it is not enough to engage with leaders and civic groups, as they did in Pinatubo. As oral interviews in the surrounding areas of the volcano show, the reasons for non-participation in government intervention within the Aeta varied from family to family, from individual to individual. There is reason to speculate that the involvement of the Philippine National Oil Company in the evacuation was seen as a greater threat. This aligns itself with the logic that just like the rural population of Camiguin, the Aeta had their own means of calculating risk and deciphering expertise. To deem this same resistance as ignorance, is misleading. It not only highlights the need for using social volcanology in understanding volcanic phenomena, but the practice of social volcanology itself needs to be decentralized as well. In the Philippines, this means that research needs to go outside urban archives in Manila, and into under-resourced rural spaces spread across the archipelago.

⁷⁶ Ibid. Aguilar. 610

⁷⁷ Ibid. Aguilar 613

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